TEAM-BASED TALENT MANAGEMENT PRACTICES IN ACADEMIC RESEARCH GROUPS

An exploratory study at a Dutch public University

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Abstract

Team based talent management and how to achieve it is the principal objective of this study, hence we care about generating a substantive theory with regards to how talent is embedded and used in the context of interactions between team members. From the literature review it can be concluded that teamwork is one of the most important practices of talent management. Adopting a team-based perspective, we seek to show appreciation for talent as a collective phenomenon with paying attention to the importance of interdependence and social capital (reciprocity, trust, cooperation, division of labor) inside the teams. The discussion on talent is equally prevalent for universities as knowledge intensive organizations where the focus on individual performance does not correspond with how academic staff works every day and with how research is realised. This condition makes it important to investigate what a team-oriented approach to talent management entails and whether it adds extra value to the team setting of academic research groups. Ultimately, we would like to showcase how universities can maximize the team-based talent management practices in order for talent to optimally grow by rather focusing on the collective capacity of the team.

The following questions are the starting point for our grounded theory study:

Q1: *How is talent utilized in interactions or dependencies between the team members of a team?*

Q2: *How can we optimize teamwork practices to enhance talent use at the collective team level?*

In depth semi-structured interviews was the selected methodology for data collection. We focused our analysis on two research teams from a University in the Netherlands. Based on the interview questions three initial bigger themes emerged. The first one refers to teamwork (how team members communicate, cooperate and affront problematic situations in the groups which they belong), the second theme was talent perception (the definition of talent and how talented people work together in each of the groups) and the third theme was the role of the individuals inside each group. Starting with the theme of teamwork, it seemed that for most team members communication is something easy, facilitated by an open-door policy with extensive discussions and awareness of what other people doing with frequent meetings taking place and frequent sharing of ideas. At the same time most people are aware of what is happening in the group, hence there is awareness of what others are doing while interdependent relations also contribute in the decreased perception of awareness. Finally, concerning the management of problematic situations, these are dealt by individual effort and then by requesting assistance and trying to find the cause, the solution and how to avoid the problem with an open and sincere behavior. In the second group people also indicated that they solve scientific problems effectively because of the effective combination of roles and collaboration. The theme of talent perception was also examined during the interviews, and results indicated that there has been a separation between natural/innate talent and

academic talent, which requires intellectual capabilities, work, critical thinking and communication talent, while it was also prevalent the importance of the context in the definition of talent. Both groups also made substantial references to collective or team talent and to complementarity of different talents. In addition, has been reported that there may be less talented individuals due to lack of personal development or lack of comfort in a role, in other words misfit between the person and the position. Concerning the role of individuals, success of the team can be attributed to different individual team members in both groups with the level of importance depending on the nature of the research project. Both individuality and mutuality consist important values for researchers to work individually and cooperate where it is needed. Furthermore, in the assumption of promotion individualistic culture by the academic world, it has been said that for some the way it depends on the type of grant and the project, some believe that there is a strong hierarchy in the academic world that is also a cause for competition, while the vast majority said that collective effort is required from all disciplines. Finally, the majority stated that if someone leaves the group automatically deprives them of knowledge. Overall it seems that by grouping people in teams it is more beneficial for the organisation people share their knowledge and their feelings to the others easily and they create relationships and improve the organization's communication.

Keywords: talent management, team-based talent management, teamwork, collective talent, talent management in academia, research teams, talented team, tallenting

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1. INTRODUCTION

1.1. An alternative angle to study talent management

Some authors suggest that human resources systems can contribute to sustained competitive advantage through facilitating the development of competencies that are organisation specific, produce complex social relationships, are embedded in an organisation's history and culture, and generate tacit organizational knowledge (Barney, 1992; Reed & DeFillippi, 1990; Wright & McMahan, 1992). According to these authors, human resources could be one of the most important resources and capabilities which can produce a competitive advantage in an organisation. In this study we will analyse one of the types of management that are focused on human resources, talent management.

Since Michaels et al. (2001) first spoke about "the war for talent", the increasing attention to talent and talent management (TM) led to a production of a considerable amount of publications about how organizations can manage their talent as well as the challenges related to it. However, even though talent management as a research field is growing, especially since 2011, it cannot be qualified as a mature field of study (Gallardo et al., 2015). Hence, conceptual frameworks and clear definitions are still at a stage of development. Different scholars urged the need for exploring further new influences and alternative angles in order to study talent management (Collings et al., 2011; Gallardo et al., 2013; Thunnissen, Boselie and Fruytier, 2013b). Hence, we would like to fill this gap and further stabilize the theoretical foundation of the field of talent management, by adopting a more "sustainable" approach to study talent management, as a feature of a more pluralist understanding of it (Collings, 2014; Gold et al., 2016).

Collings & Mellahi (2009) emphasize on the recognition of pivotal positions and their strategic importance, Tarique & Schuler (2010) focus on global talent management challenges, Dries (2013) adopts a multidisciplinary view on talent management, while Thunnissen et al., (2013b) criticize the unitarist and managerial views of talent management by adopting a critical review approach and giving attention to a more social and multi-stakeholder point of viewing talent management. From our side we follow this very latter stream of research on talent management, by criticizing the fact that the mainstream literature sees TM from a narrow perspective of HR practices that focus on recruitment, development and retention of some and few talented individuals that benefit more than others the organization. This focus on employment practices of specific individuals does not leave space for paying attention to work practices related with the design of work or the commitment and well-being of people talented or not (Devins and Gold, 2014), while it demotivates people who are not included in the cast of those identified as talented. From her side Iles (2013, pg.2) prompted questions such as "what should be the focus of TM practices?" and "what are the consequences for those not identified as high performers and high potentials in the context of the prominent exclusive approach to Talent Management?". Overall, these tendencies in the academic and practitioner literature tend to create "an over-concern with individuals as the unit of

analysis and the possessors of talent and how specific HR practices are used to recruit, motivate, develop, retain and terminate individual employees" (Gold et al., 2016, pg. 514).

In a review article by Gallardo- Gallardo et al. (2015), the authors claim that alternative conceptual frameworks were also prevalent in the literature of TM, as an answer to the rationale of workforce segmentation based on the employees' significantly differentiated impact on organizational performance. These alternative frameworks constitute more collective approaches on talent and talent management (Iles, 2013). There are some interesting contributions in the field of TM, that could support a more collective or team-based view on talent. Groysberg, Nanda, and Nohria (2004) that adopted a more to "build than buy" talent approach pinpoint in their article that hiring stars is often a risky business, given that their performance often declines when they change corporate environment exactly because organizational performance is not solely the product of a few exceptional talents. Very often "many stars acknowledge that working with smart colleagues sparks ideas that stimulate productivity. Teammates often help stars by counseling and coaching them and serving as role models" (Groysberg et al., 2004, pg. 98). However, when star performers were changing the workplace along with their team or when they were finding similar cultural characteristics in the new firm, their performance was more stable or at least less declining (Minbaeva and Collings, 2013). Iles and Preece (2006) propose that TM can be explored in more collective, team-based ways, focusing attention on social capital, teamwork, leadership, and networks, and on work design practices that could foster team talent. Iles, Chuai, et al. (2010) searched TM perspectives in China and showed that even though there was a prominent exclusive TM approach there were also traces towards a more collective TM view focusing on organizationally focused competence development. In the same line of research other authors, also positioned their research in the alternative theoretical frameworks when regarding TM. Oltra and Vivas-López (2013) adopted Knowledge Management as a primary conceptual framework for proposing a model linking a number of talent management practices related to team design and dynamics with learning and knowledge creation processes to show how team-based TM was focused on enhancing organizational learning.

In this study we follow the proposition of Gallardo-Gallardo et al., (2015) that alternative angles to study Talent Management are indeed promising. Rather than a rational definition to talent as traits of individual actors (Raelin, 2011), we adopt a relational and emotional definition of talent and talent management where performance is seen as a collective endeavor and where talent is unveiled through the dependence or interdependence between at least two people (Gold et al., 2016). Hence, we want to explore talent as a collective phenomenon in teams, with paying attention to the importance of collaboration, networks, leadership, social capital and interdependence, as specific work designs tha could potentially give to talent the direction, opportunity and stimulation to be developed and consolidated (Iles, 2013).

In the next section we are going to elaborate more on our definition of talent as well as talent management and we will also describe in more detail the specific contextual focus of our research and the reasons behind our choice.

1.2. A collective approach to Talent Management

As we described earlier, most of the literature on Talent Management assumes that the performance of work is a result of individual ability, motivation and commitment, which indeed is the reality in many cases. However, this literature stream focuses solely on how to manage these individuals through a set of employment practices like recruitment, development, retention etc. As a result, TM literature neglects the importance of work practices and human capital as catalyst of work performance Devins & Gold, 2014). However, Sparrow and Makram (2015) and Groysberg et al., (2004) showed that star talent was not solely responsible for high performance and added value, but it was mainly their interaction with others, "their collective exchanges of surrounding talent"(p. 261) that plays role in value creation. Not all added value can be captured by solely focusing on individual human capital. Reflecting on this, Gold et al., (2016) argues that the talented person to create value needs to enter in relationship with others. So, in order for our TM approach to be realistic of the modern workplace, we need to see the added value of the conjoint actions, interdependencies and mutual relations that take place in the workplace. The shift from specific HR practices towards the people and their work is related to how the work processes are organized, supported, utilized, while the former includes practices of attraction, recruitment, retention, development, hence all related to individuals etc. (Boxal and Macky, 2009). We position our research under a conceptual umbrella where we regard as unit of analysis not the individual and his traits, but the work practices, meaning the performance of work as a consequence of collective endeavor and where conjoint action between at least two people is crucial. We urge to see how talent is utilized in these interactions and varying dependencies (Gold et al., 2016). Gold calls this social process of interactivity and utilization of talent, as "talenting" (Gold et al., 2016, pg. 514).

To study the process of talenting, we follow the proposition of Gallardo-Gallardo et al., (2015) to alter the research focus towards a unit of analysis that does not consider neither the macro (institutional) nor the meso level (organizational), but addresses the micro level that surrounds an employee (i.e., team based work designs). What do we mean by micro level? In knowledge intensive organisations, much of the work is completed by individuals working together, depending on each other's skills and exchanging knowledge, tacit and explicit. Teamwork and team-based work designs are nowadays the physical and social context for most individuals, talented or not, where most of the work is done collectively. Hence, adopting this collective approach on TM we are interested in uncovering how talent is being utilized within work relationships integrated in team-based work designs where bonds, trust, networks and task interdependence (social capital) are developed between people. In this case value is created and

transformed to organizational capability only when the new knowledge and capital, even if initiated by a talented person, is internalized and fermented into the organizational structures and processes. In accordance to Sparrow & Makram (2015, p. 255) this internalization and value creation is conditioned by "the collective interactions and interconnections between talent than any individuals and more easily built rather than bought".

1.3. Academic research teams as potential units of team-based talent management practices

The work of Thunnissen (2015) has strongly contributed to the literature on Talent Management in academic universities by investigating the needs, preferences and expectations of talented academics from their employment relationship with the university. Among other preferences, she concluded "that talents attach great value to cooperating with top scholars in their field of expertise and the interaction with colleagues, which points to a strong orientation towards the team or community of academics" (Thunnissen, p. 184, 2015). Social interaction with inspiring peers was valued by talents because of the learning development, problem solving challenges and the intellectual stimuli developed in the "collegial ambiance of a research group" (Thunnissen, 2015, p. 176). Younger academics gave also value to career advancement as well as research autonomy followed by constructive supervision as well as development of cooperation skills (Thunnissen, 2015). Also, Van der Weijden et al., (2017) researched the careers of junior researchers following careers outside academia and found that cooperation skills are highly valued by them, while criticizing the overemphasis on individual academic skills and achievements and the neglection of development of transferable social skills. This over-individualistic approach to talent and performance stems for a differentiation of employees based on their individual performance and capabilities and is addressed only to the "happy few" (Pfeffer, 2001). Pfeffer (2001) has criticized this "hard" approach to Talent Management as being too individualistic in terms of performance appraisal and hence counterproductive for teamwork, cooperation as well as for the dissemination of best practices between academics. Thus, high internal competition can hinder learning and knowledge sharing in teams and the organization. In contrast to this, Thunnissen (2015) found that the Dutch universities, where she conducted her study, mostly focused on the exclusive and individualistic approach to talent management, prominent both for the senior and the junior academic positions (Thunnissen, 2015), an approach that does not address what talented employees valued.

It is important to highlight these findings because they support our proposition for a team-based approach to talent management, also in the environment of academic universities. We claim that teamwork is highly valued by academics, and therefore, should be flourished. Such a team based view is suggested under the conceptual umbrella of the "social capital" definition of Talent Management (Iles et al., 2010) that highlights the importance of social capital (teams, divisions, cultures, networks),

organizational capital (routines, processes) and of the context, when considering organizational performance of employees. Under this point of view Talent Management is conceptualized as an "organizationally-focused competence development" (Iles et al., 2010, p. 187, and thus approaching the way we conceptualized TM in the introduction chapter by following the lead of research of Vaiman and Vance (2008), stating that organizational TM policies and practices as being strategic, should focus on enhancing organizational learning capabilities, by creating the conditions and work designs that can maximize the value created by talent. The knowledge-intensive organization depends on its knowledge workers for its functioning (Weggeman, 2001). Thunnissen (2015) states that the knowledge worker of today does not work alone but in collaboration with other in order to function. Academics as knowledge workers depend on others to acquire relevant knowledge and to conduct research. In a knowledge-intensive organization, knowledge development and knowledge sharing are therefore a collective matter (Whelan and Carcary, 2011). The moment an individual approach to talent management is used, this can prevent the sharing of knowledge as well as the realization of team and organizational goals (Pfeffer, 2001). Based on the above reasoning we would encourage the development of a talent management approach that gives room to team performance.

Reflecting on this approach to talent management, we argue that academic research groups offer the right context applicable to our research objective; to study the work practices as units of collective endeavor while we wear the lens of talenting. As research had become more multidisciplinary and teamwork based, we concur with Fullan (1994) to pinpoint that academic research teams are backbones of organizational learning. Hence, the strategic role of talenting within research teams at a university should be recognized and valued. In many disciplines the basic unit of knowledge creation, dissemination and learning is the team via research collaboration (Trifonova and Ronchetti, 2006; Stvilia et al., 2011) and task interdependence, by integrating the individual knowledge capital into a team-based research design. From a knowledge management perspective, "knowledge management is managing the scientific capitals as a process of social learning" (Haji Karimi, 2006 cited by Farshad & Azizi, 2015, p. 4). In this sense, teamwork design and the work practices embedded in this, are very essential because knowledge-based organizations rely on teams as the breeding ground of learning processes (Nonaka & Takeuchi, 1995). Wagenknecht (2015, p. 2) studied dependence on scientific practice within different research groups and argued for the recognition of "the role of individual knowing for scientific practice but acknowledges the collective character of the scientific knowledge that research groups create collaboratively". Senge (1992) argued that research teams are created to complement the strengths and qualities of individual members, to work purposefully, insightfully and critically towards a common goal which is to collect evidence and question that evidence.

Although several studies have already taken place and the field of talent management is rapidly developing (Thunnissen et al., 2013), it needs a new conceptual and empirical leap to boost its expansion and intensification. We argue that the field needs to advance from solely claiming its importance and reinforcing similar empirical findings, towards exploring new ways of recognizing and rewarding talents, rooted in collaborative effort. We claim that our study aspires to meet these expectations with a focus on a team-oriented talent management approach from an inclusive perspective on talent, in a knowledge intensive academic environment. We start with articulation of understanding and defining a team-oriented talent management and its forms in the setting of the academic environment. Therefore, in the context of academic research groups we will focus on the collective capacity of researchers to accomplish their work together, rather than focusing on the individual achievement.

1.4. Scientific and practical relevance

From a scientific point of view, our research advances the field of study of talent management by following the propositions of different authors to adopt alternative conceptual lenses when we regard talent management. Currently there are more and more pressures to identify and optimize potential within the organizations (Dominick and Gabriel, 2009). But, as mentioned in the introduction, the focus of HR practitioners is mostly on practices focusing on identifying, measuring and filling the gap between current and desired competences and performance (Van Woerkom, Oerlemans and Bakker, 2015, p.2). A focus, though, on the shortages of employees can be less effective than focusing on everyone's strengths (Hodges & Clifton, 2004; In: Van Woerkom et al., 2015) as it creates competition and stress between employees. Organizations, from a humanistic as well as performance perspective, have more to gain if they focus on developing everyone's talent (Dominick and Gabriel, 2009). Ultimately, this inclusive approach to talent would reflect on a more dynamic and interactionist vision towards the potential of employees and the development not just those with high potential but all organizational members. This vision will be also reflected on a team level where, as soon as there is more attention for everyone's talents and strengths instead of shortcomings, the specific qualities of every individual can contribute to the team goal (Thunnissen, 2015). Having as a start point to value everyone's strengths and competences, each person can complement each other within the team. In addition, it appears that working from everyone's strengths has a positive effect on the well-being of employees, because working from strengths gives employees motivation and energy (Meyers & Van Woerkom, 2016). In addition, it is assumed that if employees do what they are good at, this is related to high productivity (Peterson & Seligman, 2004; in: Meyers, 2016).

When considering the practical relevance, the individual approach to talent management adopted in the scientific literature does not necessarily correspond with the developments happening in real life business practice. The discussion on talent is prevalent not only for the corporate world but equally for

the universities as knowledge intensive organizations. “Nowadays, the ability to attract and retain top talent is one of the key HRM issues for universities” as well (Thunnissen & Van Arenbergen, 2015, p.187). Considering specifically the context of the university as a knowledge intensive organization, our bottom up approach on talent management gives an insight to the leaders of scientific research groups into the group and talent dynamics of their team. In this sense, they could better manage their team talent potential and performance. Ultimately, we want to showcase how universities can maximize the work practices for talent in teams to develop optimally, by not focusing on individual achievement, but rather on the collective capacity of the team.

