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Leadership Development On The Go: A Multi-Perspective Two-Cohort Case Study To Explore Collective Leadership Development

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LEADERSHIP DEVELOPMENT ON THE GO: A MULTI-PERSPECTIVE TWO-COHORT CASE STUDY APPROACH TO EXPLORE COLLECTIVE LEADERSHIP DEVELOPMENT

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ABSTRACT

There is a lack of studies focusing on how self-managed team experience across multiple tasks influence collective leadership capacities in an organisation. Responding to the long-standing calls to study collective leadership development (Raelin, 2006, 2018a; Day, 2011b; Yammarino et al., 2012; Day et al., 2014; Day and Liu, 2018; Eva et al., 2019) and to integrate shared leadership to the conceptualisation of leadership development (Klein and Ziegert, 2004; Klein et al., 2006; Bergman et al., 2012; Day and Liu, 2018; Raelin, 2018a), this thesis explores the potential of self-managed project team experience for enhancing leadership development as a collective capacity. The focus is shared leadership practices in self-managed project teams and the role of these practices for leadership learning and development across various tasks and time. The topic is relevant because collective leadership development has been understudied due to the predominant individualised focus in the existing leadership development studies (DeRue and Myers, 2014). Self-managed project teams engage in shared leadership to reach their objectives autonomously, and this engagement further enhances leadership capacities at multiple levels (Friedrich et al., 2009; Raelin, 2016b, 2018a).

Due to the lack of prior studies, an overall understanding of the collective leadership development process and the outcomes was seen as an essential first step in contributing to the relevant literature. Thus, the study has a holistic approach and derives upon multiple theoretical perspectives (Eva et al., 2019). The study conceptualises collective leadership development through the lens of shared leadership. It draws on the concepts of complexity leadership, social network and social learning to explore the development process and outcomes holistically (Clarke, 2013; Eva et al., 2019). Therefore, the focus was on both dimensions of the leadership

capacity development process: the acquisition of KSAs and the ability to engage in shared leadership behaviours. This kind of holistic approach requires multiple data sources and collection methods.

The research was conducted as a case study with two cohorts embedded in a single organisational unit. The study has mainly utilised naturally occurring data from the practices in the unit across a series of (three) projects within eighteen (18) months to explore the phenomenon. Three primary data sources were post-project reviews (PPRs), participant surveys, and direct observation, with the first two being the main sources. Qualitative data concerning sense-making and learning were collected through document analysis of post-project review sessions, project documentations, open comments in the survey questionnaires, and observations. The behavioural data was collected through survey questionnaires where team members have rated each other's shared leadership performances. The analysis is based on thematic analysis, time series analysis and constant comparison.

The comparison of all data across time, methods and cohorts shows that self-managed team practice offers excellent opportunities for organisations to enhance collective (shared) leadership capacity. However, the impact of the experiences is more significant on creating awareness and acquiring knowledge, skills and attitudes (specifically social awareness and interpersonal skills) than on shared leadership behaviours. Analysis of the qualitative data identified seven broad themes: (1) openness to diversity and working with others, (2) communication and coordination, (3) self-awareness and confidence, (4) problem solving and decision making, (5) situational awareness and adaptability, (6) awareness and acceptance of different leadership styles, and (7) motivating others the learning outcomes resulting as collective capacity. Time series analysis of

the shared leadership ratings shows a declining pattern. Integration of both types of analysis identified four challenging areas that need attention and additional coaching support for more effective development and performance. These areas were planning and scheduling, monitoring, providing critical feedback and team building

The focus on the construction of meaning, learning and performance outcomes across multiple tasks and extended time is relevant for collective leadership development in multiple ways and thus, enriches the leadership development literature. First, the study contributes to the emerging collective leadership development literature by exploring the learning outcomes and performance outcomes across varying contexts in three projects rather than exploring them within the life-cycle of a single task in isolation from the contextual factors. Second, the multi-perspective conceptual model contributes to the much-demanded theorisation of collective leadership development. The study also contributes to practice by providing an overall picture of the capacity development process in self-managed project teams and identifying the bottlenecks in using self-managed teams for shared leadership development.

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EBLD: Experience-Based Leadership Development

CLT: Complexity Leadership Theory

HE: Higher Education

KSAs: Knowledge, Skills and Attitudes

LC: Leadership Capacity

LD: Leadership Development

SL: Shared Leadership

SLACC: Shared Leadership as Collective Capacity

SLT: Social Learning Theory

SMPTs: Self-Managed Project Teams

SNA: Social Network Approach

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DECLARATION

I declare that all the material in this PhD thesis is my own work.

20.11.2022

Yucel Ger

1   INTRODUCTION

1.1   Background to the Study and Research Rationale

This study focuses on collective leadership development. It explores how engaging in shared leadership in self-managed project teams further enhances collective leadership capacity. Conceptually, this study draws on multiple theoretical perspectives such as leadership development, complexity leadership, social learning, and shared leadership. Using shared leadership as a lens to understand collective leadership development enables the exploration of the acquisition of knowledge and skills, as well as the ability to engage in leadership, which, together, define collective leadership capacity. Self-managed project teams in a higher education institution provided the context for the study.

The appropriateness of this context is justified by the self-feeding nature of shared leadership, which many experts consider to be the correct leadership style for self-managed project teams (Carson, Tesluk, and Marrone, 2007; Solansky, 2008). As a self-feeding practice, engaging in shared leadership is expected to further enhance the leadership capacities of individuals and collectives (Friedrich, Vessey, Schuelke, Ruark, and Mumford, 2009). A self-managed/managing project team (SMPT) can be defined as a small temporary team that is responsible and collectively accountable for all or most aspects of producing a product or delivering a service and has autonomy in making decisions that relate to task assignments, methods for carrying out the work, and the scheduling of activities (Cohen and Ledford Jr, 1994; Cohen and Bailey, 1997; Wageman, 2001).

As a result of the increased pressure to effectively use resources, many organisations have flattened their structures and transferred power to team-based autonomous structures such as self-managing/managed teams (or self-managed project teams in the context of the current study) due to their ability to achieve quality results in less time and other resources

(Wageman, 2001; Druskat and Wheeler, 2004; Solansky, 2008; Muller, 2014), and high productivity (Barker, 1993; Langfred, 2000, 2004, 2005). Although self-managed teams (SMT) and SMPTs have often been associated with effectiveness, they also provide excellent opportunities for leadership learning and development through interactions between equals (Klein, Ziegert, Knight, and Xiao, 2006; Raelin, 2006, 2016, 2018).

Current research on leadership development demonstrates that a substantial part of leadership development (LD) occurs outside of classrooms and formal training (McCall Jr, 2004; McCauley et al., 2013). Scholars have recommended that leadership development should be moved to a natural setting where leadership is practiced, and that participants learn how to solve their own problems in their own settings (Day and Liu 2018; Raelin 2016d, 2018). The Center for Creative Leadership has suggested providing a full range of leadership development experiences, including job assignments, leader-follower experiences, interactions with and exposure to others, and feedback systems (van Velsor, McCauley and Ruderman, 2010). More organisations have come to recognise that SMT experience provides a supportive eco-system that fosters these experiences through shared leadership as a self-feeding practice. In other words, members of self-managed project teams develop increased capacities for shared leadership within their organisations. Working together to achieve common goals, trying to influence other team members with equal status, and engaging in acceptance and denial feedback are among the factors that provide opportunities to develop much-needed leadership capabilities (Klein and Ziegert, 2004; Raelin, 2006, 2018; Lambert, 2011; DeRue and Myers, 2014a; Day and Liu, 2018).

Despite the widespread adoption and claimed advantages of such methods, several researchers have revealed that SMTs and organisations are not problem-free and vary in their effectiveness due to their leadership challenges (Solansky, 2008). Such teams still need to

engage in critical leadership functions that exceed the capacity of a single person (e.g.,

Morgeson, DeRue and Karam, 2010). They rely on the capacities of all members collectively

in a very complex and dynamic environment that is influenced by various interactions at

multiple levels (Cox, Pearce and Sims Jr, 2003; Lichtenstein et al., 2006; Uhl-Bien, Marion

and McKelvey, 2007; Eva et al., 2019). In this sense, leadership capital is arguably the most

crucial determinant of organisational success, especially for flat and team-based organisations

(Day, Gronn and Salas, 2006; Ensley, Hmieleski and Pearce, 2006; Kozlowski, Mak and

Chao, 2016; Karriker, Madden and Katell, 2017). As the complexities in the business

environment are always increasing, the collective engagement of multiple individuals in

leadership through both formal and informal relationships requires these individuals to

develop their capabilities (e.g., leadership) to face increasingly complex business challenges

and social problems (Cullen-Lester and Yammarino, 2016). Organisations need to invest in

collective leadership capacities and social capital to reach organisational effectiveness

through flattened team-based structures (Magpili and Pazos, 2018).

However, there is a lack of studies that focus on collective leadership development that

results from leadership practices in SMPTs. The dominant person-centred perspectives about

leadership that are coupled with the traditional trait and behavioural approaches have

prolonged the creation of leadership development literature that focuses on individuals as

leaders rather than on leadership as a collective process (Day, 2000; Yammarino, Salas,

Serban, Shirreffs, and Shuffler, 2012). However, the ever-increasing demands and complexity

of the work environment require multiple individuals to lead and navigate organisations

across a large variety of situations and organisational settings (Yammarino et al., 2012). It is

possible to observe collective leadership phenomena due to the rise of organisations in which

leadership is shared rather than focused, especially within the knowledge- and creativity-

based industries, which need more dynamic and fluid processes for leadership (DeRue and Ashford, 2010; DeRue, 2011; Eva et al., 2019).

Leadership development at the collective level requires a different approach to conceptualising development. Most organisations recognise that effective leadership is one of the most potent forms of leverage for gaining a competitive advantage. Investing in developing all employees rather than those in positions of authority is the only way to sustain this advantage (van Velsor, McCauley and Ruderman, 2010). While the enthusiasm for collective (shared) leadership is growing despite the criticism that it is lethargic and chaotic (Raelin, 2018a), this progress has been tempered by the knowledge gap on "how to develop leaders within, and as, collective" (Eva et al., 2019, p1; Yammarino et al., 2012).

A review of the current leadership development literature illustrates that the research on practice-based leadership development is dominated by behavioural and competency approaches within individual perspectives on collective leadership (Day et al., 2014; Raelin, 2016b, 2018a, 2019; Day and Liu, 2018). The literature has neglected other perspectives, such as the development of shared leadership as an organisational capacity through the impact of experiences within practice-based approaches to leadership development. Alternative approaches, such as shared leadership as a collective capacity (SLACC), have received little to no research attention within leadership development and are not clearly associated with particular conceptualisations of shared leadership. For example, we do not know how collective leadership capacities develop through self-managed project team experiences across multiple and distinct tasks. The processes regarding how organisations develop shared leadership structures and how shared leadership as a collective learning process affects the development of collective capacities, in return, remain open (Raelin, 2006, 2016b, 2018a; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018).

1.2   Research Objectives and Questions

As previously discussed, the interest in leadership development and shared leadership is growing. This growth is expected to address the leadership needs that are arising from multi-organisational and team-based flat structures in response to ever-demanding and complex business environments (Day and Harrison, 2007). However, organisations need collective leadership capacities. Members of these non-traditional organisations need to learn how to work in self-managed teams as members with equal status or, in other words, work in teams of leaders rather than lead teams of followers (Day and Harrison, 2007; Eva et al., 2019).

On the other hand, organisations need to develop sustainable and reinforcing leadership development strategies and make them part of their daily operations in the long term rather than investing in individuals in positions by taking a short-term interventionist approach (Day, Gronn and Salas, 2004, 2006; DeRue and Myers, 2014). Shared and other forms of collective leadership development practice have currently stagnated because organisations have long been focusing on individual leadership development practices and methods and applying them to a group of leaders rather than developing new approaches that address the unique challenges of collective leadership (Day and Lance, 2004; Day and Harrison, 2007; Yammarino et al., 2012; Eva et al., 2019).

However, little is known about how leadership develops at the collective level across time and multiple tasks. The existing research has an individualised focus to a large extent and is limited to the life-cycle of a single team and task. This study is among the first to provide empirical insight into the development of leadership capacity of a collective. The study aims to explore the potential of self-managed project teams in enhancing the collective leadership capacities in organisations through experience in multiple projects.

In order to reach its objectives, the current study adopts a broader definition of leadership development by viewing it as a constructive learning process in which individuals and collectives acquire knowledge, skills, and attitudes (KSAs) and learn to engage effectively and adaptively in leading-following interactions across multiple task-and-team contexts (DeRue and Myers, 2014; Liu et al., 2020a). In this study, "KSA" is used as an acronym for "knowledge, skills, and abilities." In the current study, "A" is used as an acronym for attitudes and dispositions due to their influence on behaviours in collaborative experiences (Bandura and Walters, 1977; Bandura, 2001; Fullan, 2010).

The broader definition of leadership development as a constructive process incorporates multiple tenets that require multiple perspectives to explain them. Therefore, through its multi-perspective conceptual framework and shared leadership lens, the main research question addresses how leadership capacity of a collective develops across multiple projects in an extended time frame. Thus, this study also extends the existing research by incorporating three sequential and distinctive projects that were conducted over 18 months to cover the potential impacts that various contextual factors such as team formation and task structure have on development. The main research question (RQ1) is:

> *"How does collective leadership capacity in an organisation develop through self-managed team experience across time and task settings?"*

The main question is a macro-level question that relates to three sub-questions. Collective capacity relates to acquiring KSAs to collectively engage in leadership roles and behaviours (Day, Gronn, and Salas, 2004). Therefore, learning is a vital prerequisite for leadership development (Raelin 2006, 2016d, 2018a; Day and Liu, 2018). Additionally, shared leadership is associated with social learning because learning by practising leadership in a collaborative setting is a social learning process (Raelin, 2018a). The predominant focus on

isolated behavioural outcomes that result from how individuals interpret their experiences provides only a partial picture of leadership development (Day, Fleenor, Atwater, Sturm, and McKee 2014). The first sub-question (RQ2) corresponds to the mentioned discussion:

"What do organisational members learn from their diverse leadership experiences?"

This study also focuses on development that relates to the ability to engage in leadership as the second outcome of capacity building. By using shared leadership as a lens, this study explores how shared leadership emerges and develops across time and multiple contexts by extending the line of research over the lifecycle of a single task or team (e.g., Sivasubramaniam et al., 2002; Mehra et al., 2006; Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Lorinkova and Bartol, 2020).

This study also seeks to enrich the understanding of multiple dimensions of shared leadership through the integration of *complexity leadership* and *social network approaches* to the operationalisation of shared leadership (Bergman, Rentsch, Small, Davenport, and Bergman, 2012). Within the complexity view of leadership, collectives and individuals must perform multiple leadership functions and engage in multiple and complex behaviours to be effective. These behaviours are affected by the work environment, inter- and intra-actions, and past knowledge and experiences (Raelin, 2018). These factors are interdependent entities that interact with one another in a non-linear way and emerge through a dynamic process over time (Cullen-Lester and Yammarino, 2016). The social network approach, however, is related to the multitude of leadership resources in a collective (Contractor, DeChurch, Carson, Carter, and Keegan 2012) or the "sharedness" of leadership (Day et al, 2004). This approach can be used to identify the number of individuals engaged in leadership. The second sub-question (RQ3) incorporates the preceding discussions:

"How does shared leadership as an organisational capacity emerge and develop?"

Finally, this study identifies the challenging areas of leadership that need the particular focus and intervention of external leaders and coaches. The literature on experience-based leadership development reveals that learning from experience does not happen automatically (McCall, 2004, 2010). The social aspects of learning and the contextual, complex, and dynamic nature of leadership make it difficult to identify the obstacles to learning that stem from various experiences. Therefore, more empirical data is needed to identify the challenges to learning from experience and engaging in leadership for more effective leadership performance and development. As McCall (2010, p17) stated, "Until more is known about these aspects of learning from experience, efforts to intervene effectively to enhance learning will continue to be hit or miss". The third sub-question (RQ4) for this research aims to shed light on challenging leadership areas for self-managed project teams and go beyond guesswork:

"What are the challenging areas that need particular focus and intervention?"

This study is positioned at the crossroads of leadership development, complexity leadership, and shared leadership. Therefore, it is multi-level and integrative. It combines the constructive and complexity approaches to leadership to explore complex and multilevel leadership development. Thus, a deeper understanding of the leadership development process and the challenges of development can help tutors, teachers, and managers evaluate and determine the appropriate levels of autonomy for project teams, as well as the time and context of interventions that are needed for more effective development.