1.5. Research Focus

Considering the highlights in this section, the objective of this study is to further conceptualize and elaborate on talent management at team level within two academic research groups. This focus leads to the following questions. These questions are the starting point for our grounded theory study.

Q1: *How is talent utilized in interactions or dependencies between the team members of a team?*

Q2: *How can we optimize teamwork practices to enhance talent use at the collective team level?*

We seek to show appreciation for talent as a collective phenomenon from a team-based perspective with paying attention to the importance of interdependence and social capital (reciprocity, trust, cooperation, division of labor) inside the teams. We care to deep dive into how talent is used and how this use is an interaction between people, a process called talenting. With these lenses, we value the development of everyone’s talent (Dominick and Gabriel, 2009). Ultimately, this inclusive approach to talent would reflect on a more dynamic and interactionist vision towards the potential of employees and the development not just those with high potential but all organizational members. This approach will be also reflected on a team level where, as soon as there is more attention for everyone's talents instead of shortcomings, the specific qualities of every individual can contribute to the team goal (Thunnissen, 2015). Having as a start point to value everyone’s strengths and competences, each person can complement each other within the team.

2. Team based talent management approach: an attempt for conceptualization

This study focuses and explores a team-oriented talent management approach at a university context. Hence, this section aims at giving a theoretical direction to the relevant thematic deriving from the main research questions. First of all, attention is paid to define what is talent from a team-based talent management approach. Further on, attention is given to explore the definition of a talented team with the ultimate objective to arrive at a definition of a team-oriented talent management approach.

2.1 Different approaches to talent

In the scientific literature there is no clear definition of the term talent when adopting a collective approach to talent management. Hence, we will try to arrive at this definition by combining and exploring the existing literature on talent and teams. As we have tried to show in the introduction part of this research, the definition of talent in the literature has developed since the term talent was first introduced and consequently there is a wide variety of definitions with respect to talent depending on the perspective, the discipline and the context as well. This ambiguity and dissimilar interpretations of the term talent make it possible to have different tensions or underlying philosophies regarding the nature of talent that consequently influence importantly the talent management practices adopted in organizations and in teams. According to the literature review conducted, these five tensions are probably not the only ones existing but seem to be of salient relevance for this study as we expect them to appear in the views of talent in the research groups we are focusing on this study.

Dries (2013) identified four typologies or philosophies of talent: *exclusive/stable*, *exclusive/developable*, *inclusive/stable* and *inclusive/developable*.

In the **exclusive/stable** typology the argument that talent is an innate and scarce construct that not everyone possesses but only some privileged few. The notion of stability that characterizes talent in this typology is related with the constructs of intelligence, personality and motivation and that their combination is thought to be particular and rare for the few A players as it highly predefines their higher performance in comparison to the rest of the workforce of the organisation (Meyers & Van Woerkom, 2014). Subsequently this view implies a differentiated architecture of the workforce and a set of specific talent management practices that are put into practice such as employer branding, talent identification and recruitment with the intention to strategically allocate the organisational resources to the people that create added value with the purpose to keep them inside the organisation while avoiding replacement costs and assuring high returns on investment. One of the critiques of this approach are the negative effects on employees that are considered neither talented nor valuable while they belong to the majority of workforce forming the backbone of the organisational business. To conclude, the exclusive/ stable definition of talent offers competitive advantage through people to the organisation while at the same time there should be a concern on how to manage all these employees who are not considered as talented.

Concerning the **exclusive/developable** approach, the idea of developing the potential of the people is prominent. However, here again, it is thought that not everyone possesses this great future promise or potential to become a highly performing employee. In this approach, talent is conceptualized as a developmental construct, as potential or the possibility for the person to become something more than

the state where he/she is, while this potential can be either latent or realized and measurable as outstanding performance (Gagne, 2004). Again, in this approach we are talking about high performers or high potentials who have exceptional abilities which they can use and apply in favor of the organization to achieve excellent performance. The role of the organisation is to offer to these motivated people the opportunity to develop themselves and perform. Here, in this approach one can distinguish the (A) ability (M) motivation (O) opportunity framework (Boxall, 2012) to be prominent. This framework stresses the importance of elements such as organisational and job commitment, motivation and aspiration as mediators to perform well in the job and in the organisation. Talents are often latent and there is a need for opportunities for development in order to unveil these talents. To conclude, the exclusive/developable approach to talent can be summarized with the position that the selection and development of a small number of employees is crucial. However, it still remains challenging for organisations how to validly detect the true potential and how to assess it while avoiding that the organisational talent remains undiscovered. At the same time one might assume that if there is latent talent in people that remains undiscovered then most of us possess undiscovered latent talent that can be unveiled under the right conditions while this idea also implies that each organisation possesses latent talent that can grow internally as an alternative to the idea of recruiting talent from the outside (Meyers & Van Woerkom, 2014) which can be proved as a strategic way to deal with the high talent shortages.

The **inclusive/stable** approach to talent is rooted in the positive psychology that builds on individual character strengths, positive qualities, traits and talents that every person possesses. Hence, other characteristics of this talent field is that talent is defined in broad terms while it can also be expressed through various forms even non typical ones (Meyers & Van Woerkom, 2014). In general, these individual characteristics that are enduring and stable in time, can be defined as employee attitudes and behaviors that come naturally to someone, that energize them and make a person feel authentic to oneself. This approach to talent has consequently influences on the talent management practices that are put in place by the organisation. In an inclusive/stable talent management system the individual qualities of all employees are valued and the aim is to capitalize on them, by identifying and managing the strengths of every person while also paying important attention to the job design and the right matching between the tasks and positions and the individual character strengths (Buckingham, 2005). A talent management architecture with these characteristics will most probably enhance the individual wellbeing along with the in-role and extra-role performance considering that people are capitalizing on their unique strengths and they feel aspired to work on tasks or projects that they like and that they are good at. In accordance to Buckingham (2005) in an inclusive/stable talent management system there is a concern to manage, apart from the strengths, the weaknesses of the people as well. In such a talent architecture the individual characteristics (both strengths and weaknesses) of all the workforce are managed, stimulated to be used

and further developed. What is specifically of interest in the characteristics of this talent approach is the way that talents could be managed. Linley & Harrington (2006) mention for example that a general culture of valuing strengths in an organisational setting where people and management have awareness of each person's individual characteristics (strengths and weaknesses) would reinforce team building and create a sense of team because it would create interdependencies between people. This can be possible by bringing together complementary strength profiles in teams that could optimize performance. Such a setting allows one partner to take over those tasks that belong to the weaknesses of the other partner, putting together work teams with a diverse strengths profile or adapting the job design to better fit a person's talents (Buckingham, 2005). It makes people needing one another but it also creates a common language of interaction on the strengths of the individuals and of the team overall; eventually this makes working together easier and more effective (Linley & Harrington, 2006). With this strength's based formula an organization can optimize and capitalize on people's strengths, while at the same time it addresses people's shortcomings by providing them with development opportunities and by making sure that people are on the right job. Consequently, the organisation has a quite high return on investments given that people feel valued, happy and they eventually like to stay in an organisation that appreciates their talents (Meyers & Van Woerkom, 2014). At the same time what could be of challenge in an inclusive/stable talent management system is the fact that the individual strengths or weaknesses of people are still seen as stable psychological constructs with the risk of creating "strong fixed mindset among the workforce" (Biswas-Diener, Kashdan, & Minhas, 2011 in Meyers & Van Woerkom, 2014, p. 198) that could eventually create frustration or low levels of resilience with managing failures and even contribute in blaming organizational culture.

A non-selective stance with regards to talent can also be recognized in the **inclusive/developable** philosophy. This approach to talent is also rooted in the positive and vocational psychology where an inclusive conception to talent is adopted where talent is seen as potential for excellence (Meyers, Van Woerkom, & Dries, 2013) and extraordinary performance. Under the umbrella of this talent philosophy, the growth mindset that is characteristic builds on the assumption that everyone can become excellent performer as people have the inner urge and need to grow and learn. Everyone under the appropriate conditions and learning can excel on a specific domain depending on the set of talent constructs they have. This means that not everyone can excel on every domain though. This depends on the particular and unique potential that each individual possesses but also on the learning experiences and opportunities that a person accumulates (Gladwell, 2008 in Meyers & Van Woerkom, 2014, p. 198). But the difference with the previous approach is that everyone can grow and fulfil themselves on a specific domain where they can excel at the end (Meyers & Van Woerkom, 2014). In an organisation where talent management practices are aspired from such an approach to talent, the growth mindset requires

development opportunities offered to all employees and a clear communication of this organisational intention towards employees so that everyone is aware of this culture of development and is responsible for self-development as well (Meyers & Van Woerkom, 2014). In combination with a job design that builds on and stimulates the use of peoples' talents this growth culture would allow people to excel and utilize their potential but also to learn how to wisely use and self-manage their talents. This inclusive approach to talent impacts positively the performance of employees, the wellbeing and resilience to conflict while it also gives the opportunity to the organization to operate in a more competitive way in a market where there is scarce to talent by developing internally a wide variety of talents that fit the strategic organizational business needs.

Overall, organizations, from a humanistic as well as performance perspective, have more to gain if they focus on developing everyone's talent (Dominick and Gabriel, 2009. Ultimately, this inclusive approach to talent would reflect on a more dynamic and interactionist vision towards the potential of employees and the development not just those with high potential but all organizational members. This vision will be also reflected on a team level where, as soon as there is more attention for everyone's talents instead of shortcomings, the specific qualities of every individual can contribute to the team goal (Thunnissen, 2015). Having as a start point to value everyone's strengths and competences, each person can complement each other within the team. In addition, it appears that working from everyone's strengths has a positive effect on the well-being of employees, because working from strengths gives employees motivation and energy (Meyers & Van Woerkom, 2016). In addition, it is assumed that if employees do what they are good at, this is related to high productivity (Peterson & Seligman, 2004; in: Meyers, 2016).

2.2Academic talent and prominent dilemmas

In this section we will first give some insights about how universities seem to currently look at and define talent with the ultimate purpose to showcase and summarise this conceptualization attempt with our proposed collective approach to talent. This section is also relevant because it showcases the importance of context in the definition of talent.

Universities experience some difficulties in defining, selecting and developing talent. Thunnissen and Van Arensbergen (2015) describe a few prominent dilemmas. The first dilemma, proven vs. potential talent, refers to the question whether talents are the ones with outstanding ability (e.g. PhD students or assistant professors) or the ones that have proven excellence in performance (e.g. full professors). To assess the progress and uniqueness of talent it makes sense to compare them with peers, but it may be inadequate to only compare talents with others in their own department or faculty. This results in another dilemma on whom to compare talents to. Another question that academic managers are struggling with

is how to care for the talents in the middle group, or 'grey area'. Some employees might have qualities that do not necessarily qualify them as talents, but which are valuable for a research group.

Thunnissen and Van Arensbergen (2015) elaborate on the Differentiated Model of Giftedness and Talent (DMGT) by Gagné (2004; 2010) to develop their theoretical framework on talent. Thunnissen and Van Arensbergen (2015) have clustered the coherent codes from the interviews into twelve categories of talent characteristics and classified them to one of the five components of the talent model (Gagné, 2004; 2007); this turned out to be possible for three of the components (the five components are: outstanding abilities, excellent performance, intrapersonal characteristics, environmental influences and developmental process): abilities, performance and intrapersonal characteristics. With abilities Gagné (2011, p.11) refers to the term giftedness, which is "the possession and use of outstanding natural abilities, to a degree that places a person at least among the top 10% of age peers". As to performance, high performance is not a talent itself, we can only speak of talent when excellent performance is a result of outstanding mastery of the systematic developed abilities (Gagné, 2011). The third category, intrapersonal characteristics, refers to aspects such as motivation and commitment. These characteristics serve as a catalyst, meaning that they can either accelerate or hinder the transition of outstanding abilities into excellent performance (Gagné, 2004). Additionally, according to Thunnissen and Van Arensbergen (2015), talent is a bundle of interrelated components of abilities, intrapersonal characteristics and performance. All of this leads to the demand of the 'new academic' who, besides traditional skills and attitudes, like autonomy, creativity, scientific understanding, academic expertise and passion for science, possess new skills like cooperation, networking skills, leadership, and entrepreneurship (Van den Brink, 2010). Overall, in relation to the philosophies of talent that we presented above, it seems that there are two main tensions in defining academic talent: exclusive / inclusive and stable / developable (Meyers & Van Woerkom, 2014) while also Thunnissen and Van Arensbergen (2015) show that academic talent management rests on two pillars: stimulating the development of intellectual, academic abilities (especially for junior positions), and controlling and measuring performance (especially for experienced academics).

2.3 How a talented team could look like from a team-based talent management approach

For the purposes of the current research there is a need to get familiar with different concepts. This section seeks to describe the merge between team and talent and how these two notions could look from a talent management perspective. We will start from the definition of the team, then we will combine it with the philosophies of talent as they were previously described in the section above. In this theoretical attempt, we will also include the description of the antecedents and consequences that a talented team could possibly have. There are numerous literature reviews and empirical studies on what teams are, what

they do and how they do it. In the context of this research, our objective is not to provide an exhaustive review on teams but to arrive at a basic definition that would serve our research objectives.

In accordance to Paulus, two or more individuals are considered a group and groups with a common goal can be considered teams (2000). Other researchers define teams as a collection of individuals who are interdependent in their task and are sharing responsibility for outcomes. They add a cognitive component as well and are seeing themselves and being viewed by other as a social entity (Mathieu et al. 2008). As one of the major work engines of organizations, Hackman and Edmonson define teams as "work groups that exist within the context of a larger organization and share responsibility for a team product or service" (Hackman, 1987; Edmonson, 2007, p.269). Kozlowski and Bell (2013, p.6) acknowledge that work groups or work teams (a) are people who are composed of two or more individuals, (b) who exist to perform organizationally relevant tasks, (c) share one or more common goals, (d) exhibit task interdependencies (i.e., workflow, goals, knowledge, and outcomes), (e) interact socially (face-to-face or, increasingly, virtually), (f) maintain and manage boundaries, and (g) are embedded in an organizational context that sets boundaries, constrains the team, and influences exchanges with other units in the broader entity (Arrow, McGrath, & Berdahl, 2000; Hackman, 1987; Kozlowski, Gully, Nason, & Smith, 1999; Kozlowski & Bell, 2003; Salas, Dickinson, Converse, & Tannenbaum, 1992; (in: Kozlowski and Bell, 2013 p.6). What is of interest in the definition of Kozlowski and Bell (2013) is the idea of interaction between team members and sharing knowledge with others as they see teams from an organisational systems perspective. In this thesis, teams are defined as units who collaborate towards a common goal while there is interaction between the team members and between the team and the organisation, so that knowledge within the team is shared while people learn from each other. These groups are also embedded in a wider organization where the organizational culture, the organisational design and strategic approaches will play also an important role. This also means that the strategic talent management perspective adopted from the organisation as well as from the leader of the team will eventually influence the way talent is seen and managed inside the team but also the way team dynamics and design is tackled.

In this thesis, the main focus will lay on multidisciplinary teams, where there is knowledge and disciplinary differences between the individuals. We are also particularly interested to explore the way people collaborate and work together beyond the formal co-authorship relations (a co-author is any person who has made a significant contribution to a journal article and who shares responsibility and accountability for the results). Multidisciplinary teams are composed of individuals with different information resources, knowledge, and expertise. Specifically, Vegt and Bunderson (2005) analyzed the relationship between expertise diversity and team learning. The concept of expertise diversity refers to "the differences in the knowledge and skill domains in which members of a group are specialized as a

result of their work experience and education" (Vegt and Bunderson, 2005, p. 533). Because each individual member may show different cognitive ability, team members are likely to depend on other members' unique cognitive abilities. Cognitive interdependence is very important between team members because they are not able to hold all knowledge individually to perform tasks. Rather, they tend to rely on others' expertise by interacting with each other in an interpersonal context (Wegner et al., 1985). Thus, in a multidisciplinary setting, individuals from different disciplines contribute their disciplinary perspectives to solve complex problems that individual disciplines cannot. In an attempt to understand learning behaviors in teams, Janz & Prasarnphanich (2003) stress the importance of socialization, face-to-face relationships, and cooperative interaction among individuals for the purpose of knowledge management (sharing, creation and utilization). In the literature it is also highlighted that teams with members of the same discipline can be effective when their skills are complementary in a productive way by balancing different research approaches and methodologies as well as the breadth and the depth of their knowledge base. Creating the right conditions for an effective and productive research team demands common ground for rules and objectives, thought and planning as well as experienced leadership. Open and regular discussions either during official meetings or informal ones are very important factors (Shneiderman, 2016).