1.3   Theoretical Background

This study primarily builds on leadership development, shared leadership, complexity leadership, and social learning concepts. When defined as the expansion of a collective's capacity to be effective in leadership roles and processes (Van Velsor, McCauley, Ruderman,

2010, McCauley, DeRue, Yost, Taylor, 2013, Day, David V., 2011b), collective leadership development involves interpretation of learning experiences and undergoing an evolution in doing so (Raelin, Joe, 2006). At the collective level, leadership development refers to developing social capital by improving workplace relationships, shared values and meaning, and interpersonal competencies (Day, 2000; van Velsor, McCauley and Ruderman, 2010). According to this perspective, expansion indicates developing a more complex understanding of what it means to be effective in leadership processes and roles, which illustrates that many abilities and skill sets are needed.

By drawing on shared leadership literature (Klein et al., 2006; Carson, Tesluk and Marrone, 2007; Friedrich et al., 2009; Bergman et al., 2012), this study operationalises collective leadership development through the lens of shared leadership. The shared leadership view of collective leadership acknowledges that leadership is "a collective, transformative, reciprocal, and purposeful learning in community" (Lambert, 2003, p425). Additionally, the appropriate operationalisation of shared leadership requires integrating social learning and complexity leadership theories with the social network approach (Bergman et al., 2012). Social learning theory (Bandura and Walters, 1977) and the constructivist approach can be used to explain what and how people and organisations learn from their leadership experiences. Complexity leadership recognises the contextuality and dynamic nature of leadership and informs us about the need for engaging in multiple and complex leadership roles and behaviours to achieve effectiveness (Lichtenstein et al., 2006; Uhl-Bien, Marion and McKelvey, 2007). This study assumes that the process of developing shared leadership capacity is iterative and cyclic; the acquisition of KSAs and shared leadership behaviours have a dynamic and reciprocal relationship. Learning affects behaviours and leadership performance. Reflections and peer feedback that are based on performance also impact learning.

In response to the growing demands and needs of organisations, researchers have developed and proposed a variety of theoretical perspectives to conceptualise leadership as a collective process (e.g., Gronn, 2002; Carson, Tesluk and Marrone, 2007; Friedrich et al., 2009; Morgeson, DeRue and Karam, 2010). Most approaches define collective leadership as a dynamic process in which leadership roles are shared (Carson, Tesluk and Marrone, 2007) or distributed (Gronn, 2002) among multiple individuals. Although the concept has been referred to as collective, distributed, or shared leadership in different contexts, these terms are often used interchangeably. They are commonly used to highlight the temporality of the process, the multitude of sources, and the multiplicity of roles (Contractor et al., 2012). This study uses the term "shared leadership" to refer to the overall concept of collective leadership without excluding the distributed and collective conceptualisations to contribute to creating common language. Despite the tendency to use the terms interchangeably, the current study views the "collective leadership" term mainly in relation to leadership development at the organisational level and "shared leadership" as the leadership style of self-managed teams.

Although shared leadership is often associated with team effectiveness and creativity (Nicolaides et al., 2014; Innocenzo, Mathieu and Kukenberger, 2016), it is also associated with co-construction and collective learning (Klein and Ziegert, 2004; Klein et al., 2006; Raelin, 2006, 2018a; Friedrich et al., 2009; Lambert, 2011; Bergman et al., 2012). Indeed, many scholars have argued that leadership is a collective and dynamic learning process that is developed within teams and among team members (Pearce and Conger, 2003; Day, Gronn and Salas, 2004; Bligh, Pearce and Kohles, 2006; Friedrich et al., 2009; Fausing et al., 2015).

When leadership is defined as a learning process in a collective setting (Lambert, 2011), shared leadership offers conditions for most types of experiences that individuals and organisations can learn from (Day, Gronn and Salas, 2004; Klein et al., 2006; Friedrich et al.,

2009; Day, 2011; Bergman et al., 2012). This learning and development can occur through active participation in leadership, observation, and acceptance and denial feedback loops (DeRue and Wellman, 2009; Groves et al., 2015). For instance, Friedrich et al. (Friedrich, Vessey, Schuelke, Ruark, and Mumford 2009) argued that practising leadership as a shared responsibility and a self-feeding practice should enhance a team's capacity to lead. Therefore, self-managed project teams provide an appropriate context for studying leadership development with a focus on shared leadership capacity (Day, Gronn and Salas, 2004).

In summary, the predominant individualised focus on practice-based leadership development and the fractured structure of collective leadership literature has created major handicaps for advancing leadership development at the collective level. For example, Eva et al. (2019) argued that

> With many of the existing forms of collective leadership development fragmented in terms of their basic assumptions, level of conceptualisation, and unit of analysis, it is now timely to collate, compare, analyse, and integrate the multiple collective perspectives on leadership. (p 2)

Thus, this PhD project positions itself at the crossroads of leadership development and shared leadership streams of literature and conceptualises shared leadership as collective capacity. In doing so, this study draws on multiple theoretical approaches, such as social-constructivism and complexity leadership, to examine the process of SLACC development as a leadership development concept at the organisational level.

Additionally, this study views shared leadership as a dynamic and complex self-feeding practice (Friedrich et al., 2009) and joins the arguments that state that shared leadership as a collective act and a social learning process leads to the development of leadership capacities at multiple levels (Friedrich et al., 2009; Lambert, 2011; Raelin, 2018a). The integration of

these various perspectives enables the holistic exploration of sense-making and learning outcomes, as well as the behavioural outcomes of the developmental process (Eva et al., 2019).

1.4   Research Methodology and Approach

The study was planned and implemented as a micro case study within a prospective two-cohort design in a single higher education institution. The case concerned shared leadership development as a collective capacity that is practised by self-managed project teams. The contextuality of this leadership phenomenon was the primary reason it was chosen for the case study. The lack of existing research and the established theorisation of collective leadership were also influential in making the decision. Furthermore, various scholars have argued that leadership development will need to return to the same setting where the practices are taking place (Day, Gronn and Salas, 2004, 2006; Day et al., 2014; DeRue and Myers, 2014; Raelin, 2016b, 2016d, 2018a; Day and Liu, 2018). These scholars have maintained that participants encounter challenges and problems and learn how to address and solve them in their local settings. Therefore, shared leadership practices in a self-managed project team setting provide an appropriate context for investigating and learning.

Case studies enable researchers to explore complex phenomena within a specific context (Zainal, 2007; Yin, 2011, 2013). Therefore, it is essential to elaborate on the specific characteristics of the research setting and the case under investigation. The case unit of the study was an undergraduate business program at one of the smaller campuses of a prominent university of applied sciences in Southern Finland that has over 1,000 students enrolled in five units. The campus is characterised by its inquiry-based pedagogy within a competency-based curriculum. As part of the inquiry-based pedagogy, learning is supported by having students complete semester projects that involve cross-disciplinary learning within action

learning principles (Smith, 2001; Volz-Peacock, Carson and Marquardt, 2016). Students work in small-to-medium-sized teams with varying degrees of autonomy, which depends on the leadership culture of the study program and the teaching team.

During the study, students worked in project teams in collaboration with industry partners, which started during their second semester. These projects are designed to provide an authentic and employment-oriented learning environment and practices with networking opportunities for students within the communities of practice. Additionally, the projects are also used to provide practical and theoretical assistance to partner organisations that are facing various challenges. These projects ideally have a win-win approach as they involve sharing responsibilities. Projects are often multi-disciplinary within the relevant disciplines of the study programs.

The projects that were selected for the case program were sales and marketing related, and the teams were supported and guided by a team of teachers and a representative of the client organisation. The project tasks were authentic as they were created to help solve the client's existing problem. Students worked in teams of three to six to handle the respective projects. Like project teams in general, these teams had a limited lifespan, which lasted for the duration of a specific project. They were formed for specific project (Graen, Hui and Taylor, 2006; Skilton, Forsyth and White, 2008) and adjourned when the projects ended at the end of the semester.

Although the teams often relied on members to emerge as leaders, some teams elected a single person as the team leader. In the latter case, the team leaders were advised to function as coordinators rather than managers. The degrees of the teams' independence increased parallel to the studies' progress. First, teams were formed with the help and guidance of teachers to form functioning, diverse teams. In more advanced semesters, students are

considered mature enough to form the teams themselves and practise what they have learned so far. These teams are similar to self-organising teams. External leaders who function as coaches (a team of teachers and representatives from the client organisations) have slightly distinctive focus areas. Whereas teachers are responsible for providing theoretical and practical (in areas of teamwork) support to project work in planning and execution, the clients' support is mainly task-related. The work of these teams is very similar to but not limited to the work of consultants. The work was not limited to providing information and plans. In addition to providing plans and strategies, the teams implemented tools such as roadshows and sales campaigns to improve lead generation. Although the projects have different themes, depths, and focuses during different semesters as they involve varied learning goals and competencies, developing teamwork and leadership is the focus of every project.

As a routine practice, the students who participate in these teams complete at least one but often two sets of self and peer assessment surveys online in which they assess their team achievements and individual contributions to these achievements. The first set of these assessments is completed right after the planning stage, and the second is completed at the very end of the project. The average contributions determine the individual grades for the project work. The results are shared with students immediately as anonymous feedback, which allows them to improve their contributions during the second half of their projects or when engaging in subsequent projects. The final stage in the process is the review of the project experiences, achievements, and contributions in a qualitative review session. These sessions (which are referred to as post-project reviews) are facilitated by teachers with each project team separately upon completing a project and are annexed to the final self and peer assessments. These reviews and reflections enable the students to get the most out of their developmental experiences as they allow learners to analyse their individual and team

behaviours and evaluate the contribution of a team's components to its performance (DeRue et al., 2012, p4).

The undergraduate business program was a fascinating case for exploring the nature of leadership development for several reasons. The empowering culture within the program was a distinctive feature and the rationale for selecting the study focus. As part of the culture of the study program, students are encouraged to avoid designating project managers with sole responsibility for the project outcomes and practice shared leadership in their projects to achieve more effective development. This practice is based on the argument that shared leadership, coupled with the authentic experiences and challenges of the project tasks, can enhance leadership capacities at multiple levels and thus the effectiveness of the undergraduate program (Klein and Ziegert, 2004; Klein et al., 2006; Raelin, 2006; van Velsor, McCauley and Ruderman, 2010; Marquardt, 2011; McCauley, DeRue, Yost, and Taylor, 2013; Volz-Peacock, Carson and Marquardt, 2016). Under this approach, teams lead and regulate their activities autonomously as a shared responsibility. They must also plan and implement projects to find a solution to the needs of the partner organisation (client). They are empowered and entirely responsible for the outcomes as a team. A team of teachers and a representative of the partner organisation act as external leaders and coaches and support the teams in reaching the set goals and learning at the same time (Bolton, 1999; Wageman, 2001; Hackman and Wageman, 2005; Wageman, Hackman and Lehman, 2005; Carson, Tesluk and Marrone, 2007; Solansky, 2008; Morgeson, DeRue and Karam, 2010; Rapp, Gilson, Mathieu, and Rudy, 2016).

Although this case study is qualitatively driven, the rich data were collected from multiple sources by employing qualitative and quantitative data collection methods and tools. The analysis of the qualitative data that was derived from multiple sources, such as personal

observations, open comments in the survey, and the documents of post-project reviews (PPR), focused on identifying the less observable learning outcomes of the experiences (DeRue, Nahrgang, Hollenbeck and Workman, 2012). More observable behavioural outcomes of the (shared) leadership development were assessed using the data obtained via survey questionnaires that were developed using peer-assessed behavioural data. Due to the complexity of leadership and the interlinked contextual factors, the developments in shared leadership were evaluated according to the changes in the number of individuals who participated in leadership and the complexity of their behavioural portfolios, per Bergman et al. (2012).

As pointed out previously, both the process and the outcomes of leadership development are complex and multi-dimensional and are thus difficult to assess and evaluate with a simple approach in any setting (McCall Jr, 2004; McCall, 2010; McCauley et al., 2013; DeRue and Myers, 2014). Leadership development, as a complex process, requires innovative models and approaches. Hannum, Martineau, and Reinelt (2007), for example, argued that "traditional approaches (e.g., [the] use of control groups and pre-tests and post-tests) can be impractical, incomplete, and sometimes inappropriate models for evaluating leadership development initiatives in some contexts" (p 14). On the other hand, Day et al. argued that the leadership field has been preoccupied with hypothesis testing, which is inefficient for capturing the complexity of factors and outcomes in cross-sectional designs (Day et al., 2014, p64).

The assessment can be particularly challenging when developments occur outside of controlled environments such as classrooms and when they include quantifiable and non-quantifiable components (Clarke, 2013). This study joins the argument that organisations are too dynamic and unpredictable to be defined by simple models and "challenges the value of

reductionist approaches that believe leadership and its impact within a complex system can be captured by simple and linear, cause-effect relationships" (Clarke, 2013, p 187). According to this view, interactions between actors and their environment result in unforeseen and unpredictable outcomes and behaviours. Therefore, this thesis focuses on how organisations can generate conditions that enable or facilitate leadership development that leads to organisational effectiveness rather than determining or predicting it.

The participants' observations and the reflections that were part of the post-project reviews (PPRs) provided the qualitative data on the most critical experiences and the lessons learned from the experiences (DeRue et al., 2012). PPRs are essential to project closures and are practised at the case-unit level due to the importance of using reflection to learn. An extended version of the existing self- and peer-assessment questionnaire was used to collect behavioural data. The self and peer assessments are part of routine practice for each case unit. After the relevant permissions and participant consent were obtained, the survey questionnaire was extended to fit the purposes of the current study.

At the time of the study, the researcher was a full-time employee at the research site as a senior human resources and leadership lecturer and a member of the coaching team of instructors. Despite the credibility challenges associated with insider research, this position and the researcher's dual role provided significant comparative access advantages to rich data sources for an extended period. Collecting data from undergraduate project teams to examine their leadership development in a case study requires access to data for longer durations. Insider researchers, especially insider researchers who are part of a teacher team, have access to critical data for an extended time.

Due to the researcher's dual role, the researcher considered a practice-based approach (Raelin, 2016b, 2019) to be appropriate to achieving optimal objectivity or, in other words,

objective subjectivity (Brannick and Coghlan, 2007; Mercer, 2007; Unluer, 2012). In practice-oriented leadership research, the approach is pragmatic, and the objective of the researcher is not to prove or elaborate theory in its context (Raelin, 2016d, 2019). Instead, the researcher should be interested in seeing what emerges from interactions between actors, their activities, and the environment (Uhl-Bien, Marion and McKelvey, 2007). The theory helps make sense of ongoing activities rather than acting as the initial guide (Raelin, 2019, p3). Furthermore, extra care was given to the data collection procedures and sources to maintain optimal objectivity and minimise fatigue. In line with the case study protocol (Yin, 2011) and the practice-based approach to leadership research (Raelin, 2016d, 2019), the data collection process during the extensive period (18 months for each cohort) was planned, and extra attention was paid to achieving minimal intrusion into the natural processes of the practices in the case program. The strategy for data collection was utilising whatever data were created in the natural course of the practices.

1.5   Potential Contributions of the Study

This study has implications and potential contributions to academia and practice. First, the study contributes to collective leadership development by extending the knowledge on the link between shared leadership as a self-feeding, learning, and shared leadership performance practice. In-depth knowledge is provided about the learning outcomes that resulted from the SMPTs' experiences and shared leadership development through multiple projects and across an extended time-lapse. Conclusions were developed for further studies. This study also demonstrates that shared leadership in self-managed project teams provides opportunities for such experiences to develop leadership at multiple levels.

The findings of the study support other researchers' arguments that state that shared leadership is a learning process that takes place in a collective setting (Lambert, 2011). It

offers conditions for most types of experiences that team members can learn from. This learning and development can occur through active participation in leadership, observation, and acceptance and denial feedback loops (DeRue and Wellman, 2009; Groves et al., 2015). Friedrich et al. (Friedrich, Vessey, Schuelke, Ruark, and Mumford 2009), for example, proposed that practising leadership as a shared responsibility and a self-feeding practice can further enhance one's capacity to lead (Friedrich et al., 2009), and this study demonstrates that it does.

This study's conceptual model and multi-perspective approach contribute significantly to the theorisation of collective leadership development. Despite the long-standing calls, with the exception of the work that was done by Day, Gronn, and Salas (2004) on leadership development in teams, few researchers have developed theories that can inform leadership development research by focusing on a collective or organisation (Eva et al., 2019). According to Eva et al. (2019), the relevant work has mainly focused on reproducing or extending the leader-centred notions of intra-person competencies and behaviours through formal training rather than the broader theorisation of leadership that is informed by various theoretical approaches. The authors also argue that the existing forms of collective leadership development are fragmented and there is a need to analyse and integrate the multiple collective perspectives on leadership for a more cohesive model (Eva et al., 2019, p2).