2.4 Summarizing the triangle, talent-team-academia

To summarise this section, in knowledge intensive organisations such as universities, people need colleagues to bring in relevant knowledge and to come to innovation. Complex issues are often tackled in a team context and knowledge development and knowledge sharing are therefore collective issues (Thunnissen, 2015; Whelan and Carcary, 2011). An individual approach to talent management can stand in the way of team and organization goals (Pfeffer, 2001) and neither it is in line with what scientists value as important for their personal and professional development nor it helps academic leaders to manage the talents that in the middle group or grey area. This therefore argues for a team-oriented approach to talent management. In this research, a team-oriented talent management approach focuses on (1) a group of people working together to achieve team objectives, interacting for that purpose, sharing knowledge and learning from each other, and (2) thereby focusing on recognizing and acknowledging, developing and utilizing talents of everyone, in order to (3) contribute to the desired returns from research advancement, job satisfaction, knowledge sharing and knowledge enhancement. In this collective and inclusive approach to talent everyone has strengths that can contribute to the desired returns and in relation to the initial research questions of this study we care to unveil *how everyone's strengths and talents are utilized in interactions and dependencies between the team members of the two research groups* we are studying. Consequently, and if the collective approach to talent management is more

appropriate, we also care to study and uncover *how we can optimize teamwork practices to enhance talent use at the collective team level.*

3. METHODOLOGY

3.1. Research Design

Our study aimed to explore team-based talent management practices in multidisciplinary academic research groups. We chose a grounded theory (Strauss and Corbin, 1990) as we needed an inductive approach to develop theory from data, to combine the process of category identification, integration and its product as theory. In doing so, we employed qualitative methods committed to creating detailed, highly-context sensitive data (Osbeck & Nersessian, 2015). Exactly because of the fact that it merged the process of data collection and analysis, we had to move back and forth attempting to ground the analysis in the data and arrive to theoretical saturation. We were inspired by the fact that the grounded theory offered us the flexibility to continuously review earlier stages of the research and if necessary to change direction, so there was not a series of steps that if followed correctly we could then arrive from the formulation of the research question, to data collection and analysis and finally formulation of research report (Charmaz, 2006). This principle stood for the research question as well, given that it was not a permanent fixture and it became progressively focused throughout the research process. However, we acknowledge that one of the complicated aspects of this approach is the fact that a broader research scope could require far more data and thus require more data collection and, in our case, more interviews. That's why we followed the advice of Strauss and Corbin (1998) and narrowed the focus of the research questions after three or four interviews. In the beginning we started focusing around the questions of talenting and how it is embedded in the system of a research team and whether talenting adds any extra value for the team performance of the research groups. However, we had difficulties translating these

Having drawn attention to the dynamic nature of the grounded theory approach, in the next paragraphs we describe the fundamental components of our grounded theory research study.

3.2. Sensitizing concepts and the function of the literature study

This research started with a literature study to explain the current findings with regard to talent management and teams. We used the literature research to place the research in a multidisciplinary framework, to define the different concepts and highlight aspects that we may had not yet thought of (Boeije, Hart & Hox, 2009, Boeije, 2014). We used the different concepts as sensitizing concepts to focus our gaze on characteristics that are considered relevant, without preventing an open gaze (Boeije et al., 2009). The literature study in this research was used as an exploration of the subject, as a guide for the coding process and as a reflection on the results. These sensitizing concepts are used implicitly during the coding process considering that we use grounded theory methods through the prism of their disciplinary assumptions and theoretical perspectives given that the codes reflect our interests and perspectives as

well as information from the data. Thus, we already possessed a set of "sensitizing concepts" (Van den Hoonaard 1997) that informed empirical inquiry and sparked the development of more refined and precise concepts. In any case, we adopted a reflexive response towards our preconceptions and assumptions during the inquiry process and we tried to make our sensitizing concepts as explicit as possible during the theoretical building of this research study to examine critically whether these concepts hinder or not the interpretation of the data. Specifically, we used a series of questions (Glaser, 1978) about our sensitizing concepts to make decisions about the function and boundaries of these concepts: What, if anything, do the concepts of talent, talenting and academic talent illuminate about these data, how do they apply in the context of each research group we focused on as well as in the reflections and answers of each interviewee and towards which direction do they take the analysis of the data e.g. can we really talk about talenting and team talent management?

3.3. Ethics Approval and ethical issues

To ensure an ethically responsible research practice, given the concern about the ethics oversight process for such flexible and unpredictable study design, we managed this process by obtaining initial ethics approval by the BMS Ethics Committee. In our application we explained grounded theory procedures and the fact that they evolve. We provided our initial research questions as well as our possible recruitment strategies.

3.4. The grounded theory principles in this study

3.4.1. An open beginning and research questions

In grounded theory research design, there is the need of an initial research question to focus the research attention upon the investigation of the phenomenon (Strauss and Corbin, 1990). However, in our case the different research questions served as a tool for identification of the phenomenon without making too many assumptions about it and it should orient the research towards action and processes rather than states and conditions (Strauss and Corbin, 1990, pg. 38).

Q1: *How is talent utilized in interactions or dependencies between the team members of a team?*

Q2: *How can we optimize teamwork practices to enhance talent use at the collective team level?*

These questions were the starting point for our grounded theory study. We wanted to explore talent as a collective phenomenon in team-based ways with paying attention to the importance of interdependence and social capital (reciprocity, trust, cooperation, division of labor inside the teams). We aimed to understand the working practices of research groups in order to shed light to potential talenting processes that are embedded in the nature of collaborative scientific work from an inter-individual dependence perspective. In this team-based structure the nature of work demands the interdependence of many stakeholders and conjoint actions.

3.4.2. Context

To further advance the field of talent management, it is important to also look at talent management within other contexts than private organizations, such as universities We have seen earlier in this study that the definition of talent highly varies in every context and every context is unique (Thunnissen and Van Arensbergen, 2015). This research shows that the conceptualization of talent and talenting cannot be seen separately from the context.

The focus of our study was on the context of a public Dutch University. The importance of talent management is no different for universities as is highlighted by the statement: “nowadays, the ability to attract and retain top talent is one of the key HRM issues for universities” (Thunnissen & Van Arenbergen, 2015, p.187). The importance of an inclusive talent management approach for the University is further emphasized by the vision-mission-strategy 2030 document of the University since it raises the intention of “recognizing, attracting, developing and retaining talent” as “an important, even fundamental, requirement” which “means we will seriously invest in individual well-being, talent development and transformational leadership among our students, staff and teams. Bearing in mind that each talent is unique, we will develop a highly personalized way of giving each talent the best possible support and input” (Shaping 2030 Mission – Vision – Strategy). Additionally, following an exploratory interview with the HR department it was clear that the strategic “Vision 2030” highlights their ambitions and indicates where they want to be by 2030. As part of this project, the University wants to create “a thriving academic ecosystem, that accommodates and appreciates different talents, competences and alternative career paths. This means we empower staff and students at personal, career and leadership levels, and that every senior member of our staff actively develops his or her leadership and team competences (Shaping 2030 Mission – Vision – Strategy)”. In other words, the adoption of ‘Vision 2030’ implies that the University has taken on a new perspective resulting in rethinking of current practices. One of which is its talent management strategy. Supporting the transition towards a more collective approach to talent management requires gaining more in-depth knowledge on the underlying construct of TM, hence talent since it has implications for the talent management practices to be implemented (Gallardo-Gallardo et al., 2013; Meyers & Van Woerkom, 2014). The University , however, is currently struggling with their view on talent (HR policy advisor, personal communication, March 14, 2016). More specifically, it remains unclear how talent should be seen and what kind of knowledge and competences one, for instance, needs to possess in order to be considered a talent.

In addition, this context was interesting because of the characteristics of the University as a knowledge-intensive organization in which knowledge sharing and development is of additional importance. In addition, coordination in a knowledge-intensive organization ideally does not go via top-down control systems (Thunnissen, 2015). Given the influence of the context on talent management’s

definition and characteristics, the members of the academic research groups, where we focused on to study a team-oriented talent management approach, offered us a rather contextualised definition of talent and talent management.

3.4.3. Interviewing approach and interview questions

Qualitative interviewing was used to further explore the research questions by means of in-depth explorative interviews. We approached each interviewee as a reflective practitioner and hence expert in his/her daily professional work practice, our purpose was to understand the implicit meanings of participant's experiences while taking into consideration their context. We accepted that there are multiple realities and that data reflected both the researcher's and the research participants' mutual constructions (Charmaz, 2011). Hence, we aimed to understand participants' implicit meanings of their experiences and built a conceptual analysis of them.

To start the data collection we have developed a series of open explorative questions focusing on defining and exploring processes and on investigating different conceptual categories such as: the division of labor inside the team and the functional role of the interviewee, the collaboration and the communication style of the research group, the personal definition of talent, the definition of talent inside the team system, how individual talent is related to team success, how team talent is related to team success and last but not least we focused our attention on interviewees' personal definition of the notion of team. Hence the interview questions framed the content, which, in turn, shaped the codes constructed in analysis of the data (Charmaz, 2011). Our purpose when formulating the interview questions was to cover both our research interest but also participants' experience, without forcing data into preconceived categories (Glaser, 1978). We were primarily concerned to understand "what is happening here" (Glaser, 1978) in the stories of the interviewees. Even though grounded theory demands multiple sequential interviews, for time limitation reasons we managed to have only one-shot interviews with the different participants. To mitigate the problems related to the strength of the theoretical rendering we tried to adapt our questions from the very first interviews to make sure that we addressed the leads that arise during the early interviews and to try to increase the depth

The interviews took place at the environment of the university and specifically in places convenient to the participants such as their offices or other working spaces and lasted between 40 – 50 minutes. The selection of the research groups was made with the criterion of multidisciplinarity and with the purpose of picking groups that belong to different scientific fields and faculties in order for us to gain a more diverse perspective. We approached the two research groups by first contacting the research leader of the group and asking to interview him/her first so that we could understand the dynamics of the group and then reflect on which members of the group are compatible with the inclusion criteria. Interviews

were digitally recorded and professionally transcribed a during the interview we used an interview protocol to help guide the researcher. Concerning the instructions that we gave to participants prior to the interviews, these include the introduction of the researcher, the exact purpose of the research project, the practical relevance of it, the size of the sample as well the duration of the interview. We also ensured that participation was voluntary, that participants had the right to withdraw at any time and that confidentiality was protected by keeping anonymized all responses before analysis. Finally, a consent form was also provided to participants prior to the interview process.

3.4.4. Selection of participants

Considering that there is little or no scientific literature available for the topic we are researching, it was decided to adopt a bottom-up approach to this subject and explore it from the perspective of academic research teams and their members. From a total of 13 interviews, six interviews were held with PhD candidates, two with Full Professors, two interviews were held with Assistant Professors, one with a Department Chair, one with Associate Professor and finally one with a Post Doc Researcher. However, we approached these interviews interdependently with each other and situated them in the context of the two separate departmental research groups. In the table below, we summarise the sampling of interviewees.

Group 1	Interview Duration
G1	2 hours
G2	1 hour
G3	1 hour
G4	2 hours
G5	1 hour
G6	1 hour
G7	2 hours
Group 2	**Interview Duration**
I1	2 hours
I2	1 hour
I3	2 hours
I4	2 hours
I5	2 hours
I6	1 hour

Table 1. Sampling of interviewees

3.5. Data Analysis

The subsections below discuss the process of date analysis that we followed comprising the coding of data, memo writing and theoretical sampling.

3.5.1. Coding Data

Following the definition of Charmaz (2006) that ‘’coding is the pivotal link between collecting data and developing an emergent theory to explain these data’’ (p. 46) we started with defining what is happening to the data and with developing the meanings from the events of the interviews, our observations and comments. We started coding quickly, having in mind the purpose to keep the codes as close to the data as possible. Nonetheless, as we previously mentioned, we used intuitively the sensitizing concepts stemming from the literature review for a first study of the data to inform the empirical inquiry and to further refine the emerging concepts (Charmaz, 2011). Without necessarily imposing a strict three step procedure of data coding, we started the analytic process with initial coding, and we continued with selective coding where we established the relationships between the different concepts.

In the phase of open coding we created a descriptive narrative of the dimensions we discovered in the data, based on memo writing notes, interview transcripts and our own interpretations. We started with a small unit of analysis and as we continued with the data coding the initial descriptive categories and labels for occurrences or phenomena became more numerous. In this phase the purpose was to still discover the different views of participants by breaking down the data, closely examining them and comparing them with the purpose of grouping them into more abstract categories. We then continued with a line by line coding and we tried to use as much as possible active terms and verbs to define what is happening in the data and even though we couldn’t proceed to sequential interviewing we tried to follow the leads from data of the first interviews through adapting our questions to the series of next interviews. This process helped us to ensure the quality of our codes for capturing participant’s experiences and stories. Still at this stage of initial coding, the purpose was to elevate the data to more abstract concepts and to make comparisons to identify the nuances and variations in the patterns to be found in the data. Later on the phase of the more focused coding we pursued a selected set of central codes that tended to be the most prevalent and important and which contributed most to the analysis further on at this stage we refined the final categories, related them to each other and integrated all the refined categories into a theoretical cadre.

Table 1. Examples of Initial Coding

Interview Statement	***Initial Coding***

Q: Could you give me your own personal definition of talent?	Talent defined as not only what you know but how you use it – talent as the capability to optimally use it to create some sort of value
A: Those are challenging and abstract terms of course. For me, if you think about talent, it is mainly about potential, I think that in the end that is the key. I remember once seeing a discussion program on TV and someone saying that talent is like an onion, right, and if you just have it and you don't do anything with it then it's just an onion. It's only when you start working it up and cut it and you make it part of something bigger that it becomes a very tasty dish in the end. I think that this is sort of true, there is a lot of potential and you can kind of spot this in people, that they are eager and that they have a particular mindset or are particularly talented. But this is itself has no particular merit of course. The actual merit comes from using the talent and realizing the potential that you have. But still this is quite abstract let's say.	

3.5.2. Memo Writing

A very important part of our data analysis and collection was memo writing which we adopted from the beginning of the research process as of the first interview by writing conceptual/theoretical memos in order to keep track of theory development. Memos followed the different interviews and our first interpretations of them such as what we learnt from each case as well as some thoughts questioning pre-existing ideas (Charmaz, 2006). We also used them to record our reflection about the how, the when, the what, the relations and consequences on the different processes occurring and emerging from the data. At the end of the process we sorted and integrated memos to further clarify the dimensions of different categories with the final purpose to arrive at a tentative theoretical model. In Annex I we provide an example of a memo writing from one of our interviews.

3.5.3. Theoretical Sampling

The most pressing question about this phase of the grounded theory was to answer the question of where to start from with the sampling process. Theoretical sampling is guided by the emerging theory, and is concerned with where to sample next and for what theoretical purpose (Glaser, 1978) hence, the need to having a starting point upon which to build. Coyne (1997) has explained that "the researcher must have some idea of where to sample, not necessarily what to sample for, or where it will lead" (p.625). Starting from this observation, one could say that theoretical sampling would involve purposeful selection

of an initial starting point before moving into the actual theoretical sampling when data analysis begins to yield theoretical concepts. In our case, we purposefully selected our first sample based on pre-existing sensitizing knowledge from the literature study, nonetheless we kept in mind that "this knowledge should be awarded no relevance until validated or dismissed by the formulation of the emerging theory" (Breckenridge and Jones, 2009, p. 9).

Consequently, we proceeded by seeking participants that might be able to provide deeper understanding of the emerging patterns, categories and dimensions during the evolving process of data collection. Thus, we initially confine our study to two cases by investigating two departmental research groups of the University in the Netherlands.

Given the mixed seniority of researchers in each group, the conducted interviews focused on at least one researcher from each level of hierarchy in order to gain a more pluralist insight into their work practices. The choice of these two groups is due to the difference in disciplines, Humanities and STEM fields, as well the differences in group size, leadership styles and cooperation assuming that these differentiating characteristics will also provide us with the opportunity to investigate the existence of discipline – dependent issues (Van den Brink and Fruytier, 2013). This could somehow prevent us from driving observations only from one research group and discipline. Based on the literature review (Glaser and Strauss, 1967; Locke, 2001; Goulding, 2002; Strauss and Corbin, 1998) the size of the sample size for grounded theory relies on the point of theoretical saturation. Hence, when we started our research project we could not really make a judgement regarding sample size until the moment of data collection and analysis (Corbin and Strauss, 1998; Glaser and Strauss, 1967) and therefore, the importance of undertaking data analysis and memo writing during the data collection process. Moreover, undertaking theoretical sampling too early in the process may impede the maturity of theoretical analysis in accordance to Charmaz (2011). However, when we started the data collection, we had in mind to expect some sort of theoretical saturation after around 30 interviews in order of facilitate pattern, category and dimension growth. But in the beginning, this can only be an assumption with keeping in mind to ensure that our findings are reliable and valid (Jones and Noble, 2007).

3.5.4. Synopsis of the content analysis

The starting point for the qualitative content analysis was the transcribed interview texts with the purpose of result description and analysis. From the raw data of the interviews, categories and themes were formed. Following the conduction of the interviews, a first reading of the raw data provided us with the initial ideas of what the main points or ideas are participants expressing. In a second phase the text was divided in smaller units of meaning and it was labeled under categories and further themes. Below, we cite a summative table of the categories we used in is a continuous process of coding and categorizing then returning to the raw data to reflect on our initial analysis.

Based on the interview questions three initial bigger themes emerged which are presented below:

- In what way do the interviewees communicate, cooperate and affront problematic situations in the groups which they belong?
- What is their definition of talent and how talented people work together in the two groups?
- What is the role of the individuals inside the group?

Below, in Table 2 these three themes are matched to the corresponding questions. Specifically, the categories that have been analyzed are “Teamwork”, “Talent perception” and “Individuals’ role”.

Themes

Themes	Questions
1) Teamwork	1) How the division of labor is done inside the team? 2) Is there an open-door policy? Is the communication easy in the team? 3) Is there awareness of what other people are doing and interdependencies? 4) How does the team encounter challenging or problematic situations?
2) Talent perception	1) What is your personal definition with regards to what is talent? 2) Would you say that talents in the team complement each other? 3) Finally, is it collective and team talent or it is more about individuals? 4) How do you see the less talented people?
3) Individuals’ role	1) Can you attribute team success to individuals and if so why? 2) At the end does the academia promotes the individualistic culture. The researchers work a lot in interdependencies, and they collaborate, and they need each other. What is your opinion on this? 3) “Individuals may leave the group, but the knowledge of the group does not vanish”. Do you think that this applies here?