Indeed, shared leadership and leadership development have received growing theoretical and empirical attention within the last two decades, but this attention has been given independently to each stream. Leadership development literature focuses exclusively on individuals (Day, 2011b; DeRue and Myers, 2014; Day and Liu, 2018; Raelin, 2018a). Shared leadership literature, on the other hand, focuses mainly on the emergence of the construct and its significance in relation to team performance and team processes across different contexts

(Wang, Waldman and Zhang, 2014; Innocenzo, Mathieu and Kukenberger, 2016; Wu, Cormican and Chen, 2020) rather than learning and developing through it. Despite the long-standing calls to integrate collective (shared) leadership into the conceptualisations of leadership development (Klein and Ziegert, 2004, Raelin, Joe, 2006) and the empirical evidence for the potential links (Klein et al., 2006, Bergman et al., 2012), the incorporation has not been thoroughly established yet. DeRue and Myers (2014, p835) found that the focus on leader development unfortunate. They argued that organisations embrace more shared forms of leadership and that focusing on leader development is insufficient for understanding how leadership capacity is developed.

This study also contributes to knowledge through its context. Prior studies with student participants were often conducted to assess the impact of a classroom-type of intervention (Posner, 2009; Day and Sin, 2011; Mason, Griffin and Parker, 2014; Baron, 2016; Miscenko, Guenter and Day, 2017), which usually take place in classrooms or laboratories, involve tasks such as role-plays, simulations, or case reviews (Lorinkova and Bartol, 2020; DeRue et al., 2012), and focus on short task durations from a few days to a few months (i.e., 3.5 days [Wu and Cormican, 2016], 7 weeks [Miscenko et al., 2017], 13 weeks [Day, David V. and Sin, 2011], 9 months [DeRue et al., 2012], and 12 months [Mason et al., 2014]). In the context of the current study, the participants worked on authentic projects with actual tasks in vague and complex environments that required them to interact with multiple stakeholders and take risky actions to satisfy them all. These actions aligned with the previous descriptions of experience-based leadership development and action learning principles and provided a comparative advantage in the transferability of the study to other settings in professional work environments.

The study significantly contributes to academia in multiple ways through its unique design and methodology. The first contribution stems from the study's design. The study was designed as a cohort-based case study to collect longitudinal and real-time data over 18 months from three consecutive and distinct project tasks. The advantages of this approach are twofold. A three-wave data collection facilitated the investigation of the non-linear nature of leadership development (DeRue and Wellman, 2009; Day, 2011b; Day et al., 2014). The second and maybe more valuable contribution of this design is the inclusion of distinct projects and collecting data that involved the same participants but different contextual settings, such as various task and team structures. These settings allowed the integration of multiple contextual factors into leadership development.

Leadership and its development are affected by contextual factors, and most researchers have ignored these factors by investigating leadership in isolation (Day, 2000; Day et al., 2014; DeRue and Myers, 2014a; Day and Liu, 2018; Raelin, 2018). Additionally, the very few studies that focus on shared leadership development are semi-longitudinal and primarily focus on network density with a pre-test, post-test approach (Gupta, Huang and Niranjan, 2010; Wu and Cormican, 2016; Lorinkova and Bartol, 2020). However, the network density approach can provide information about the changes in the number of people who are emerging as leaders over time but not on what improvements occur regarding what they do as leaders or teams. The current study examines the changes in the number of participants and the complexity of leadership behaviours and thus contributes significantly to academia.

Another unique future of this study is its qualitatively driven mixed-methods data collection. Mason (2006) suggested that a qualitatively driven mixed-methods approach offers "enormous potential for generating new ways of understanding the complexities and contexts of social experience, and for enhancing our capacities for social explanation and

generalisation" (p 10). According to Mason, such an approach can draw on and extend some of the best principles of qualitative research. Most leadership and leadership development studies are quantitative (Gupta, Huang and Niranjan, 2010; Day and Sin, 2011; Wu and Cormican, 2016; Miscenko, Guenter and Day, 2017; Lorinkova and Bartol, 2020) or quantitatively driven studies that utilise mixed-methods data collection (Mehra et al., 2006; DeRue and Wellman, 2009; DeRue et al., 2012; Baron, 2016). Qualitative studies (Klein et al., 2006; Hall, Scott and Borsz, 2008; Galli and Müller-Stewens, 2012; Brue and Brue, 2016) or qualitatively driven mixed-methods studies are comparatively rare in this field.

This study also has practical implications for leadership development practitioners and strategists at the organisational level. The current study's findings highlight the potential payoff of leadership development through self-managed team experience. In the context of higher education, a deeper understanding of the leadership development process of individuals and their challenges with going through development can help tutors, teachers, and managers evaluate and determine the appropriate levels of autonomy for project teams and the time and context of interventions that are needed for effective development. Thus, besides the other spill-over effects of the best practices, this practice-based research provides a more definite direction for all the other programs across the institution in general and encourages the use of intentional strategies and more effective developmental approaches to the leadership of team projects. The research results indicate that team autonomy and shared leadership are essential to learning and development. However, timely coaching support is vital to a delicate balance of development and performance. The leadership areas that may need additional care and support and the sensitive situations that may increase the need for support are discussed.

For work organisations, the study contributes to discussions on "how developmental experiences should be arranged over time and how these experiences can reinforce each other" (DeRue and Myers, 2014, p850). The present study demonstrates that organisations could develop shared leadership processes that enhance team members' capabilities to "engage effectively in leadership roles and processes" (Day, 2000, p582) by providing appropriate and increasing levels of autonomy through timely and adaptive support (Hackman and Wageman, 2005). Thus, the effective development of leadership capacities would also become a sustainable competitive advantage for the organisation in the long run (Volz-Peacock et al., 2016).

To summarise, as a qualitatively driven case study designed as a prospective two-cohort study, the current study has multiple unique features and implications for academia and practitioners. This study extends the knowledge on collective leadership in the context of self-managed project teams. The current studies feature an individualised approach to leadership development. The multi-perspective approach significantly contributes to the theorisation of collective leadership development and responds to pleas for its inclusion. The focus on learning and performance across multiple tasks and times within the prospective cohort design is also unique (in fact, it is the first of its kind). It has implications for future research in the field. This study's findings also have significant implications for practitioners from both higher education institutions and professional organisations.

1.6   The Structure of the Thesis

Chapter 2 provides the theoretical background and positioning of the study. Due to the multilevel nature of collective leadership, the chapter starts with a review of the existing body of knowledge in terms of leadership development, especially at the dominantly individual level. It then introduces various theoretical approaches that could be used to explain

collective leadership development. The chapter closes with shared leadership as the style of self-managed project teams and the lens for conceptualising collective leadership.

Chapter 3 synthesises and integrates the key perspectives to develop the conceptual model as the framework for the study. The chapter starts with a discussion of the appropriateness of self-managed project teams as a context for studying collective leadership development. Next, the chapter presents the conceptual model and ends with a discussion of the implications of the model on the study and its potential contributions.

In Chapter 4, the methodological choices are discussed, starting with the philosophical foundation of the study and its justification for the designated research strategy. Subsequently, the empirical research design and analytical strategies are presented in detail. The chapter ends by presenting the criteria for the trustworthiness of the methodology.

Chapter 5 presents the findings of the study. The analysis was structured using the sub-questions of the research due to the generic and explorative nature of the leading research question. All the findings were consequential to the rich empirical material. The in-depth qualitative inquiry into sense-making and learning from shared leadership practices in SMPTs focuses on acquiring KSAs. The time series analysis indicates the developments in the collective ability to engage in shared leadership. A comparison of all the results across different data sources, methods, times, and cohorts indicates the process's bottlenecks. It also provides answers to the overall main question.

Chapter 6, as the concluding chapter, concludes with the research findings and associates them with the existing literature. The chapter also suggests contributions to knowledge and practice. A number of propositions are suggested to advance the research and knowledge on collective leadership development. The limitations are discussed accompanied by suggestions for future research. The chapter ends with concluding thoughts and reflections.

2   LITERATURE REVIEW AND THE THEORETICAL FRAMEWORK

This chapter presents the review of the relevant literature on leadership development by focusing on the development of collective leadership capacity. The chapter is organised to review the models and theories offer insight into collective leadership development and locate shared leadership within leadership development concept. Thus, the chapter illuminates the shift from individual approaches to more collective approaches in leadership development, identifies the potential methodological and design choices, and leads to the framework presented in Chapter 3.

This chapter is divided into five sections. The first two sections (2.1 and 2.2) aim to help the reader understand the collective as the focus of leadership development in the current study and the experience of collective leadership as its source. Therefore, the chapter starts with an introduction to individualised and collective views of leadership development (2.1). Section 2.2 provides a review of the existing knowledge on experience-based leadership development literature and points out the research gap that is relevant to the current study. Although experience-based leadership development is predominantly individualised, reviewing the existing literature in this stream is relevant for two reasons: (a) collective-level development incorporates individuals in the collective, and (b) drawing information from both individual and collective leadership literature is recommended for the theorisation of collective leadership development (Yammarino et al., 2012; Eva et al., 2019).

Section 2.3 introduces a wide range of theoretical perspectives that inform collective leadership development as the current leadership development literature does not provide an adequate comparative framework. Section 2.4 elaborates on the impact of shared leadership on two dimensions of the leadership capacity: (a) the acquisition of knowledge, skills, and

attitudes (in other words, learning) and (b) the ability to engage in leadership. The chapter concludes with a summary and conclusion (2.5).

2.1 Individualistic and Collective Views of Leadership Development

This section presents the individualistic and collective views of leadership development. It provides an overview of both perspectives. This section also attempts to provide an appropriate definition of collective leadership development.

Leadership capacity in organisations is recognised as an important competitive advantage, and many organisations invest in developing this advantage (Day, 2000, 2011b; McCall, 2010). As an organisational concept, leadership capacity is broad-based, skilful participation in the work of leadership that leads to development (Lambert, 2011, p 34). Day et al. (Day et al., 2004) defined it as the ability to engage in leadership, and this ability consists of knowledge, skills, and attitudes or dispositions.

Leader and leadership development are not the same; they are two different constructs that apply to two different levels. The Centre for Creative Leadership (CCL) defines leader development as an expansion of a capacity of an individual to be effective in leadership roles and processes. Day (2000) was one of the first scholars to distinguish between leader and leadership development. In predominant individual leader development, this process is related to capacity building, and the emphasis is placed on the KSAs of individuals that are often associated with formal leadership roles and positions. Day (2000) referred to these as intrapersonal competencies that form organisational human capital. Some examples of these competencies are self-awareness, self-regulation, self-motivation, and identity formation. The development of these competencies is expected to result in more effective leadership (DeRue and Myers, 2014).

Leadership development as a collective construct, however, refers to the development process of multiple individuals, teams, groups, or entire organisations. This construct builds on the new conceptualisation of leadership as beliefs and practices that are produced by a collective or organisation. In this sense, leadership development can be seen as human cultural or social capital that is developed as an outcome of shared work and interactions (Lambert, 2011; DeRue and Myers, 2014; Day and Liu, 2018). Leadership development involves building the capacity of members, which involves helping them acquiring knowledge and skills that can enhance leadership practices (Day, 2000; Zaccaro et al., 2018). Fullan (2010) also pointed out the focus on the collective and suggested that leadership development as capacity building concerns people's knowledge, skills, and dispositions collectively. However, the focus on collective capacity shifts from intra-personal capabilities to inter-personal capabilities (Day, 2011; Day et al., 2014; Raelin, 2018a). Furthermore, this capacity is also considered to be similar to the notion of cognitive and behavioural complexity because an extension in one's capacity facilitates better individual and collective adaptability across unpredictable situations (Hooijberg, Bullis and Hunt, 1999, in Day, 2000).

The classical definitions of leadership development and collective leadership development are somewhat limited because they distinguish the differences between individual and collective levels in isolation from contexts such as teams, tasks, peers, organisations, and cultures (Liu et al., 2020a). As people learn different things from different contexts, it is important to define leadership development to incorporate multiple and distinct contextual factors. Therefore, the current study adopts a broader definition of leadership development: it is a constructive learning process in which individuals and collectives acquire KSAs and learn to engage effectively and adaptively in leading-following interactions across multiple task and team contexts (DeRue and Myers, 2014; Liu et al., 2020a).

This definition includes both individual and collective level developments and embeds several assumptions. First, individuals need leadership KSAs to effectively engage in leading-following interactions, but these interactions need collective leadership structures and experiences from multiple contexts (Day, David V. et al., 2004). Second, leader and leadership development are interdependent. Developmental experiences and interventions within these experiences at the collective level affect individual competencies and, therefore, individuals' engagement in leading-following interactions. Similarly, actions that are taken to develop individuals will affect the leadership landscape within an organisation (DeRue and Myers, 2014). Therefore, adaptability becomes essential in complex and collaborative environments (Lichtenstein et al., 2006), such as the environments of self-managed project teams.

Within this view, it is crucial to analyse these types of development at multiple levels because collectives do not engage in leadership and learn from it – individuals do (Liu et al., 2014). However, learning takes place in a collective and is affected by multiple factors such as the behaviours of others, contextual environments, member satisfaction, and attitudes (Raelin, 2006, 2016b, 2018a; Liu et al., 2014). Indeed, development is a complex multi-level system that results from complex and dynamic experiences and requires multiple theoretical approaches and methods to provide a proper understanding of the development process and its outcomes (Day, 2011a; Day et al., 2014; Raelin, 2016b, 2018; Liu et al., 2020).

It is important to note that the current study uses the concept of collective leadership interchangeably with shared leadership and uses collective leadership capacity interchangeably with shared leadership capacity. The use of "shared" rather than "collective" intensifies after introducing the shared leadership approach in Section 2.4 to contribute to creating common language and terminology. Because the current study explores collective

leadership development that occurs through experiences in self-managed teams, it is imperative to review the literature on how experience affects leadership development and how previous researchers have approached their studies.

2.2 Experience-driven Leadership Development

This section focuses on experience as the primary source of leadership development. It also provides an overview of the findings of the current empirical research and approaches to them (2.2.1) within experience-based leadership development. The current research positions itself on experience-based approaches because it focuses on self-managed project team experience for developing collective leadership capacities.

Despite their individualised focus, some of these studies have relevance to the current study for two primary reasons. The first reason concerns the integrative approach suggested for collective leadership studies because there is a dynamic relationship between the two levels of development, as previously argued. Collectives are made of individuals. Learning and development take place through individuals but are affected by the social environment (Raelin, 2006, 2016b, 2018a; Liu et al., 2014). The second reason is related to the current investigation's strategy and design concerns and the study's multi-perspective nature (Day, 2011; Day eta al., 2014). Therefore, this section includes a closer review of the most relevant studies despite their individualistic approach and the focus on formal experiences.

Some of the most commonly used tools for leader and leadership development are classroom-type training, case studies, mentoring and coaching, computer simulations, specific job assignments, action learning, experiential learning, and 360-degree feedback (Day, David V., 2000, Dalakoura, 2010). Despite the multiple alternatives and investments in training, there is growing recognition that a substantial part of leadership development (LD) occurs outside of classrooms and formal training (McCall Jr, 2004; McCauley et al., 2013). However, most

current researchers seem to focus on the formal experiences that take place within an interventionist approach. Many scholars have urged other professionals to take leadership development to the original environment where leadership actually takes place and where participants try to solve their problems collectively in their unique settings (Raelin, 2006, 2016d, 2018a; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018). In fact, this study focuses on the complex and complementary experiences in SMPTs as the source of collective leadership development.

The experience-based approach, which is also referred to as the practice-based approach (Raelin, 2016a, 2016d, 2016b, 2018a, 2019), to leadership development assumes that experience is the primary source of development (McCall Jr, 2004; Raelin, 2006, 2016b, 2018a; DeRue and Wellman, 2009; McCall, 2010; van Velsor, McCauley and Ruderman, 2010; McCauley et al., 2013). According to Andresen, Boud, and Cohen (2000), this approach is more participative and learner-centred and emphasises the construction of meaning through the participants' direct engagement. This kind of learning integrates life experience, work experience, reflection, and continuous learning for leadership development(McCall, 2010).