4. RESULTS

In this section, the results of the interviews’ analysis are presented for the two groups separately as we expect to have a differentiation of the insights coming from the data. Based on the interview questions three initial bigger themes emerged which are presented below:

- In what way do the interviewees communicate, cooperate and affront problematic situations in the groups which they belong?
- Which is their definition of talent and how talented people work together in the two groups?
- What is the role of the individuals inside the group?

Below, in Table 3 these three themes are matched to the corresponding questions. Specifically, the categories that have been analyzed are “Teamwork”, “Talent perception” and “Individuals’ role”.

Table 3.

Themes

Themes	Questions

1) Teamwork	1) How the division of labor is done inside the team? 2) Is there an open-door policy? Is the communication easy in the team? 3) Is there awareness of what other people are doing and interdependencies? 4) How does the team encounter challenging or problematic situations?
2) Talent perception	1) What is your personal definition with regards to what is talent? 2) Would you say that talents in the team complement each other? 3) Finally, is it collective and team talent or it is more about individuals? 4) How do you see the less talented people?
3) Individuals' role	1) Can you attribute team success to individuals and if so why? 2) At the end does the academia promotes the individualistic culture. The researchers work a lot in interdependencies, and they collaborate, and they need each other. What is your opinion on this? 3) Individuals may leave the group, but the knowledge of the group does not vanish. Do you think that this applies here?

4.1. Group 1

The sample of the first group consists of 4 PhD candidates, 1 Postdoctoral Fellow, 1 Assistant Professor and the Department Chair of the group. Table 4 presents the functions of the seven participants.

Table 4.

1st research group participants

Interviewee	Function
G1	Department Chair – Group Leader
G2	Assistant Professor
G3	Post Doc Researcher
G4	PhD Candidate
G5	PhD Candidate
G6	PhD Candidate
G7	PhD Candidate

1st Theme

Table 5 presents the results for the 1st theme "Teamwork".

Table 5.

Results of the 1st theme "Teamwork"

"1st theme Teamwork"		
1) Do you have an open-door policy, is it easy to communicate within the team?		
Subjects	**Categories**	**N**
[1] Via organized meetings	Weekly meetings are held with the whole department, but also more often with fewer people if needed (1,2,3,4,5)	5
[2] Yes, anytime	Yes, anyone can go to another office or lab and exchange information (1,2,4,6)	4
[3] If necessary	I work independently and if necessary, contact my team (7)	1

2) So, in terms of collaboration and communication there is an awareness of what other people are doing. Are there any interdependencies?

Subjects	Categories	N
[1] There are overlapping research areas	There are overlapping areas and therefore there is interaction (1,2,5,6,7)	5
[2] There is deliberate awareness	Deliberate awareness to know what others are doing because it is advantageous (1,3)	2
[3] There is limited awareness	Everyone could know better what other people know (4,5)	2
[4] Everyone is aware of what everyone else is doing	Everyone is fully aware if the projects are similar (7)	1
	Everyone is fully aware of the knowledge of the people in the other projects (6)	1

4) In the event of difficult times or problematic interactions, how does the team handle these situations?

Subjects	Categories	N
[1] lack of clear definition of roles	General errors (2,3,4,7)	4
	Researchers intervening in other projects (1,5)	2
	Wrong Experiment Approach (5,6)	2
	Learning process errors (6)	1
[2] Troubleshooting	Sincerely (2,5)	2
	Initial Individual Resolution Attempt and Later Asking for Help (2,7)	2
	Finding the cause, solving the problem and how to avoid it (4,6)	2
	Proper maintenance of facilities and correct protocol rules by technical staff (1)	1
	I help the person overcome it (3)	1

*Brackets: Interviewees, N: frequency

1. To the question **"Do you have an open-door policy, is it easy to communicate within the team?"**

   3 subjects were created.

The 1st subject explains that communication is always easy, the second that communication is organized with meetings, and the third that communication is an integrated practice of the team and of the different members whenever is necessary for the research success. In the 1st subject "Yes, any time" topic, almost half of the participants (N = 4) reported that each person could go to another office or to another person and exchange information: *"Of course, we also have a lot of exchange opportunities and people are running each other in the offices, in the laboratories, and going through similar challenges and struggles to help each other in this way."* (G1).

In the 2nd subject "Yes, with organized meetings", 5 participants reported having weekly meetings with the whole department, but also more often in an individual basis whenever needed: *"But we have a weekly meeting where we all talk about our findings and then we have smaller meetings where we talk about different projects, ..."* (G4).

In the 3rd subject of "if necessary", one participant stated that he works independently and if necessary, addresses his challenges to the group: *"... but usually I would work first by myself and then ask the group"* (G7).

2. To the question **"So in terms of collaboration and communication there is an awareness of what other people are doing. Are there any interdependencies?"** 4 subjects were created. The first is that there is deliberate awareness, the second is that there is limited awareness, the third is that everyone is aware of what others are doing and the fourth is that there are interdependencies.

Analyzing the 1st subject "there is deliberate awareness", 2 participants stated that there is deliberate awareness of what others are doing : *"And the good thing for me is that I talk to all these people and in separate meetings, 'I know very well what they do and what they work for…'"* (G1).

In the 2nd subject "there is limited awareness", 2 interviewees reported that there is room for improvement on the communication that is taking place in the team: *"Yes, I think it could be better. So, we have a weekly meeting to discuss the work and general observations in the lab or how things are going in the group ..."* (G5).

Analyzing the 3rd subject "Everyone is aware of what others are doing", one participant stated that they are all aware of similarities and overlaps between the different projects: *"Yes, so if the projects are similar to each other then we have team meetings where every week a researcher presents every project and updates and we know what we do, though not so often but there is awareness."* (G7) and another that everyone is fully aware of the knowledge of the people in the other section: *"Yes definitely. There is a lot of awareness and I was partly hired because I am a biomedical engineer and there is another biomedical engineer in the group and the rest are biologists. So biologists know that if they want to do something very technical, engineers need to come to us to ask "what is your contribution to it", because they know we have a very different way of thinking that is more technology-driven and of course goes the other way, I talk to other engineers about technology solutions, but then it's like what cells do in these devices and we need the help of biologists and depending on the work they have done before you, which one should you go to?"* (G6).

In the 4th subject "there are overlapping research areas", most interviewees (N = 5) reported that there are overlapping areas and therefore there is interaction between the different stakeholders*: "There are usually some overlapping areas where they help each other, ..."* (G1) and *"... however we have overlapping areas and the same with people from Biology working with cells from the heart or veins and we use these cells on our devices and even though I have a more technical background I can still work with them but when I have there were things I didn't understand going to people who know more about biology"* (G2).

3. To the question **"In the event of difficult times or problematic interactions, how does the team handle these situations?"** 2 subjects were created which are lack of clear definition of roles and troubleshooting.

In the 1st subject of "lack of clear definition of roles "2 participants reported that the problems arise due to the lack of clear definition of roles and tasks: *"Today in our team is not so much. Of course, the system, the organization I just described is like the typical organization of any research group and yes sometimes you see it, especially when the projects are not very well defined, and people feel they have some ownership of the project that was eventually commissioned to someone else. This is usually the case when conflicts can arise where it is not clear what your specific tasks and responsibilities are."* (G1). Furthermore, 2 participants reported that the problems were due to a wrong experiment approach: *"[…] If an experiment fails you make no mistake, it's just that you had the wrong approach"* (G6), while one in mentioned that mistakes happen during the learning process: *"…and most mistakes occur during the learning process…"* (G6). Finally, 4 participants reported that the problems were sometimes due to the fact that people were not addressing their conflicts and problems on time: *"And there, sometimes it is difficult, so what you do not want to create are situations where people wait until frustration is the kind of building and then you have a situation, of course sometimes it does."*(G4).

In the 2nd subject of "ways of troubleshooting" one participant stated that the troubleshooting is done by proper maintenance of the facilities and the correct rules introduced by the technical staff: *"…make sure it's ok this is limited and doesn't happen very often. But also, for technical staff, they should play an important role here and ensure that everyone has equal access to our facilities, that all facilities are properly maintained, that everyone has a proper introduction"* (G1). In addition, 2 participants reported that the problems were first tackled by an individual effort and subsequently by seeking help: *"In case of work or practical problems in the lab, I first try to solve them myself and if I hit a wall then I am simply approaching for help or the opinion of another through discussion."* (G2). Also, 2 participants reported that the problems were addressed by finding the cause, the solution to the problem, and how to avoid it: *"…you need to know what went wrong, try to find the reason and see how you can fix it next time."* (G6). Finally, one participant reported the importance of supporting each other to overcome a difficult situation: *"I try to help the other person, see how the mistake went and help the person overcome this mistake."* (G3) and 2 other participants stated that problems are handled with honesty and openness between the different parties: *"Usually, I assume people are just being honest about it and just looking for the other person and telling them; they should probably start again, but at least they know what happened and you talk things over and I guess it's fine."* (G5.)

2nd Theme

Table 6 presents the results for the 2nd theme "Talent perception"

Table 6.

Results of the 2nd Theme "Talent perception"

"2nd Theme Talent perception"
1) Could you give me your own definition of what talent is?

Subjects	Categories	N
[1] Talent as natural trait	Inherent skills without much effort (2,5,7)	3
	Inherent skills that need to be freely worked out and developed (1,4)	2
	Out of the box thinking (3,6)	2
[2] Academic Talent	Work and learning required to develop physical talent and intuition (2,7)	2
	Ability to think things out of the box (3)	1
	Critical thinking, need for review and explanations needed (5)	1
	Communication skills needed to reach grants (6)	1

2) And would you say that in the team these talents complement each other in some way?

Subjects	Categories	N
[1] Yes, they complement each other	There is balance, collaboration, social interaction, trust, transparency and good communication between scientists and technicians (1,2,4,6,7)	5
[2] Interdependencies are based on the nature of the project	There are interdependencies where the project requires (3)	1
	Collaboration for the final paper, laboratory experiments performed separately (5)	1

3) So, in the end can we talk about collective talent and team talent or is it more about individuals?

Subjects	Categories	N
[1] Yes, collective talent	Yes, there is an overlap of people with different talents (1,2,3,6,7)	5
[2] No, individual talent	No, every person works in their own way (4)	1
	No, talented people can actually create a talented team (5)	1

4) And how do you see the less talented people?

Subjects	Categories	N
[1] Yes, there are	Difficulties in Development (1,3)	2
[2] I would not say that there are	A lack of comfort in any position or situation (2,4)	2
	Depending on the environment (5)	1
	They just have less knowledge (6)	1
[3] No, they do not exist	A different approach is needed for each individual (7)	1

*In brackets interviewees, N: frequency

1. To the question **"Could you give me your own definition of what talent is?"** 2 subjects were created which are natural talent and academic talent.

In the 1st subject of "talent as natural trait" 3 participants stated that this relates to innate characteristics, acquired without much effort: *"I think it's basically based on traits maybe, kind of innate, meaning you have a specific personality that will allow you to do specific tasks or think in a specific way."* (G5) and *"Something you are good at without trying"* (I2). In addition, a minority (N = 2) stated that there must be space for potential to grow into talent:*"…so this means, as I said, there is talk, so you give them the freedom to express it and to think."* (G4) and *"The real value comes from using your talent and realizing your potential."* (G1). Finally, two participants stated that talent relates to the ability to think and manage things in an innovative way and being original: *"I would say to someone who is capable of thinking outside the box. The more the person can think outside the box, the more he or she finds a non-immediate solution to the problem. That's what I would call talent."* (G3) and *"In my case and my plan is more about insight.*

You have to see what other people have done, what the physical and biological principles they are using, and then try to connect these things to a brand-new idea (originality) and try it out." (G6).

In the 2nd subject of "academic talent" 2 participants stated that work and learning is needed to develop physical talent and intuition: *"Then it gets more complicated than the first definition, because it requires work and is not only good at it, you also have to work to get it. So not only does he have an intuition about things, this is also a thing but in academia you also have to work hard to develop that intuition further."* (G2). Also, one participant stated that academic talent relates to the ability to think out of the box: *"Yes absolutely, it is really the definition of academic talent. Be able to really do an experiment, think about why things work out and not limiting themselves to what is known but try to figure something out even if your people I say it's a crazy idea, that's how I define talent."* (G3) and one more participant mentioned that academic talent also relates to critical thinking and having the innate urge to question things: *"Academic talent would be more like critical thinking or challenging other people's statements and not accepting things. So, it is more like challenging and re-examining things and is something that people have as a personality or character, for example, some people always ask "why", "why do you do that"?"* (G5). Finally, one participant believed that the definition of academic talent relates as well to the skill to be able to gain grants: *"I think for academic talent you also need to know how to play the political game. Because if you are a transmitter you have to receive grants and that is a whole different world. You may have the best ideas, but if you do not know how to put it in a grant proposal then you will never get the money. Thus, academic talent is both insight and knowledge of how to communicate to the outside world."* (G6).

2. To the question **"And would you say that these talents complement each other in some way?"**, two subjects were created (yes, they complement each other, some complement each other).

In the 1st subject "yes, there is talent complementarity", the majority (N = 5) of participants stated that there is balance, cooperation, social interaction, trust, transparency and good communication between scientists and technicians: *"Interdisciplinarity is one of the reasons why it is certain that whenever someone has problems, we can be supported by colleagues to get there. Cooperation and open-mindedness between people, even if you are interdisciplinary if you do not cooperate then success will not come. Also meet and interact socially with each other. Empathy is important. So, in the end it's a combination of these things. In the end I would also say trust in the person, but also in what the other person knows and that comes with transparency."* (G2).

In the 2nd subject "interdependencies depend on the phase of the project", one participant stated that there are interdependencies where the project requires it: *"By the nature of the project and if a project requires interdependencies, there is co-operation on some common deliverables, more often experiments"* (G3). Also, one even mentioned that there is collaboration on the final paper, but the laboratory

experiments are done separately: *"Usually in laboratory experiments they occur separately. Maybe for example when you write a paper you sometimes do it to some people, you don't do it alone so that the staff can help and I guess you have to work as a team where you write one part of it and then another check out part of your project or someone else writes part of the document as well, or do some experiments together and then have a joint document and I assume that in this sense you are teaming up with a team to write the final document."* (G5).

3. To the question **"So, in the end can we talk about collective talent and team talent or is it more about individuals?"** 2 subjects were created (Yes, collective talent, No, individual talent).

In the 1st subject "Yes, collective talent", the majority (N = 5) stated that there is an overlap of people with different talents: *"…it is a system of people with individual skills, skills can overlap but if everyone is just expert to do just as well then this is of no use if everyone is very good at doing KPCIs."* (G3).

In the 2nd subject "No, individual talent" one participant stated that each person works in their own way: *"No, I would like to talk about individuals because each person has their own way of working and thinking so that there is no type for, let's say for the whole team and so we have to do it, it's more like OK with a person I have a little different discussion with another person and also how he should be in the group, ... "* (G4). Another interviewee mentioned that talented people can actually create a talented team: *"I would say more a collection of people where everyone has their own ability or contribution to the team and of course if you do a nice combination then you can experiment or have some success to work towards a goal, says that the team gathers the right set of knowledge but in the end, since the research is individually based, it is not that the entire team is working on a scientific goal. there are always subsets, I suppose you could say that the ultimate overall goal of the team is academic success, but it is quietly abstract."* (G5).

4. In the question **"And how do you see the least talented people?"**, 3 subjects were created (Yes there are less talented people, I wouldn't say they exist, No, they don't exist)

In the 1st subject of "Yes there are", 2 participants stated that this is due to the limits in someone's development: *"... they certainly do not all have the intrinsic or intrinsic capacity to continue to develop, they all have their limits, so yes there are certainly differences in talent."* (G1).

In the 2nd subject "I would not say they exist" the minority (N = 2) reported that this was due to a lack of comfort in some position or situation: *"... so I would not say that there are fewer talented people. Going back to the definition of talent, sometimes you do not have the convenience of working with something because you are not comfortable working in that field…"* (G2). Also, one participant mentioned that this can happen depending on the environment of the individual: *"Well I'm not sure if they exist. I also think that talent is related to the environment in which you are."*(G5), while another said that this may be because some people just have less knowledge: *"I wouldn't say they are less talented in the team I would*

say they chose are satisfied with their education at a particular point because they enjoy the practical work of thinking. So, there are definitely people with less knowledge…" (G6).

In the 3rd subject of "No, there is", one participant stated that they just need a different approach to each person: *"No, I don't think there are any less talented people in my group, but people understand things differently, so they have to approach it in a different way."* (G7).

3rd Theme

Table 7 presents the results of the 3rd theme "Individuals' role"

Table 7.

Results of the 3rd theme "Individuals' role"

"3rd Theme Individuals' role"		
1) You would say that you can attribute the success of the team to specific people and if so, why is that. Can you give some examples?		
Subjects	**Categories**	**N**
[1] Yes	Yes, e.g. the person responsible for writing and publishing a project (1,5)	2
	Yes, e.g. the person responsible for attracting project funding (1,5)	2
	Yes, for example a person who voluntarily starts a business and succeeds (2)	1
	Yes, for example in my main project it's only me working (3)	1
	Yes, for example the ambitious and talented Postdoc (4)	1
	Yes, for example the leader and the criteria by which the people in the group are selected (7)	1
[2] No	No, it depends on the proper functioning of all people (3)	1
	No, e.g. Interdisciplinarity as necessity for success (6)	1
2) In the end, does the academic world promote individualistic culture? Because in the end the researchers work very closely together and cooperate and need each other. What is your opinion on this?		
Subjects	**Categories**	**N**
[1] Not applicable, collective effort	Combining all disciplines for maximum team creativity (1,2,4,5,6,7)	6
[2] Yes, applicable	The method of work depends on the type of grant and the project (3)	1
	There is a strong hierarchy in the academic world (4)	1
	Competition in the group is created through the achievement of individual achievements (4)	1
3) Individuals can leave the group, but the knowledge of the group does not disappear. Do you think this applies here?		
Subjects	**Categories**	**N**
[1] Not applicable	If the person leaves, his detailed knowledge and experience (3,4,5,6)	4
[2] Applicable	Proper preservation of public knowledge, recording of all protocols (1,7)	2
[3] Not applicable, except in special cases	Certain techniques can disappear (7)	1

*In brackets interviewees, N: frequency

1. To the question **"Would you say that you can attribute the success of the team to specific people and if so, why is that. Can you give some examples?"** 2 subjects were created (Yes, No).

In the 1st subject "Yes", 2 participants stated that success can be attributed to specific individuals and cited the person responsible for writing and publishing a project as an example: *"… you are able to publish your research or at least share the research to a wider audience in a way that really has an impact, usually means you are trying to publish your work in the revised literature."* (G1), similarly two interviewees cited the person responsible for attracting project funding: *"… will you be able to attract funding for your research? is able to write research proposals that will really attract funding ... "* (G1) and one quoted one person voluntarily starting a business and succeeding: *"For example, we have a colleague starting a business and this is good for the team and it works in him. Of course, he has the support of everyone, but it was his own initiative,"* (G2). One also mentioned himself in his main work, where only he works: "*For example in my main work I am the only one working on it, so success depends on me."* (G3), another reported to Postdoc who are ambitious and talented: *"… like a Postdoc for example, and then they can go; you always get the research money for the research money that you have to do, but if you are very ambitious and very talented, you may have other ideas that you can also research next to the work you have to do."* (G4) Finally, one mentions the leader and the criteria by which he selects the individuals in the group: *"In the end, what brings us together is the first person in the group. So, the team leader chooses people according to their knowledge to match, whether they complement or compete. So, you could say that you can attribute some success to the team leader."* (G7).

In the 2nd "No" subject, one participant stated that success depends on the proper functioning of all individuals: *"So, ultimately, if we are actually working on a project with the team then the whole project is not about just saying one person , depends on the fact that each of them is able to do what they need to do. So, you need them separately, but collectively they are not the main actor and guide."* (G3) and another cited as an example Engineers and Biologists in biotechnology: *"…like engineers against biologists. Biologists will not come up with technology solutions, engineers alone will not come up with biological solutions, together you can come up with a biotechnology solution and that is what brings new things to research."* (G6).

2. To the question **"In the end, does the academic world promote individualistic culture? Because in the end the researchers work very closely together and cooperate and need each other. What do you think about it?"** there were 2 subjects, which are that yes, the claim is valid and not a collective effort.

In the 1st subject "Yes, applicable" one participant was positive on this, mentioning that the way it works depends on the type of grant and the project: *"The way people work depends not only on how they are evaluated and how the funding system works, but also from the direction of the project. If a grant is interdisciplinary then the team will be interdisciplinary."* (G3). In addition, one participant stated that there

is a strong hierarchy in the academic world: *"Yeah, I don't like the university system, because what I am trying to create here is not ultimately supported by the university, because of course what the university wants is that people will be very successful and that they will have their own grants and that it's visible, it has to be visible, right, so that means you can say that your team is working well and doing well, but if no one in this group is jumping out so that means you're not so visible, that's also c for new hierarchy talents or trackers, they must be visible."* (G4) and another person mentioned that the promotion of individual achievements creates competition in the team: *"Due to the limited career opportunities, I think this is not a very good situation and can create a situation in which the potential within the group can become very much competitive, because if person A is more successful in a team, they are more likely to receive follow-up grants and because of this occupation path and a good career."* (G4).

In the 2nd subject of "Collective effort", the majority (N = 6) stated that it was necessary to combine all disciplines for maximum creativity in the group: *"But I think one of the key aspects of group meetings is that we have people from different disciplines, backgrounds and training so that there is a process of creativity at both these group meetings and at the coffee table…"*(G1).

3. In the question **"Individuals can leave the group, but the knowledge of the group does not disappear. Do you think this is the case here?",** 3 subjects appeared which were "Applicable" "Not applicable" and "Not applicable, except in special cases"

In the 1st subject "Applicable" 2 participants stated that it is valid because they maintain proper knowledge and record of all protocols: *"All these protocols are fully written, all the small details of how to do this and all this knowledge is coded and so is the research tools we do."* (G1).

In the 2nd subject "Not applicable" 4 participants stated that it is not valid because if the person leaves, their detailed knowledge and experience will be gone: *"... and when someone leaves I think some of the knowledge is lost. at least the basic knowledge remains at least the written or basic knowledge you learn from this person, but the very specific detailed knowledge that I think you will lose if the person leaves the group."* (G5).

In the 3rd subject "Not applicable except in special cases" one participant stated that it is not applicable because certain techniques can only disappear: *"... for example, if I have introduced a specific technique to the group and then let that guess go disappear with me."* (G7).

4.2. Group 2

In total, six interviews were conducted including four professors and two PhD candidates from the second group. Table 8 represents the full names of interviewers.

Table 8.

2nd group Interviewees' Function

Interviewee	Function
I1	Assistant Professor
I2	Full professor
I3	Full Professor
I4	Associate Professor
I5	PhD Candidate
I6	PhD Candidate

1st Theme

Table 9 represents the results of the 1st theme "Teamwork"

Table 9.

Results of 1st Theme "Teamwork"

"1st Theme Teamwork"		
1) How the division of labor is done inside the team?		
Subjects	**Categories**	**N**
[1] Fair allocation of research benefits	Sometimes some people do more, or some people are leaders, but the benefits are always split 50-50 (1,2,6)	3
[2] Lack of overlap	Everyone is placed to different field, so we don't meet much each other and there is not much overlap (3,4,5)	3
2) Is there an open-door policy? Is the communication easy in the team?		
Subjects	**Categories**	**N**
[1] Open door policy	Extensive discussions about the research project (1,2,3,5,6)	5
[2] Closed door policy	The majority is not aware of what is happening to the group (4)	1
3) Is there awareness of what other people are doing; are there interdependencies?		
Subjects	**Categories**	**N**
[1] Awareness	Awareness of what other people doing with meeting and sharing of ideas (1,2,3,5,6)	5
[2] Lack of awareness	The majority only knows what their own project and not what others is are doing (4)	1
4) How the team encounter the challenging or problematic situations?		
Subjects	**Categories**	**N**
[1] Complementarity	We solve problems effectively by combination of roles and collaboration (1,2,5,6)	4
[2] Not addressing conflict	We don't deal with complex issues (3)	1

Brackets: Interviewees, N: Frequency

1. Two subjects aroused by the question "**How the division of labor is done inside?**". The 1st relates to how the different roles inside the group influence the allocation of projects and tasks, while the 2nd one is related to the lack of overlap between the different research projects.

The analysis of the 1st subject, "Allocation of different roles each time", indicated that 3 interviewers referred that sometimes some people work more than others, or play different role in the team (e.g.

leader), whereas there is always mutual benefit and equal treatment: *"Sometimes I do more or sometimes others do more but the benefits and the costs are always split 50-50"* (I2).

As for the 2nd subject "Lack of overlap", half of participants claimed (N=3) that there is no overlap between workers, while everyone is placed to different field. *"The point is also that our group is really hosting a lot of different research directions; so we have some people who are more into computer science, we have some people that are more on finance and we have some people that are more into mathematical building, therefore there is not so much overlap"* (I5).

2. Regarding the question **"Is there an open-door policy? Is the communication easy in the team?"** two subjects are created: the open-door policy and the closed-door policy.

In the first subject "Open door policy" the majority of participants (N=5) stated that they do communicate quite easily with their colleagues: *"So, this is one of the things that we closely share with each other in the Staff meeting, so every other week we have in the morning an hour and a half we have the meeting that is for all staff and students where we discuss ongoing research into detail what to do and what not"* (I2).

Concerning the 2nd subject *"*Closed door policy*"* one participant mentioned that the majority is not well aware of what is happening to the group*: "I think the majority is not well aware of what is happening in the group; most of the real research is carried out by PhD students and I think the majority only knows what is their own project and not what others are doing"* (I4).

3. In respect to the question, **"Is there awareness of what other people are doing? Are there interdependencies?"**, two subjects were created, the awareness and the lack of awareness.

As for the 1st subject "Awareness", the majority of participants (N=5) reported that are well informed about what other people are doing through informal meetings and discussions: *"Well yes, but it mainly comes from coffee corner talk and also knowing which scholars are teaching which course etc."* (I5).

With reference to the 2nd subject *"*Lack of awareness*"* one participant mentioned that the majority is not well aware of what is happening to the group*: "I think the majority is not well aware of what is happening in the group; most of the real research is carried out by PhD students and I think the majority only knows what is their own project and not what others are doing"* (I4).

4. The analysis of the question **"How the team overcomes challenging or problematic situations?"**

The analysis indicated that 3 participants mentioned that they solve problems through collaboration and effective combination of roles: *"You would say that the research the we do concerns really complex issues and to achieve this we work as a team and this is a very close collaboration."* (I2). In addition, the subject of methodology emerged as one participant claimed that the ability of the talented people in the

group to find and apply the appropriate research methodology in harsh circumstances is the key to encountering the problematic situations: *"Knowing what methodology is appropriate is very helpful because then we start from that point of view. Otherwise it will be just a problem without knowing how to solve it. At least methodologies give us a vague tool to go this way and then do the research. Methodology finding, planning and problem structuring, at least we need these three"* (I6).

A second subject that emerged was the one referring to "conflict denial" as it is claimed by one person that they didn't deal with complex issues: *"We didn't deal with complex issues and have 100 flowers blow, and this was a pity, because it would have been better to have more integration of opinions and views, but you know it works like a bureaucracy. It's like you give everybody something and it's democracy"* (I3).

2nd Theme

Table 10 presents the results of the 2nd theme "Talent perception"

Table 10.

Results of 2nd Theme "Talent perception"

"2nd Theme Talent perception"		
1) What is your personal definition with regards to what is talent?		
Subjects	**Categories**	**N**
[1] Natural Inclination/Excellence	Being quite good at something without too much effort; the ability to learn much easier something; talent is about exceling in something (4,5)	2
[2] Talent as set of skills	Extrovert people with analytical, professional, social skills (2)	1
	Ability to solve problems using a class of methodologies (6)	1
[3] Experience	Eagerness to develop and find interesting ways to study a problem (4)	1
	Person with more experience in supervising a project, wisely (1)	1
[4] Talent as context specific	The definition of talent can be interpreted in many ways (2)	1
2) Would you say that in the team these talents complement each other in a way?		
Subjects	**Categories**	**N**
[1] Complementarity/Combination of talents	They complement each other because some people have talent in some fields and some in other (1,2,3,4,6)	5
[2] Non complementarity	I just ask for help only if it is really needed, it is most an individual work; (5) whether the sum of the parts is it more, meaning where you have different talents where individually maybe they wouldn't be doing very well but if you combine with the talents of other then we have a very strong combination, well I think that this is hard to look for at the university. (4)	2
3) Is it a collective and team talent or is it more about individuals?		
Subjects	**Categories**	**N**
[1] Team talent	It's a team talent, we have a very good mix of different types, while many talents supplement each other (1,2,4,6);	4
	This is why individuals have an important impact but at least at some point another person inside the group should give a	1

	support to achieve the goals in order for individual performance to become team performance. So, individuals are important, but this has some limitations also. (4)	
[2] Individuals	We mostly work individually but when we have difficulties, we help each other, but not on a regular basis (5)	1

4) How do you see the less talented people?

Subjects	**Categories**	**N**
[1] Personal characteristics	People with less experience (1,3)	2
	People with character not compatible to the role (2)	1
[2] Less talented defined in relation to talent as academic excellence	We are looking a bit what we say in Dutch the sheep with the five legs and this makes it quite hard. (2)	1
[3] Exclusive definition to non-talent	Yes, everyone is talented, but in different fields, in different cases. (6)	1

* Brackets: Interviewees, N: Frequency

1. Four subjects derived from the question "**What is your personal definition with regards to what is talent?**", experience, talent as a set of skills, natural inclination/excellence, talent as context specific.

The analysis of the 1st subject "Experience" indicated that one professor regarded talent as the person with more research experience than others in supervising a project effectively: *"I would say that talent it has mainly to do with research experience as well as experience with supervising a project. At the end talent is not the issue because when you start gaining experience on a project or domain then you also become talented eventually"* (I1).

As for the 2nd subject "talent as a set of skills", it is claimed (N=2) that extrovert people with social abilities and analytical and professional skills are more talented than others in the specific context of his team. *"The fact is that we have to be very good analytically. Professional attitude, professional skills are important so you can have very clever people that are shy and introvert and this means that they are not suitable to do research in health care. So, we need people that are a bit more extrovert and easily speak with people and make connection and at the same time they are crazy clever and talented"* (I2).

In addition, as for the subject "talent as a set of skills", talent has been heralded by one professor as someone with problem solving skills. Here, the notion of academic talent emerges as well: "*An expertise to solve the specific class of problems using some methods/methodology. So, talent could be the ability to solve a class of problems using a class of methodologies"* (I6).

With reference to the 3rd subject "Talent Inclination/Excellence", 2 participants claimed that the talent is more related to how much the person is eager to improve itself: "When *somebody excels in something, some research methodology on which he is more talented than other things, but also his eagerness to continue developing himself"* (I4).

Also, as for the subject "Talent Inclination/Excellence", one professor referred that talented person is the one, who is naturally inclined to a specific filled without trying a lot for being good at it: *"Talent is if you are quite good at something without too much effort; the ability to learn much easier something*" (I5).

2. About the question **"<u>Would you say that in the team these talents complement each other in a way</u>**? two subjects are created: complementarity and less complementarity.

In the first subject "complementarity/combination of talents" the majority of participants (N=5) stated that there is either/or skills, discipline and personality complementarity inside their groups : *"Although I am a mathematician by training I am more of an industrial engineer and I know a lot more about how organizations are running and planning and controlling, while Richard is more into mathematics. So in expertise there is this complementarity, which we exploit with every project; but also in personality I am really good at enthusing people from any level of the organization, but I am not that good at closing the deal to get funding etc. Richard on the other side is very good with the business side, so we supplement together, we typically go together, and I do the presentation while he does the business"* (I2).

Concerning the 2nd subject *"*less complementarity*"* one participant mentioned that he collaborates with someone, only if it's really needed*: "Well when I have some properties let's say that I try to prove and I cannot find the solution, let's say and if there is another person that is smart in math then I will go and ask for his contribution so that I could improve my work by proving these properties and this of course would be the ideal. However, it is not a must, if it would be a must then I could simply probably not do that, so then I have to collaborate"* (I5).

3. In respect of the question **<u>"Is it collective and team talent or is it more about individuals?"</u>** two subjects it has been created, team talent and more individual.

As for the 1st subject "team talent", the majority of participants (N=4) reported that they have very good mix of different types, while many talents supplement each other and that comes from their team's ability to share the different tasks: *"At the end I would say that this team talent of collaboration comes as equal shares of different people's talent coming together"* (I1).

With reference to the 2nd subject *"*individual talent*"* one participant mentioned that personality is all that matters *"I would think that individual personality plays an important role; to do something different of what others have been doing, to see options etc."* (I3). Also, concerning the current subject, one professor referred that they help each other on the project if needs to be done, but not in regular basis: *"You know where you can get the support you may need and of course you think the most talented guy is this person and is talented on this topic, skill or domain so then maybe I should go and ask him. But at the end is not happening on such a regular basis. I also have to say that for me it is regular to also first use the*

internet let's say and try to solve something first by myself. If it is something with regards to the program then I also go to search for the most talented person on a specific domain" (I5).

4. Three subjects derived from the question **"<u>How do you see the less talented people</u>?",** personal traits and supervising.

The analysis of the 1st subject "personal traits", indicated that 2 participants mentioned that not being identified as talented also relates with the absence of experience*: "At the end talent is not the issue because when you start gaining experience on a project or domain then you also become talented eventually"* (I1). In addition, two participants regarded the less talented people as the characters who are not compatible with a specific role: *"So we also look a lot the character of the student and we have rejected some really good talents for PhD positions, where we had a very strong feeling both of me and Richard that this person wouldn't fit into the group and it is very hard to make that tangible and pinpoint what it is"* (I2); *"If you find someone that is working on methodologies that we don't think that fit with what we do and we don't think that we start new projects within which his disciplines are required then we are not going to hire him. But this is finding the right set of disciplines. In my opinion you can be talented or not within a given discipline"* (I4).

The second subject which arises from this category is "less talented definition influenced by the definition of talent as academic excellence" as one professor indicates that in academia, they are looking for the sheep with the five legs, a Dutch idiomatic expression referring to someone with the ideal (and impossible to find) combination of skills and experiences.

Last but not least, the third emergent subject relates to an "exclusive definition of non-talent" stemming from one participant saying that everyone is talented in one way or another, hence assuming that the non-talented are very few or do not exist.

<u>3rd Theme</u>

Table 11 represents the results of the 3rd theme "Individuals' role"

Table 11.