Since the early research was completed by the scholars at the Centre for Creative Leadership (CCL), many scholars have explored a range of leadership development experiences. This exploration has led to a considerable consensus in the existing literature on the notion that the primary source of leadership development is experience (McCall Jr, 2004; Ohlott, 2004; McCall, 2010; van Velsor, McCauley and Ruderman, 2010; McCauley et al., 2013; Frawley, Favaloro and Schulenkorf, 2018). For example, McCall (2004, p 127) argued, "The primary source of learning to lead, to the extent that leadership can be learned, is experience". Allio (2005), on the other hand, argued that leadership cannot be taught but can be learned by

performing deliberate acts of leadership. Day et al. (Day et al., 2014, p80) similarly argued that "…it is highly unlikely that anyone would be able to develop fully as a leader merely through participation in a series of programs, workshops, or seminars…". Therefore, experiences that are gained in self-managed project teams provide valuable bases for leadership development for inter- and intra-personal skills and capacities and are worth studying.

2.2.1 *Outcomes of Experience-driven Leadership Development*

The ground-breaking, interview-based studies that were conducted by the researchers at CCL identify 33 key learning outcomes from various executives' experiences (Hezlett, 2016). The author reported that subsequent studies that involved more diverse groups have identified some additional lessons alongside many similar ones. Hezlett (2016) summarised these learning outcomes as "complex skills, including interpersonal, strategic, and leading work competencies, along with outcomes related to personal awareness, perspective taking, motivation, and self-regulation" (p72).

This study reviews a few more recent qualitative studies that confirm earlier results and underline the critical role of contextual factors (Hall, Scott and Borsz, 2008; Galli and Müller-Stewens, 2012; James and Figaro-Henry, 2017). The findings of these rare studies demonstrate that people learn different things and acquire a variety of skills from their experiences depending on the context and environment. For example, Hall et al. (2008) investigated the leadership development of undergraduate students who were engaged in various activities at the recreational sports department of a university for their constructive case study. They conducted a thematic analysis of the data, which was collected through semi-structured interviews, and identified seven significant themes. The participants developed such skills as the following: organising, planning, and delegating; balancing

academic, personal, and professional roles; acting as mentors or role models and motivating others; engaging in problem-solving and decision-making; exercising communication skills; working with others and appreciating diversity; and giving and receiving feedback that had resulted from their experiences throughout the activities. Despite its individualised focus, the study that was conducted by Hall et al. (2008) was found to be one of the most relevant and influential studies for the current study due to the researchers' constructivist approach within the relativist and interpretive epistemology. The utilisation of the thematic analysis was also of high relevance.

Despite the impact of contextual factors on learning and the acquisition of skills, there appears to be one common characteristic that the findings of these studies share: social capacity or interpersonal skills and awareness as outcomes. For example, multi-directionality, communication skills, listening skills, and openness to diversity were also highlighted in the study that was conducted by James and Figaro-Henry (2017). Like Hall et al. (2008), James and Figaro-Henry (2017) also utilised the case study methodology to investigate collective leadership capacity development in a school setting. The authors approached their case study with a qualitative and interpretive approach to study the complex social and personal interactions and explore what the participants had learned from using collaborative digital tools in an educational leadership course.

The authors collected data from 30 participants who represented multiple nationalities and cultures through an open-ended online survey, observation, and videos. James and Figaro-Henry (2017) used a content analysis to determine the word frequencies and thematic analysis of the themes and overarching categories. Their findings demonstrate that using modern digital tools fostered collaboration and built collective leadership capacities among the participants and within their communities by creating professional learning communities. The

participants learned to use new digital tools and acquired such skills as collaboration, multi-directionality, communication, listening, and openness to diversity. However, accepting diversity, alongside using new tools and technology, was also a challenge.

Although James and Figaro-Henry (2017) were not focusing on collective capacity development that results from shared leadership practices in self-managed project teams, their study is relevant to the current study for multiple reasons. First, the study focuses on collective leadership capacity, contrary to the dominant individualistic focus within the leadership development literature. Second, the authors were concerned about learning and its challenges, so they approached their case study with a qualitative and interpretive approach to draw meaning from their participants' complex social and personal interactions and explore what the participants had learned. The researchers also paid attention to challenges to learning in their study. However, the study is not longitudinal and does not combine peer-rated leadership performances with qualitative learning data. This approach is limited in its ability to inform the reader that learning is internalised and transferable to different contexts as behaviours. In short, studies that focus on the construction of meaning and learning from experience are rare. A common characteristic of these studies is the development of interpersonal skills and awareness as outcomes. Additionally, these studies do not focus on the impact of learning on behaviours or leadership performance due to their poor qualitative design.

Other researchers who have conducted quantitative studies have attempted to extend the themes from their qualitative studies to the supervisor ratings of leadership skills (DeRue and Wellman, 2009), the team advisor ratings of leadership effectiveness and self-rated leadership identity (Day and Sin. 2011), and the self-rated values of mindfulness and authentic leadership (Baron, 2006). However, except for rare studies that focus on learning from

informal and on-the-job experiences (DeRue and Wellman, 2009), an extensive number of the existing studies within the relevant literature focus on individual leader development that results from formal experiences that are part of leadership development programmes and action learning (Posner, 2009; Day and Sin, 2011; Rosch, 2015; Baron, 2016; Miscenko, Guenter and Day, 2017).

These investigations assess leadership development as a change in specific behaviours with a positivist perspective over time. They also examine a range of outcomes such as leadership skills (DeRue and Wellman, 2009), forms of cognition such as leadership identities and goal orientation (Day and Harrison, 2007; Day and Sin, 2011; Miscenko et al., 2018), and the motivation to fill leadership roles (Oh, 2012; Waldman, Galvin and Walumbwa, 2013). Emotional awareness and intelligence (Shefy and Sadler-Smith, 2006) and mindfulness (Baron, 2016) have also been assessed as leadership development outcomes. Several scholars have also looked beyond individual attributes and competencies to examine changes in leader-follower relationships (DeRue and Ashford, 2010).

The results of such qualitative and quantitative studies highlight the fact that formal and informal experiences may lead to both proximal outcomes (acquiring KSAs) and distal outcomes (improved leadership performance). However, challenges are also associated with experience-based learning and development.

2.2.2   Challenges for Learning and Development from Experience

Broadly speaking, one challenge is ensuring that experiences are developmental (Mccall, 2010). Empirical evidence demonstrates that sources of developmental experiences are numerous and diverse. Most developmental experiences involve encountering the unpredictable, facing hardship in new or unknown territories, and struggling with the unfamiliar (McCall Jr, 2004). McCall also argued that these encounters are often provided by

challenging assignments or projects that involve a substantial scale of responsibility, exposure to difficult people and hardships, and mistakes. McCall (2010) classified the five main sources of experience-based leadership development: (1) *challenging assignments* that are new, complex, or demanding that require stretching capabilities; (2) *other people* such as bosses and colleagues who act as positive or negative role models; (3) *hardships* that come in the forms of setbacks and failures; (4) *coursework* in training and academic programs; and (5) *personal life experiences* that occur in one's family, school, or community.

McCall's (2010) classification indicates that developmental experiences can be classified as formal and informal and that learning from these experiences can be classified as direct or indirect (DeRue and Myers, 2014). Formal experiences are interventionist activities that are designed for leadership development, such as leadership training programs. Informal experiences, on the other hand, occur within the regular workday or context of everyday life and are often not explicitly designed for leadership development (DeRue and Myers, 2014). Learning from all types of experiences that lead to development can be direct or indirect. Direct and indirect learning are used to define whether people learn directly from challenging assignments and tasks or from others. DeRue and Myers (2014) highlighted the importance of combining all kinds of learning for development.

McCall (2010) also pointed out that informally learning from task experiences, learning from other people, and learning from formal programs are not independent and isolated. They may co-occur, complement, and support each other (DeRue and Myers, 2014). The context of the current study is an excellent example of this complex but supportive eco-system in which formal and informal learning and direct and indirect learning are all intertwined and support each other. While team project tasks provide direct learning opportunities for a team to

formally learn, such activities as observations, interactions, and negotiations, provide opportunities for indirect and informal learning.

Some scholars have also highlighted the value of having authentic experiences in authentic environments rather than formal training environments for more effective leadership development at multiple levels (Day, Gronn and Salas, 2004, 2006; Raelin, 2016b, 2018a). Raelin (2016b, p21–22), for example, argued that leadership development requires engagement in leadership practices in a group that is working on tasks. According to this author (Raelin, 2016b, p21),

> … leadership development will need to return to the very setting where the practices are going on. So, rather than learn best practices, skills, or competencies using case examples other than their own "case", participants would need to learn how to address and solve their own problems in their own settings. [Furthermore], they need to confront these problems with those who are directly and mutually engaged.