Results of 3rd Theme "Individuals' role"

"3rd Theme Individuals' role"		
<u>1) Can you attribute team success to particular individuals and if so why?</u>		
Subjects	**Categories**	**N**
[1] Varying degree of importance of individuals' role	Particular individuals play an important role inside the team. To what extent this role is crucial depends on the kind of project (3,4,6)	3
	Individuals are important to a short extent because it's finally team success (1,2)	2
[2] Individual success	It doesn't exist a common measurement for team success, because it is really individual work (5)	1

	There are a lot of elements that build the team success and not all elements are related to one person (2)	1

2) "Individuals may leave the group, but the knowledge of the group does not vanish". Do you think that this applies here?

Subjects	Categories	N
[1] Agreement	We save the student reports, published papers, previous versions, all the underlined data is registered, and all the organizational files are stored (2)	1
[2] Disagreement	No, I don't think that this is true (3)	1
	An absence of person with specific knowledge can decrease the knowledge of the group (5)	1

* Brackets: Interviewees, N: Frequency

1. Two subjects derived from the question "**Can you attribute team success to particular individuals and if so why?**" different extents of individuals' role and lack of team success.

The analyzation of the 1st subject "varying degree of importance of individuals' role" indicated that 2 participant referred that individuals are important to a short extent, because at the end of the day its team success due to the collaboration of roles: *"You can be on the lead and push and this will have an impact for sure, but there are some limits, because if the rest of the partners are not willing to invest or are not so enthusiastic then at some point you may be disappointed or you may even be too busy doing all the job, so eventually you may lose your motivation. This is why individuals have an important impact, but at least at some point another person inside the group should give a support to achieve the goals in order for individual performance to become team performance. So individuals are important but this has some limitations also"* (I1).

Furthermore, half of sample (N=3) mentioned that particular individuals play an important role inside the team, but to what extent this role is crucial depends on the kind of project: *"Instead of just selecting the best four people it is better to select the best group and in that best group we should then have one who is able to structure a problem and whatever individuals are needed in the group"* (I6).

As for the 2nd subject "individual success", one participant reported that there is not team success because its most individual work: *"In our team there isn't really a common measurement for team success. Because it is really individual in the sense that I as a PhD do my research project and I am evaluated on how well I performed my project. So, it is not like I have some sort of department metrics that I am influencing"* (I5).

2. In respect of the question **"Individuals may leave the group, but the knowledge of the group does not vanish". Do you think that this applies here"** two subjects has been created, agreement and disagreement

As for the 1st subject "Agreement", one participant mentioned that they save all the important information, so as they can have it as a backup, even if somebody leaves the group: *"So we write the minutes of our meetings and we save in a drive where all the student reports and all the papers we publish and the previous versions, all the underlined data is registered, also all the organizational files are stored so if I have a new PhD student that has to organize the next CHOIR seminar can simply point out that folder and all the files are there, the people to invite, the protocol. So for the organizational side we have protocols that we store, we have protocols of conduct in the organizational level, protocols for conduct. Of course also all the papers and PHD thesis are also stored. So when a person leaves this knowledge stays in the group"* (I2).

Also, concerning the current subject, one person highlighted that working within a team has the benefit of acquiring new knowledge and develop skills: *"Other partners may know something else and of course you make use of that information as well. This why if you work in teams then you have more possibilities to further develop the project"* (I1).

The last subject which arises from this category is "Disagreement", where one professor claimed that when individuals leave the group the knowledge of the group could be decreased: *"If a person is leaving with a specific knowledge on something that is required in the group, well then his absence would definitely decrease the knowledge of the group. And also even if there is some sort of knowledge exchange going on maybe he is still the best."* (I5).

Also, one participant disagreed clearly with the statement that knowledge of the group does not vanish*: "No I don't think that this is true; I have been working with a specific professor in the past on the computer science field and I thought that he was really a very clever and imaginative person to work with; they let him leave and he is now working for TU Delft and the knowledge had just disappeared along with him"* (I3).

4.3. Conclusions

Analyzing the first group a sample was conducted by 7 members of the first group. Specifically, the interviews were conducted with 4 PhD candidates, 1 Postdoctoral Fellow, 1 Assistant Professor-Coordinator of the program and the Chair of the Research Team. Also, 3 participants belong to the field of Biomedical Engineering-Technical Medicine, while the other 4 participants belong to the field of Biomedical-Biology.

In the 1st research question of the themes, teamwork was explored within the group. Concerning the topic of communication, it seemed that for most it might be available at any time, as well as for organized meetings and for anyone when needed. Regarding the awareness of what others are doing, it turns out that the some have personal awareness, others are limited, and some believe that everyone is aware of what others are doing. In addition, it was observed that for most people there are interdependencies. Concerning the causes of the problems, they appeared to be the intervention of researchers in other

projects, or the wrong approach to experiment, or for most, general errors. These are dealt by individual effort and then by requesting assistance, or in a sincere way or end, to find the cause, the solution and how to avoid the problem.

In the 2nd research question of the themes, talent perception was examined. In terms of talent, there has been a separation between natural, innate talent that has to do with insight, and academic talent, which requires intellectual level, work, critical thinking and communication talent. The majority also said that the talents of the team are complementary and that there is collective talent. In addition, It has been reported that there may be less talented individuals due to some developmental difficulty, or lack of comfort in one place.

In the 3rd research question of the themes, individual role has been examined. Still, the vast majority said that the success of the team can be attributed to individuals, each giving some examples of individuals. Furthermore, in the assumption of promotion individualistic culture by the academic world, it has been said that for some the way it depends on the type of grant and the project, some believe that there is a strong hierarchy in the academic world that is also a cause for competition, while the vast majority said that collective effort is required from all disciplines. Finally, the majority stated that if someone leaves the group automatically deprives them of knowledge.

Analyzing the first group in the current qualitative study, 6 people have participated where there were 4 professors and 2 PhD candidates. Based, on the questionnaire, 3 themes were examined referred to teamwork of second group, definition of talent and individual role.

In the 1st research question, teamwork inside first gorup department has been analyzed. Regarding to the way the division of labor is done inside the team half of sample claimed that there are different roles in some people who are key members-leaders, but achieved benefits are always split. In addition, half participants stated that there is lack of overlap as everyone is placed to different field. Referring to communication, the majority stated that there is an open-door policy with extensive discussions about the research project and awareness of what other people doing with meeting and sharing of ideas. Concerning the way the group faces problematic situations most of professors claimed that they solve problems effectively with the methodology of combination of roles and collaboration.

In the 2nd research question, talent perception has been examined in the group. Half of sample stated that talented person is someone with methodology skills such as analytical and social, where the other half claimed that talented person is someone with inclination and specification. Most of professors mentioned that talented people complement each other, and this helps them to complete and develop further. Talent in the second group has been described as team talent and not individual, having a very good mix of different types of talent. Finally, less talented people have been described those with less experience, discipline and bad character.

In the 3rd research question, individual role in the group was examined. Professors claimed that individual role, important to bring team success, where level of importance depends on the kind of project. Both individuality and mutuality has been noticed in the group, indicating that it is important for researchers to work individually and cooperate where it is needed.

4.4. Group 1

Group Characterization

This section portrays the first group which I studied empirically through interviewing, the first group. I set out to interview the researchers from different ranks of the group (Scientific Staff, Post-Doctoral researcher and PhD candidates) that formed the group's core body of scientists. Given that the interviews were done on a voluntary basis, I did not have the opportunity to interview the second Post – Doctoral researcher and the technicians of the group. The first group is a relatively small and multidisciplinary collaboration among Professors, Assistant Professors, Post-Doctoral Researchers, PhD candidates, Graduate, Post-Graduate students as well as Technical Staff. It was created 3 years ago as an official entity of the university in the strategic combination of two disciplines, Biology and Engineering, hence the different research projects are formally multi-disciplinary in nature, consisting of scientists with a background in Molecular Biology and/or Biomedical Engineering who collaborate on cutting-edge technology and stem cell biology to develop novel applications for biomedical science, toxicology, pharmacology and clinical diagnostics.

"The strategic research purpose of the team is to cover all activities with regards to stem cells derived and hence this demands for a multidisciplinary team to make better research and more integrated and get the best out of the combination of the different profiles."

In terms of structure, the group mirrors the levels of professional and academic hierarchy, however one would not say that the culture of the group is hierarchical but rather democratic and inclusive. One can find the Department Chair who is holding a full professorship, a tenured assistant professor, two postdoctoral fellows who constitute the medium level of hierarchy, doctoral candidates who constitute the majority of the team, while two technicians take care of the laboratory management and they are also responsible for the hands on facilitatory research:

[…] "that concerns everyone and the quality of research for everyone in the group; this research relates to the quality of the stem cells that are needed for the realisation of all the project inside the team" […].

The group leader is responsible for the scientific agenda and the research directions while there is also the responsibility for the organization of financial, material, social and human resources of the group.

Along with the tenured assistant professor, they coordinate and supervise the group's research activity, write and publish proposals to acquire funding and they conduct the recruitment of people for the team. The assistant professor is responsible for teaching while also supervising different junior researchers. The post-doctoral researcher, that I interviewed, has more freedom to choose the research subject of his interest and he is involved in overall three different projects with different weight of importance for him. PhD candidates seem to have either a predefined project or an assigned one, something though that does not seem to demotivate or disappoint them because they all work in projects that they like and which reflect their scientific interests or career aspirations. All scientists are working on projects related to stem cells derived tissues in microengineering devices. The role of the laboratory technicians is recognized from everyone in the group as crucial for the realization of the different research projects. They seem to be the unsung heroes of the laboratory given that every PhD and the Post-Doctoral researcher need a good quality of stem cells to conduct the experiments for their projects. Hence, the role of the technicians as laboratory staff is to facilitate the research of the senior and junior researchers but also to manage the laboratory in terms of maintaining the equipment, renewing the materials, training staff in new and existing procedures and storing knowledge such as protocols:

[…]"the research facilitators/technicians are leading this research and they contribute on bringing everyone on the same page in relation to procedures, protocols, skills and knowledge related to the laboratory; this research is necessary to take place in-house because it is needed to carry out the research projects in the team; the team needs to have a well maintained source for the stem cells they use in their research projects;[…]technicians help people to succeed and provide them with the necessary resources."[…].

Inside the team, research is conducted in the form of individual research projects which touch upon the same scientific area; hence they tend to complement and leverage one another in terms of possible application of findings and knowledge transfer from one project to another. However, these projects are independent, distinct and they are not competitive in terms of results and objectives:

"Typically, there are some areas of overlap between the different projects, hence there is also an overlap in terms of expertise, skills and knowledge".

[…] "We are also trying to arrange the labor in such a way so that we benefit from each other so that people know what they are doing and if possible that we can use each other's findings from the different projects to another project." […].

Transparency, clear objectives and research directions are of high importance in this setting to ensure that researchers are not stepping on each other's shoes and to avoid conflicts. The team's group meetings are also an important factor for the group's functioning as they facilitate the awareness on the different research projects, the open sharing of knowledge and continually interweave individual research interests. This is something that is also mentioned by the tenured assistant professor:

[…]and yes, you sometimes see it, especially when projects are not very well defined, and people have the feeling that they have some ownership of the project that in the end was assigned to someone else. That is usually when conflicts can arise when there is unclear what are your specific tasks and responsibilities."

What is of importance here is mentioning that people sharing and using of people's expertise is not done in an opportunistic way and seems to be common ground for all interviewees that everyone takes benefit from sharing expertise.

"There could be (conflict) but so far there have not been and I think that it can be kept that way if you have a transparent relationship which right now we are having; as we said we are working on overlapping areas and it might lead to problematic things as well as but so far things are ok till now because we try to keep it clear, we collaborate, we are working on things that are similar for both of us and we both benefit out of it and it's not like an opportunistic work where you have people working for something and then discard them once we don't need them anymore."

Hence it seems that in this case the researchers complement their respective expertise, skills and knowledge while they pursue differentially shared research interests. In this context, one could identify different patterns of collaborative relations and of interdependencies between the different junior and senior researchers of the group and the technicians. All PhD candidates that were interviewed agreed that they are working on their own independent projects where they closely collaborate with the technicians of the group who they provide them with the cells they need for their experiments. The Post-Doctoral researcher is taking part on three different projects with different scientific importance for him and it is obvious that he has more freedom to choose his line of research while respecting though the scientific agenda of the group. On the first project he is the main contributor and researcher,

"So basically I am one man army in the sense that I don't have much help even though the technician of the whole department is helping me with differentiations […]beyond that I am trying to do it all by myself with the help of others, I don't have a team let's say that works specifically on this project"

On the second one he closely collaborates with a Post-Doctoral researcher from another department and where they epistemically complement each other with their specific expertise:

"She does the chemistry part and of polymer design for these specific needs and I do the biology part and I take upon me the sense of direction of where it should go the project because, I wrote it together with (…) but they are of course totally independent as they know what needs to be done as well other things."

and on the third research project he mentors and supervises another PhD candidate:

"[…]and this is together with the PhD student and this is has a different setting. So that is more like Ralf, as he was available and he needed a project that would be more simple and straightforward, this was a good opportunity for him as it came from my PhD and I was not interested in finishing up because I wanted to do what I do at the moment […] "

Having as a starting point these collaborative relations inside this team structure, there are different factors that influence the division of labor and the way the scientific work is organized. One could conclude that there are mainly cognitive and social reasons that define the dependencies and the collaborative relations between the members of the group, especially between the junior and senior researchers and the technicians as well as the junior and senior researchers in between them. These factors seem to be: the interaction between senior and junior researchers in a guided/directed way defined by the academic hierarchy (social factor), the nature of research itself, the need for access to a specific skillset and knowledge (cognitive factor) and sometimes the compatibility or the complementarity of the researchers' personalities, especially when the nature of the research demands for two researchers to create a disciplinary couple, it is mentioned by the leader of the group that this factor plays as well an important role:

[…]"this is also something that you need to take into account when it comes to different projects, may be based on just paper you would say OK these two projects are nicely connected to each other but if you look at the personalities you may think that maybe this is not the best situation so this is also something

that it is important in the group to make sure that those different kinds of personalities are complementing to each other and actually feel comfortable in that situation."

What is of interest, is that in the shared lab facilities there is a process of collective endeavor and collaboration taking place related to the, so called by the interviewees, facilitatory research that concerns everyone and the quality of research for everyone, hence there is the existence of a mutual benefit for everyone behind this collective endeavor. This research goes mainly underneath the surface and is not that visible and is mainly led by the technicians. They contribute on bringing everyone on the same page in relation to procedures, protocols, skills and knowledge. Hence, there exists a state of sharing knowledge, trust and collaboration that happens behind the scenes inside the lab for this facilitatory research and so that everyone has a responsibility in the quality assurance of the stem cells; there is also a two way communication needed given that technicians need to spot early on any deficiencies and cover the gap. Technicians are also responsible for mentoring the new researchers into the team culture of the lab and for vetting the team for competency. Mutual help and learning here take place and are based on a lab culture of solidarity and mutual benefit given that all group members work on projects that demand derived stem cells to drive their experiments. This is where the team needs to find consensus and work together to maintain the right workflow, well maintained equipment continuously enforced protocols. So to better organize the scientific practice in the context of the lab, there is also a formal process of framing and planning around the processes of ensuring the quality and the maintenance of the stem cells:

"Actually we try and reach consensus within the group together all of us to say like, ok how would we define our stem cells and how we make sure that they are always good, how do we define the tissues that we make from the stem cells, how do we define that those are on the mark and at least make sure that that source material, that all or most of the people will use in their individual research projects, is at least always the same or is always constant in the research group. […]That is where we find each other and actually find consensus and where everybody can contribute there, to make sure that we are happy with what we do there in terms of protocols, workflow and the equipment that we need to make this work properly."

Consequently, the interviews also shed light on the complex dynamics of collaboration taking place outside a context strictly defined by co-authorship as a measure of collaboration between the different researchers of the group and include all different collaborative engagements. We were able to identify different collaborative patterns which we will present based on the division of labor as it was discussed in the beginning of this section. The collaborative relationship existing between the PhD's and the technician

as well as between the technicians and the Post-Doctoral researcher can be characterized as a relationship where only one person determines the direction of research; in this case these are the junior and senior researchers while the technicians are the helping hands, the facilitators that. In the case, described by the Post-Doctoral researcher, where he supervises the less experience PhD candidate, there is a collaboration as mentorship established between them. In this case the senior researcher is helping the PhD candidate in socialising and developing his skills while progressing with his research project. The latter is a predefined project as a continuation of the PhD research of the Post-Doctoral researcher.

[…]as he was available and he needed a project that would be more simple and straightforward, this was a good opportunity for him as it came from my PhD and I was not interested in finishing up because I wanted to do what I do at the moment, […] so basically we are doing it together some way, […] I've done a certain amount and he is going to finish it under my supervision with my help. So here we also work as a team, he does the work and I help and direct him […]

In the interview conducted with the Post-Doctoral researcher, there is another type of collaboration identified and which emerges in the context of the research project he does in combination with the skillset and disciplinary expertise of a Post-Doctoral researcher from another department. This is described a truly collective research effort between the two counterparts:

[…] So, on that regard on this common project we wrote and grant together, and we work very much one on one, she does the polymer I do the cells and we communicate a lot every week, as it is very one to one approach. So, we are a team in this sense, and we have monthly meetings with the bosses, […]

The interindividual relations presented above seem to be the trigger or the result of the division of labor inside the team. Overall it can be concluded that the group has a democratic culture with good work relations, however one cannot deny the recognized hierarchy that exists in the group. From a knowledge management perspective it can be concluded that the senior scientific staff of the group along with the Post-Doctoral researcher hold the role of the gatekeeper of the group, in the sense that they bring in the disposal of the junior colleagues their network ties and knowledge network to help them advance in their research. From all the individual conducted interviews there is a common understanding of an egalitarian way of working and being. This context fosters a generous knowledge sharing behavior between the members as they are engaging in a type of collaboration characterized by voluntarily sharing the related to the project's necessary information, knowledge and skillset. This knowledge sharing takes place outside the formal research collaborations. In between the researchers as members of the team there is collaboration as intellectual generosity and as communication of knowledge in the form of research

results and findings. Each scientist seeks to carve out his or her niche within the group's research in a way that fosters open sharing of knowledge and collaboration as intellectual generosity with other members allowing at the same time the pursuit of distinct, individual research interests. Talking about the collaboration forms inside the group, the laboratory could be seen as a place of collaborative scientific practice in the sense that we are not talking about an indifferent outsourcing activity where only the technicians as peer different are conducting the lab work necessary to preserve the stem cells. On the opposite, as they are interested in each other's work and they try to learn from each other in terms of experiments, by witnessing and learning by doing.

4.5. Group 2

Interview Voices

Regarding the second group of people I interviewed, it was established back in 2012 as a result of a merger between two other departments. Given that the interviews were done on a voluntary basis, I only interviewed two Full Professors, two Assistant Professors and two PhD candidates. The group is a relatively big research department consisting of 60 members, being Professors, Academic Staff and PhD candidates. Given that is a result of a merger between former research groups, the different research projects are inter-disciplinary in nature with focus on logistics, healthcare and services sector. The department has a special interest in decision support systems and inter-organizational systems connecting networks of businesses and governments. *"Meaning that the department has an eye to look for talent in different disciplines and within our department we have one of the most multidisciplinary structures. We have from business to finance, economics to sustainability."*

However, in what differs with the first group is that the second group is a research department and not a research group. This is also the main reason for which I chose to analyse the data from the second group in the format of "interview voices". Therefore, the people that I interviewed were not conducting research in collaboration with each other but independently or as part of other smaller project teams. This poses some challenges in relation to our attempt to make a group characterization as we did with the first group. We could though present the department through the voices of the interviewees in an attempt to highlight some subjects that seem to be relevant to the research questions of this thesis.

Full Professor

The first interviewee is a Full Professor in one of the research groups affiliated to the group. His philosophy is very influential on the structure of the team, the creation of opportunities for career development and for the grant of the credits in collaborative research effort:

"So, we wanted to collaborate not only as complementary to each other but in the mindset of one and one is three" […].

Bridging the team efforts under the philosophy that the sum is bigger than the individuals not only in the level of collaboration and creation of opportunities but also in terms of financial management is the policy that is been followed by the two leaders of the group. It is mentioned that this collaboration setting is quite unusual for the university because of the politics between the different faculties. In terms of knowledge management and communication, a regular biweekly staff meeting is used as a discussion and communication platform on the ongoing research while, also used as feedback moment. The following response also highlights his philosophy around fairness in an academic system where often credits go to the most senior researcher: "*The success from the publications and recognition is given to the one at the top of the pyramid, which happens to be me at this moment and I don't think I deserve it if it's the work of my team".*

Concerning talent definition, there is a common basis for talent for everyone. The team operates by conducting research in practice in healthcare. To be successful a talented candidate needs to have a very specific professional skillset and a very analytical mindset both stemming from the field of applied mathematics and econometric industrial engineering programmes. At the same time one should also have very good social skills and to be able to navigate his research with the different stakeholders that are part of the context of research and eventually to be able to create networks and communicate effectively: *"So, we need people that are a bit more extrovert and easily speak with people and make connections and at the same time they are crazy clever and talented."* It is prominent that social skills are more of an innate talent based on personality and can be influenced to a certain extent. Overall his answers were influenced by factors like the nature of research, the context the team operates and the relationships with healthcare practice.

Full Professor

As full professor most of her work lies on applying for grants and writing proposals as well as teaching and supervising PhD students. Her talent definition relates to having the skill to define a problem or research question and finding interesting ways to study it ("One thing is the question and the other thing is how are you going to study it in an interesting way "). In the discussion around the talented team, the latter should be able to connect fields, topics and to strategically integrate them. To her experience team memory is not applicable here, because once a person leaves then the knowledge disappears as well. In an attempt to define the success factors for a talented team she mentions the importance of a democratic integration of different ideas and opinions, the size of the team and the existence of a clear aim for everyone. In terms of team members' soft skills that promote the team as collective, listening, respecting, integrating different point of views and the ability to adapt are highly valued. Talented team is also a lot of smart people coming together. *"If you say talented that would be only the cognitive aspect then I would say that for the collaboration we need the social aspect as well and the goal orientation also".*

Associate Professor

The third interviewee from the second group is an Associate professor with responsibilities for teaching, research and management of the department. He mentions that the potential collaboration between people inside the department or between departments and even universities depends on the nature of the project *("It is not a question of division of labour but where the project lies"*) and is defined at the level of the funded projects. In terms of awareness of what other people are doing, few people in the department have the helicopter view and these are typically people who have a management role and whose strategic research topics lie in the intersection of different disciplines. He highlighted that an openness for communication is more usual in the basis of stable collaborators who work together to deliver a project. In the discussion about talent, this is about excelling in something but it is also about the potential to develop yourself on something different in the future *(" I am looking more on what I expect to be developed in the next couple of years than on what he is currently being doing").* Talent is not about excelling at a discipline though, *("In my opinion you can be talented or not within a given discipline").* For him, academic talent is much more than the sum of publications, it is about teaching, leadership, collaboration skills, enabling collaboration inside a team, considering the team dynamics whether there is a good fit in the team. He mentioned that he does recognise individual talent attached to persons more than the collective at least in the specific context of the university *("When I talk about talent, I am referring to the level of individuals and persons, not team*"). In terms of talent management at the university level, he mentions that, not everyone is seen as talented and consequently there should be a differentiation on career path for more talented and less talented people. The absence of a differentiation policy based on a customised approach for each individual academic, makes it harder to attract talent from abroad *("I am currently trying to attract someone, a very talented guy and basically the story is that you need to start here from the beginning at the lowest salary level. And they only look at what is your work experience and not your talent. So, I don't think that we are looking too much at the talent. And whether you are talented or not, you are treated equally").* In academia it is not applicable that one will only work on his areas of talent. In academia in order to succeed and get promoted you need to excel at everything, being teaching, research, leadership. It is not a place where you have free development of talents whatever that would be, it has to be related to the promotion criteria which are the same for everyone. The division of labour is also spread equally and is not connected to the talents that different professors have (*"you can nicely think about collaborating but the only thing that matters is that you are the responsible author for the publication").* Interestingly, in the question on whether the individual talents promote the collective competence of the team his answer is that the university context isn't the right space to ask this question. In the university system there is more focus on dividing workload and activities, like teaching and researching and supervising , but this is not necessarily based on your talents, you just have to do it as

part of your role either you are good at it or not. In relation to whether team success lies to particular individuals this is something that depends on how you frame collaboration. If you see collaboration in relation to the output, which is the scientific publication, then there not a question that is the responsible researcher who is the main writer and maybe as a second or third author some other collaborators but it is not seen as a team effort in this sense. If you link collaboration to the feasibility of a project, then it is a collection of input from various disciplines and people. However, collaboration is not assessed at the university. Even if the PhD collaborates a lot and the result is joint publications then there comes the question of rights on paper and on which thesis the part of the research paper will belong. You have to show that you do an independent self-reliant research and then publish as first author papers. He states: *"It's of added value if they collaborate but, in the end, they are not assessed on this."*

Assistant Professor

The next interview is with an Assistant Professor of the second group and he described his experience with a research project he was part of at the time that the interview took place. Meetings were organised once per week and once per month and they were at the core of their coordination. The different researchers were belonging to the same discipline but on different universities, but there was a mutual benefit from the output of the project, so they were collaborating on writing a scientific paper. Fairness was very important in the distribution of work and the criteria was that everyone was doing the same amount of work. It is difficult to define talent in this setting given that success was mainly related to having an experienced researcher on the lead. Interestingly, he defined team talent *"as equal shares of different people's talent coming together."* However, talent is not the key issue here for success. At the end, it is more about finding the right fit of people having the experience necessary to have the final output. Under the condition of having a person that is not so talented there is the option of formulating the project in a different way for this person to continue working. In terms of success factors in a team setting, individuals play a role in the sense that there should be a mutual support and a common level of motivation and driver, so that there is not a one-man army doing all the work. If there is not a common ground for everyone to contribute equally this can be demotivating. Another very important point he made is that the ultimate driver for people contributing in a team setting is the existence of a mutual benefit or of some sort of benefit. The benefit might be different for each person, but it must exist *("mutual benefit is defined as an academic paper, funding, a sustainable partnership/collaboration, and I would like to add about the mutual benefit part that both parties have to see the collaboration as a mutual and real benefit, otherwise it won't probably be successful; people are busy with their own interests so why should they do research together with you?").* Therefore, he concludes that "*team talent is individuals coming together under a strong mutual benefit on the table of the collaboration.*"

PhD Candidate

As part of this department he works as a PhD in a research group of four people, an assistant professor, a post doc and another one PhD. In the context of research collaboration there are some framing problems described related to the fact that in the team there are three disciplines that are interrelated and frame the research problems from three different perspectives, something that causes *" conflicts of interest" - "sometimes we don't understand each other so well because we have different languages to talk about the same problem".* Talent is seen as the specific ability of problem solving using specific methodologies on solving a specific class of problems. This skill set seems to be related to the special conditions that describe this team of three interrelated disciplines. Interestingly, the role of hierarchy in the group poses challenges and influences the collaboration or the importance given to different talents, however hierarchy creates frustrations or challenges when comes to recognising a talent possessed by a less senior researcher when this talent is expected to be possessed by the leader of the group. They do implicitly recognize the talent but not explicitly as it is against the hierarchy. In this testimonial, hierarchy is linked to a specific expected set of talents. However, it seems that there is a blaming towards the hierarchy of academia as it suppresses the recognition of talents. Talking about the success factors in a team, diversity on skills and mindsets is more important than just grouping the top applicants. For a talented team three are the critical factors that need to co-exist: critical thinking, trust and open communication. A talented team in the context of academia should work under clear expectations and guidelines where planning is crucial for academic collaborations. If the team does not work effectively, then it is not a talented team. Hence, performance is seen as the deliverable of a talented team.

PhD Candidate

The last interview was held with a PhD candidate who is involved in a typical collaboration as mentorship with his supervisor to conduct his research project. Because, the second group is large and there are many different research directions and disciplines, if there is not a common research interest one won't seek out proactively to gain this helicopter view of what are the research activities inside the group. Most subgroups are organised around a project, so it is not the case of a formal collaboration. Sometimes PhDs exchange ideas or feedback, but it is not standardised. Talking about talent is the effortless capability to do something combined with the ability to learn much easier. Academic talent has some skills extra in its palette like good analytical and abstract skills and academic talent is related to personality in accordance to the interviewee. Inside the team of PhDs where he belongs, people use each other's talents to affront challenges, in a culture of generosity. However, people are mostly working in silos and collaboration does not come naturally, it's more like a find the solution to your challenge by yourself. This could be linked to the expectation and success criteria that PhDs are assessed, which is to

be able to conduct independent research with success. In his eyes, talented team would be a team where not everyone has the same strengths at the same time, and it would be complementary to one another.

5. CONCLUSION AND DISCUSSION

We argued for a team-oriented approach to talent management focusing on (1) a group of people working together to achieve team objectives, interacting for that purpose, sharing knowledge and learning from each other, and (2) thereby focusing on recognizing and acknowledging, developing and utilizing talents of everyone, in order to (3) contribute to the desired returns from research advancement, job satisfaction, knowledge sharing and knowledge enhancement. In this collective and inclusive approach to talent everyone has strengths that can contribute to the desired returns and in relation to the initial research questions of this study we cared to unveil *how everyone's strengths and talents are utilized in interactions and dependencies between the team members of the two research groups* we are studying while we also wanted to study and uncover *how we can optimize teamwork practices to enhance talent use at the collective team level.* To try and answer to these questions we focused our interviews around the themes of teamwork, perception of talent/non talent and the tension around the role of individuals vs. the role of the collective talent (if any). In this section we will respect this order to discuss our results.

Overall, our thoughts on the findings of this study lead us on reflecting critically about the existence of a team-oriented talent management approach. We saw that there may be some particles testifying for an attempt, but also for a need towards a more inclusive way of managing talent and the willingness to identification and appreciation of all talents inside the team. In relation to our attempts to conceptualise team-based talent management, from the discussion around team talent and team-based talent management it is noticeable that many characteristics and factors may belong to the definition of a successful/talented team. For example, participants indicate that a team is talented when it can work well together or that a goal needs to be worked on together. These are characteristics that also appear in the definition of Kozlowski and Bell (2013) and are described in the theoretical framework. The critical question here is to what extent the notion of team talent is really a new concept and how it differs from a successful team as it is described in the literature. Does a team first need to be successful and then to become a talented team and to use a team-oriented talent management approach? From the data we are presenting below it seems that talented and successful team are interrelated but for a team-based talent management to flourish specific conditions need to be respected. It could be that a team is successful without having in place a team-based talent management approach.

Another interesting insight that was identified lies in the question of whether the team can achieve more as a whole than what each individual could achieve separate from each other. In the answers of participants one could identify that sometimes problematic interactions and complex issues are affronted

in the level of the team, for example in the team meetings or by informally seeking the help of other people inside the team, by complementing each other in the team while everyone somehow can make an important contribution with his or her talent. However, other people mentioned that it is all about individuals and their characteristics which is in line with an exclusive approach to team talent. So it seems that there is not a specific team talent strategy in place to deal with challenges or problematic situations, neither could we identify any patterns on how people use their individual strengths to affront issues.

Also from the interviews one can identify the importance of social capital such as reciprocity, trust, cooperation for the job satisfaction and the wellbeing of individuals but not many people talk about deeper team learning and knowledge sharing behaviors in the level of the team. Only in the first group one could identify some particles of deeper team learning behaviors such as exploring and co-construction of meaning (asking for help, asking questions, error management (talking about errors), collective reflection (sharing information, discussing), people oriented leadership (consideration, participation) and task oriented leadership (initiation of structure). The positive relationship between people-oriented leadership with the frequency of performing learning behaviors in teams can be explained by the concept of psychological safety (Edmondson, 1999). Facilitative team leaders constantly challenge team members to new heights, encourage them to think freely, feel safe to take risk, openly admit, analyze, learn from their errors, and explore alternatives (Argote, 1999). Overall, this individual orientation in the answers of the participants may have to do with the team interdependence and specifically with the task dependency of the interviewees. The majority of them are conducting individual and independent research while they are evaluated at an individual basis while people are not talking about working on team objectives. Task dependency is the degree to which team members depend on each other in completing their task, (Shea & Guzzo, 1987, in: Joshi & Roh, 2009; Gully, Joshi, Incalcaterra & Beaubien, 2002), goal dependence is the extent to which the team as a whole has a common goal and outcome dependency is the degree in which team members are dependent on each other in reward and feedback (Gully et al., 2002). Several studies also show the importance of team dependency on team performance, teamwork, team effectiveness and team learning (Joshi & Roh, 2009; Gully et al., 2002; Van der Vegt & Bunderson, 2005). The most important element from these insights with regards to our questions is the existence of the people oriented leadership facilitating team learning behaviours which in their turn create more space for the recognition and the expression of everyone's strengths and talents.

Even though we are talking about particles of team based talent, the imperative to focus on diversification and interplay of talents and talent interdependencies is clearly stated in the strategy document that Association of the Universities in the Netherlands (VSNU) published in November 2019 where it is mentioned "In order to foster cooperation within research groups as well, we are creating more opportunities to acknowledge teams or consortia of academics for their joint work. This is in

recognition of the fact that it takes diversity and the interplay of talents and skills to make for a good team. It will also be conducive to a safer, more inclusive work culture that accommodates the complexity and interdisciplinary nature of current academic and social problems. Ultimately, we are looking for a greater balance between encouraging cooperation within and across domains and disciplines on the one hand, and a stronger disciplinary basis on the other hand. The key word is diversification: there is room and a need for a greater variety of talents within the academy." (VSNU, Room for everyone's talent, 2019 p. 5). However, it seems that at the moment more attention is paid to individuals in the team instead of the entire team and it could be said that a reason for that could be the performance system of academia which is currently highly individualistic and not in line with how current research happens, as the data have also shown (e.g. the high interdependency between the PhDs and the technical staff). We have previously described the importance of shifting the view on academic performance as a collective endeavor. This is also in line with the publication from the Association of the Universities in the Netherlands (VSNU) stating and focusing on a clear intention to modernize the recognition and rewards system at Dutch universities with the clear purpose to make room for everyone's' talents, to diversify the career paths that academics can follow and to achieve a balance between individual and collective performance by putting in place "an assessment system that appreciates both (multidisciplinary) cooperation and the unique talent of individual academics." (VSNU, Room for everyone's talent, 2019 p. 3). In the same document it is also mentioned a clear intention and imperative for a stronger academic leadership that apply these values and directives in their leadership and recruitment behaviors and processes. This is very important, as we have also seen in the data that the leaders of the academic groups are the ones that are responsible for the recruitment of new talents but also for the evaluation and the career paths of their team members.

The insights around the definition of talent are important for our questions given that the definition of talent impacts highly the way talent is management hence it also impacts the realisation or not of a team-based talent management. An important number of participants referred to talent as being something stable and innate and on which you excel, but either you have it or not. However, they recognize that there is always to a certain extent the margin to develop this characteristic under the right opportunities and conditions as it became clear that academic talent is considered as developable as well as a more natural ability, hence inborn. Especially soft skills that are of value for the success of an academic seem to be more part of the personality of the person. It could be concluded that the viewpoints of all the interviewees were mainly focused on the innate and stable part of the talent definition but with a clear openness towards identifying and developing the potential of the person. Especially, this view of "making talent" was mainly highlighted by the interviewees who were holding a leadership or managerial position inside the university. The existence of this view from the side of the leaders is important because it related

to the developable view of talent which is in line with our conceptualization of team based talent management and testifies for the particles of team based talent management.

The results regarding the inclusive / exclusive view also point towards the presence of both views however, here this makes less sense given that viewing talent as an exclusive group automatically implies that not everyone is viewed as talented. From the interviews, it was also interesting that the exclusive/inclusive approach to talent is related to the contextual definition of it and to how one defines talent. The fact that the definition of talent highly differentiates in every context and every context is unique is also prominent in the talent management literature (Thunnissen and Van Arensbergen, 2015). Almost all interviewees, agreed on the view that everyone is / has a talent but on the other hand some people are just doing better than others and you cannot see everyone as equal. From this point of view, it can be concluded that academic talent is mostly viewed as exclusive in the context which we are studying. However, the inclusive approach seems to be considered in order to prevent losing potential talent and assets, testifying for the need to shift towards a more inclusive talent management approach considering the scarcity of talent.

What is also of interest in the empirical results around the definition and treatment of the non-talented people, is that due to the contextual importance of the definition on talent everyone is talented in one sense or another. Hence, one could say that as there is an exclusive definition to talent there is also an exclusive definition to non-talent. The less talented people are seen either as non-fit to the university context or the specific position. The views around non talented people refer to the PhD students or junior academics that need to prove their talent. Here the personality as a factor for exclusion is prominent. Two things are of interest in the rest of the views expressed around the non-talented people, the fact that non talent was related to someone not experienced for the role and the view of a leader on coaching the less talented people towards success or crafting the research project in a way that will fit the capabilities of the person in question. One would say that this view to talent strongly relates talent with strength and consequently optimising talent by placing it in positions that guarantee optimal fit between strengths and job. These views, stem from the two interviewees that were leaders of a research group at the time of the interviews and highlights the struggle that many academic managers have which is how to care for the talents in the middle group, or ‘grey area’. Both interviewees expressed that sometimes a person may not fit exactly the definition of the contextual academic talent but has other qualities that will help in the success of the team as a whole and are valuable for their research group, for example they mentioned that in this case they would value talent as the relational excellence or as having relational capabilities but also talent as excellence in terms of sharing knowledge and skills. In the same argument, one of the leaders clearly stated that if one person holds talent but does not know how to use to create value then it is not enough to just have it. Hence, talent is defined as not only what you know but how you use it or talent as the capability to optimally use it to create some sort of value for the team. These views seem to be in

respect with the literature steam that pays attention to work practices related with the design of work or the commitment and well-being of people talented or not (Devins and Gold, 2014) in an attempt to motivate people who are not included in the cast of those identified as talented or are excluded from the contextual definition to talent.

Apart from the tensions addressed above, the talent definition literature also focused on characteristics of talent. The results of the interviews show an overlap in the identified characteristics of what academic talent consists of the picture of the "new academic" who, besides traditional skills and attitudes, like autonomy, creativity and passion for science, possess new skills like cooperation, networking skills, leadership, and entrepreneurship (Van den Brink, 2010). As one of the interviewees mentioned "we are looking for the sheep with the five legs and this makes it hard". This finding further supports the existing need to recognize talents in a more inclusive way in academia while also adapting to this need the performance system. We have shown in the literature how the perception around talent impacts the performance system integrated in a talent management strategy.

In conclusion, from the empirical results one can observe the tension about individual talent and team talent. On the one hand it is indicated that team talent is about certain characteristics of the team as a whole, such as: good cooperation, performance, specific expertise, openness to communication trust and mutual benefit. On the other hand, some interviewees mention that it is also more about specific individuals in the team in terms of complementing the skillset that they bring but also in terms of the behaviors they express such as seeking feedback, caring about each other's talent's and knowledge, seeking deliberate awareness of other people's talents and qualities and being able to do problem solving effectively. Another emergent view from the interviews in relation to the tension we are discussing here (individual talent vs. team talent) is the fact that talent is associated to people, their knowledge, skillset and personality given that almost all interviewees agreed that if a person leaves the group then part of the knowledge is lost. Here they mean the tacit knowledge that cannot be verbalised or transferred from one person to another. However, considering the literature one could wonder whether practically the individual characteristics can be separated from the team as a whole. In the multidisciplinary setting we focus each individual member may show different cognitive ability and cognitive interdependence is very important between team members because they are not able to hold all knowledge individually to perform tasks. Hence, in this case the individual characteristics and talents are very important but if they are not used then they do not enter the sphere of the team as a whole and they do not add value in the team. The talent does not reside within each single individual, but rather in groups of talented individuals while groups of talented individuals are not necessarily the most effective teams, maybe not even teams at all but more collections of uncoordinated individuals (Iles 2008).

We highlight these findings because they support our proposition for a team-based approach to

talent recognition and management in academia. We claim that teamwork is highly valued by academics, and therefore, should be flourished. Such a team based view is suggested under the conceptual umbrella of the "social capital" approach to talent Management (Iles et al., 2010) that highlights the importance of social (teams, divisions, cultures, networks) and organizational capital (routines, processes), and of the context when considering organizational performance of employees. This approach makes even more sense in the context of the University as a knowledge-intensive organization with a focus on employees' strengths and qualities and not on closing the gap between current and desired competencies and performance (Van Woerkom, Oerlemans and Bakker, 2015) as is the case at the moment with respect to the professional training and development of academic staff. The knowledge-intensive organization depends on its knowledge workers for its functioning (Weggeman, 2001). Thunnissen (2015) states that the knowledge worker of today does not work alone but in collaboration with other in order to function. Academics as knowledge workers depend on others to acquire relevant knowledge and to conduct research. In a knowledge-intensive organization, knowledge development and knowledge sharing is therefore a collective matter (Whelan and Carcary, 2011). The moment an individual approach to talent management is used, this can prevent the sharing of knowledge as well as the realization of team and organizational goals (Pfeffer, 2001). Based on the above reasoning we would encourage the development of a talent management approach that gives room to team performance.

5.1. Limitations

The first restrictions concern the choice of the teams studied. In this research it was decided to focus on multidisciplinary research groups of the university and possibly with all the members of the team belonging to the different academic functions in order to gain a down to top approach to the research questions and create the broadest possible image of the research question. We were also hoping to have differences in definitions and factors with regard to a team-oriented talent management approach and this is why we opted for two different teams from different departments and disciplines. Ultimately, it was decided not to make a comparison between the teams, because there was a great variety of definitions, characteristics, yields and factors and also the nature of the teams were different, one a research group and the other a department. For this research it would have been better to focus on two teams that are multidisciplinary research groups that work together as whole towards a common goal.

In relation to the questions asked there are also some limitations, such as the fact that some topics were not relevant for the specific context of the teams while at the same time while analyzing the interviews we made the realisation that some notions were not made clear from the beginning to the interviewees such as the notion of talent. Based on the literature we could have given a more specific

framework around talent for the participants in order for example to avoid the confusion of talent with the notion of academic discipline and excellence on it.

5.2. Recommendations

As stated earlier, a team-oriented talent management bandage is still being looked at in a fairly individualistic way. It is mainly about the individuals in the team and there is little talk about the team as a whole. It would be interesting for science to carry out this research in a context where team members are more dependent on each other in their work, goals and outcomes, for example in the context of professional domains such as Police Forces or Fire Departments where the notion of talent and the task interdependencies are more clearly distinctive and more easily identified than in the context of a research group.

This research has been a starting point for a definition of a team-oriented talent management approach. However, it can be said that there is no clear definition yet because of the large variation. In addition, not all tensions are equally clear in this study. These two points make it interesting to carry out further research into the definition. For example, it can be determined which tensions can be observed with regard to this definition and whether these tensions can also be characterized as tensions (or approach) or whether there are actually no tensions to be detected (and approach). In addition, it can also be examined whether there are new tensions with regard to the definition and with more research it can also be determined whether a talented team is really different from a diverse / successful / good performing team.

In addition it has been pointed out that due to different definitions, characteristics and factors it is unclear whether you first have to be a successful team in order to be able to become a talented team and thus also to use a team-oriented talent management approach or that you first have to be a talented team and team-oriented talent management approach must be used to realize added value. Hence, a longitudinal study can be used to examine how a team develops and how a team-oriented talent management approach takes shape. This can therefore clarify the question.

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ANNEX I – EXAMPLE OF MEMO WRITING

Example of memo writing

The purpose of this paragraph is to describe a number of ideas that arise from the interview conducted with participant 1A belonging to the scientific team of team one. The focus is on the leadership style as well as on the vision of the participant in relation to the notions of talent, talented team and talenting processes inside the research group. Group one is a relatively new group and small in size. It is created in the strategic combination of two disciplines, hence the research projects are interdisciplinary.

In terms of maturity the team is and in terms of strategic vision on research and how to achieve this vision of growth and competitiveness that eventually influence the collaboration andIt is a group only two years old created with the purpose to build a new multidisciplinary department; so the team is still small in size.

Two of the main objectives of the leader of the group is to keep a good balance in the group in terms of disciplines and competencies but also to be good at writing proposals for projects with the purpose to keep a good flow of projects. In accordance to the leader the division of work/projects inside the team depends on many factors; it can be dependent on the nature of work/project, on the roles or expertise that exists inside the team; however there are already some official different roles inside the team, such as PhDs, PostDocs and technicians who either work on their project or they couple together to work on projects; it is implied that PhDs are most of the time working on their own project but they also do couple with Bachelor or Master students; everybody has it's own project; the dynamic and non fixed nature of the research demands for the team to adapt the way they work together and how they combine their expertise; meaning that they are trying to combine their expertise but also adapt the communication inside the team so that they can benefit from each other's findings and apply the findings from one project to another of possible; so there is a deliberate "strategy" on how to take advantage of each other's expertise; it is admitted that there is still work to be done with regard to this point ; but they have weekly lab meetings where everyone presents its research findings; they also have "project" meetings which are smaller than the weekly lab ones; what is of interest here is the fact that the leader takes advantage of the fact that he has the helicopter view of the team to establish connections between the people. Open door policy and clear communication are two things that the leader values; especially on projects he pushes open discussion however the project has to also fit the research line; this mindset can potentially reflect the leadership style of the department chair in relation to his beliefs about the structure and the hierarchies inside the team; he pushes for an open door policy. Developing trust within the team and between team members is an objective of the team leader to foster collaboration and open discussions so as to facilitate problem solving and knowledge dissemination. The behaviour of sharing is also a criterion he has in mind during the talent recruitment process: sharing knowledge is one of the characteristics he is searching for in the team; he thinks that people are currently share and talk to each other but there is always room for improvement; he is trying to foster

the communication between the members by connecting people proactively and by encouraging people to discuss more and talk to each other; Trust between members is for him one of the most important values; The team and the leader learnt from previous mistakes and situations where frustration escalated; to avoid similar events he adopts the role of a mediator and he also asks people to not let things escalate; he builds on open communication and trust as coping mechanisms to avoid conflicts; he pays attention to details , on how to solve a problem and how to prevent it next time; Through mentoring and open discussion he creates a space inside the team for people to express their talents but also to reflect on their talents; He is open on reflecting on different ideas, seeing the positive & negative sides of it; For him one thing is being talented and another thing is to show and express your talent for people to know that you have one; The expression of talent is for him a combination of personal proactivity to understand and show your talents and to have the opportunity to express - personal proactivity and opportunity - this way one can judge your talent; for him it is not enough to only have talent but you also need to manage it in an effective way; it can be said that talent for him entails as well the notion of "character"/personality; Interestingly he doesn't believe that there is only one definition of talent and most probably he implies that it is context specific; As mentor he also tries to create career plans and possible career paths for this team members; He is willing to create an open space for talent to flourish; but he also believes that it's a personal responsibility to demonstrate one's talents; he accepts defining talent including a broader range of competences such as being flexible which is something that stimulates the team; whatever the capabilities people have he tries to make sure that they capitalise on them and use in favour of the team; -for talent to be used there should be a freedom of choice and expression of the skills and expertise or of the ambition of the person; leader works as a mentor to help develop the talent towards the right direction in line with the team and research vision; Context specific definition of talent; being talented is not enough if you do not express it or if you do not communicate it towards other : could be related to the definition of a talented academic ; the least that can be done is to have a situation and conditions where talent is expressed and nourished; career planning as part of the talent management strategies of the leader; strengths based management of talent.The reference to the recruitment process appears again referring this time to the attention it is paid on complementing the profiles/people that exist in the team with the new ones that are to be recruited; it is also mentioned that the size of the group has an influence on the choices will be made in relation to the choices on profile/role dynamics; he is conscious about the balance between ambitious people and team players and he wants to keep the balance and the stability on relations from the beginning; it may be possible that with the way he mentions ambitious people he means star performers ? He gives importance on having team players in the team; it is mentioned a relationship between the allocation of projects and the diversity in characters, the team has a lot of different characters to take into consideration; for the matching of projects he doesn't solely considers only the fit between the projects, but the fit between matching project, matching personalities and the creation of a comfortable situation for the people who work together; Recruitment based on complementarity of profiles in the group; he mentions quite often that the management of talents depends a lot on the size of the group; balancing between ambitious people and team players in the team; approach of leader to distribution of research projects : to match two research projects he also considers the matching of personalities; leader pays attention on managing people based on their personality and to match their personality with the correct research project. Talent as a collective phenomenon - NO - the leader believes that one single recipe that fit the needs of the whole team doesn't and shouldn't exist; he prefers talking and addressing individuals inside the team because each one is different and each one demands to be treated differently with regards to how the person should be fitted inside the group; he recognises a need for a team well being for everyone to fit inside the group in a balanced way so that the group by itself is stimulated; he cannot speak about collective talent but he cares about creating the right social capital for the team to perform and for people to feel happy in the group; not team/collective talent but talented individuals. -The idea that talent and attitude come together is present again; by attitude he means the connection between the innate talent and the ability to express and use your talent in your favour, to actively and proactively use your talent; he views the non talented people as those who do not manage or who do not have the competence to express and showcase their talents but they may have talent; his role is to help stimulate the talents and make people aware and enthusiastic about their talents so they get better with it; there is also the underlying perception that talent is also non developable even though you may try to stimulate it and even though people may try hard; in situations where the "stimulation phase" does not work out a pragmatic approach is adopted with the plan to coach the person on doing a good job with the project as much as possible; no future place in the team is foreseen for this person; it is of interest that he sees in a

multidimensional way why someone may not fit in the group and may not be seen as talented in the specific context of this group; it could be due to the working attitude or due to the misfit between the project/job and the person's qualities; he differentiates between people who really want to work and make a project happen and they cannot succeed due to misfit between job and person; here he uses his network to help the person find what fits him/her best; it is preferable that he lets the person leave the group as he thinks that eventually frustration will come on the person's side if he cannot deliver on the job; he doesn't want to have unsatisfied people in his team; he believes that investing on good people is a long term investment for the group; it is more of a proactive fit and a strict selection process; Using the recruitment process as a way to understand the talent; he differentiates also between the working attitude and the role that the environment or the job plays in the utilisation of talent; he accepts that people can leave the group to better fit on another role; he differentiates between talent as nature and the expression of talent via attitudes and behaviors that will help take advantage of this innate talent --> it's not only what you know but also how you use it and how you behave; the leader tries to create enthusiasm for the people who are talented but lack the attitude - he accepts that you cannot change the talent but you can create the conditions to stimulate it. As a leader he would like to stimulate in his team people to get ambitious and to try out new things - not only to limit themselves in the tasks of a specific research project; he leaves space for the people with good ideas to develop them further; he senses a contradiction between what the university system promotes and what he tries to achieve with his own group; definition of academic talent: in the university system to be successful you need to be good at what you do but also visible to get grants - it is not enough to have a successful group if they do not jump out and create visibility; he tries to stimulate an inclusive developable approach to talent in his team although the university doesn't promote this approach - teamwork but also opportunities for people to grow as individuals and for the very good to go further as well but not at the expense of the non visible ones; the system by itself does not stimulate the recognition of the different many individuals working for one project- it is easier for just one person to get all the credits - so maybe not so fair; this situation creates more competitive conditions inside the team; he adopts an approach of equal opportunities for everyone and to have faith and to promote an inside trust in the teams between people - he tries to create the conditions to maximize the existing value of his team's talent. career development - university system and knowledge management : he explains that university trains much more many PhDs than they eventually stay in the system of the university - young PhDs need time till they develop and start performing and the moment they perform they leave so you loose expertise - he tries to create the right conditions as well for his members to stay;limited career opportunities of the university - tenure or you leave; in accordance to him the university is using the PhD funds as a new way to surviving but then you invest heavily on PhDs that leave the university because there are no career prospects; to keep the expertise in the group there are also some conditions, such as that PhDs have to attain a certain level of expertise and seniority of experience that will give them access to more grant opportunities; a research group has to also be big enough to be organised in such a way that expertise stays; due to lack of career prospects. It seems like the PI adopts a leadership style with the purpose to support people in unleashing their creative potential:

- Giving priority to talent diversity within teams
- Team based Talent Management - not sure yet to what extent this is purely done
- There is space for distributed leadership (team leadership - supervisory - driver role of the PostDoc and of the Assistant Professor)
- He is empathetic as a leader in his coaching /mentoring role
- Lab technicians do not have career prospects and it is often hard to keep talent due to the lack of funding for technicians; technicians have a wealth of knowledge that is difficult to be traced when they leave
- Given the differentiation between the technicians and not, they may have an exclusive idea in their mind with regards to