This statement implies that organisations need to develop leadership development strategies and make them part of their daily operations in the long term rather than invest in individuals with a short-term interventionist approach (DeRue and Myers, 2014). Thus, organisations can engage in the self-feeding practice (Friedrich et al., 2009), enhance operational effectiveness through shared leadership in SMPTs, and further develop collective leadership capacities through these practices.

Additionally, the behavioural outcomes that result from these formal experiences are conflicting. While some researchers have found that these experiences positively affect leadership behaviours (e.g., Mason, Griffin and Parker, 2014; Baron, 2016), others have found negative results (e.g., DeRue and Wellman, 2009; Day and Sin, 2011; Rosch, 2015). A critical insight from these empirical studies is that developing through experience is not linear

and that development can become negative at some point (DeRue and Wellman, 2009; Day and Sin, 2011; Rosch, 2015; Miscenko, Guenter and Day, 2017). There are multiple explanations for why these researchers' results are conflicting and why experience may adversely affect development (especially on behaviours). One explanation is related to the task challenge.

Some researchers have found that increased challenge levels in tasks may yield adverse developments. Day and Sin's study (2011) is an excellent example of this category. Day and Sin (2011) investigated the impacts of formal experiences that took place during an action learning intervention on leadership identity development relative to self-regulation, goal orientation, and leadership effectiveness. Day and Sin (2011) used the development trajectories model for analysis within the adult development model in their quantitative study. Their findings reveal that only a smaller portion (about 10%) of the participants demonstrated a positive linear developmental trajectory; most of the participants demonstrated an overall negative development trajectory.

Their interpretation of the longitudinal data that were collected from 1,315 student participants was described in the following way: "whereas the majority of the participants appeared to struggle with being an effective leader over time, a second, smaller group appeared to have a very different developmental experience" (Day and Sin, 2011, p 556). According to the authors, these data provide additional empirical evidence that individuals do not benefit from leader development initiatives in identical ways. Day and Sin stated that the negative results might be explained by the significant challenges that are involved in action learning team projects that are designed to enhance the leadership capacities of young adults.

Despite its significant contributions, the study has some limitations regarding the current study. In addition to the purely quantitative design, another limitation of the study for the

current investigation was that the researchers investigated leadership development as a result of a single project. The authors saw examining the results throughout a single project as a limitation. They suggested that future researchers should include multiple projects to capture a more extended period and multiple contexts. They also suggested that future researchers should conceptualise development as a web that consists of strands rather than linear trajectories (Day, David V. and Sin, 2011, pp 557-558).

Another critical insight that was gained from the existing studies concerns the importance of learning orientation, feedback availability (DeRue and Wellman, 2009), and reflections (DeRue et al., 2012) for effective leadership development. For example, DeRue and Wellman (2009) investigated the impact of learning orientation, feedback availability, and developmental challenges on the leadership skills of 60 middle- and senior-level managers in an MBA program. They found that the relationship between developmental challenges and leadership skill development displays a pattern of diminishing returns. However, access to feedback had balanced the diminishing returns that were associated with high developmental challenge levels.

DeRue and Wellman (2009) combined qualitative and quantitative data in their study, and the complementary approach of the authors in combining the survey data with the interview data is of relevance to the present study. The current study is similarly concerned with how collective leadership capacity develops via the experiences of self-managed project teams and takes a similar complementary approach to mixing two data collection methods. In addition to using survey data to capture self- and peer-rated values for research variables, the "rich descriptions" of actual experiences and learning and "critical incidents" that affect performances in different leadership functions may be essential to capturing the true nature of development. These descriptions may help predict the future intentions and opportunities for

the further development of leadership capacity (Bergman et al., 2012). One limitation of the study is that the authors relied on retrospective memory rather than real-time longitudinal data. They did not consider the changes in contextual factors such as leadership style or the role of others either.

Reflections were also found to affect leadership development positively. DeRue et al. (2012) found that reflections in After Event Reviews (AERs) positively impacted leadership development. They tested their hypotheses in a longitudinal, quasi-experimental study that followed 173 MBA students across four distinct developmental experiences for 9 months. The design of the study and methodology are relevant to the current study. The authors combined the qualitative data from AER sessions and survey data to assess developments. They collected two rounds of survey data right after two AER sessions.

The researchers used the data from the first round a baseline to assess the leadership behaviours of the participants. In addition to being individually oriented, other limitations affected the study: a) the tasks were team building activity, teamwork simulation, internship searches, and case study competition, which are different in comparison to the authentic projects that form the context of the current study; b) the duration of the data collection was 9 months, and two rounds of data collection are inadequate for demonstrating the non-linear nature of developments. Regardless of their design, the results of various studies demonstrate that the relationship between a task challenge and development is not linear. The authors suggested that future researchers should focus on group-level leadership development.

2.2.3   *Methodological and Design Choices*

Most of the studies that were reviewed for this project were quantitatively or quantitatively driven mixed-methods studies. Regarding the studies' design choices, the studies primarily depend on self-declared data to investigate the impacts of leadership development

intervention on leadership behaviours in multi-cohort designs (e.g., Baron, 2016, Rosch, 2015, Posner, 2009). Additionally, many of these studies feature a cross-sectional design (e.g., Posner, 2009; Rosch, 2015). The study by Baron (2016) was the most relevant among those due to its prospective multi-cohort design. The relevance of prospective multi-cohort studies to the current study relates to real-time data collection and the intra-cohort analyses that they utilise, contrary to the inter-cohort approach in cross-sectional designs. As a multi-level study, the current study needs to incorporate intra- and inter-cohort analyses of changes in leadership values (Day, David V., 2011b, Day, David V. et al., 2014).

Baron (2016) evaluated the effectiveness of a 3-year training program that was based on action learning principles for fostering authentic leadership (AL) and mindfulness on a sample of 143 middle managers who were divided into multiple cohorts. The study reveals that the development programme increased the participants' self-ratings on four out of five authentic leadership behaviour and mindfulness values. The results also indicate that mindfulness was positively associated with AL. Although the study has a different theoretical approach and methodology (quasi-experiment) in a different context in comparison to the current study, its prospective multi-cohort design is highly relevant to the current study. Baron compared the results of the experiment group to that of the control group and identified relevant AL skills through semi-structured interviews that were conducted with 24 managers. Six rounds of quantitative data were collected to obtain self-rated values for AL and mindfulness across 3 years. Like Rosch (2015), Baron (2016) applied a cross-cohort comparison of the variables to determine whether participation in the training program was associated with increased AL.

Despite their methodological choices and the individualised focus, the existing studies on experience-based leadership development significantly contribute to current knowledge about

the role of experience in learning and development. Thus, these studies have implications for the current study. One implication concerns the critical role of authentic experiences in relation to combining formal and informal experiences for direct and indirect learning to achieve effective development (McCall, 2010; DeRue and Myers, 2014; Raelin, 2018a).

A significant finding of the experience-based LD studies involves the adverse effect of experience on behavioural outcomes (DeRue and Wellman, 2009; Day and Sin, 2011). Some researchers have found a positive link between experience and leadership development, while others have found a declining or negative impact. Furthermore, several researchers have demonstrated that social capacities and interpersonal skills are more flexible and prone to change (Collins and Holton III, 2004; DeRue and Wellman, 2009). Despite their efforts and significant contributions to the literature, the existing studies that investigate the impact of experience on leadership outcomes have been criticised in multiple ways. First, most of these studies incorporate an interventionist approach that focuses on formal experiences that take place over a relatively short period. Although formal leadership development programs with AL principles positively relate to leadership development, especially in the acquisition of new knowledge, some researchers are concerned about participants' abilities to transfer what they learn into behaviours and performances in real work contexts (DeRue and Myers, 2014)). The current study can contribute to the relevant literature by verifying whether members of self-managed project teams face similar challenges.

For example, based on their meta-study, Collins and Holton (2004) suggested that formal leadership development programs positively impact knowledge acquisition, behavioural change, and performance. However, the authors also noted that this impact is more substantial on knowledge acquisition than behavioural and performance outcomes. One possible explanation for the difference could be the difficulties and barriers that are inherent in

transferring that knowledge to an actual job (DeRue and Myers, 2014). The current study

could verify these outcomes in the context of self-managed project teams at the collective

level and contribute to the existing knowledge, which is limited to task challenges and

individual traits.

A third implication of the reviewed studies regarding the current study concerns the

methodological and design choices that are available for the current study. Day and Liu

(2018) argued that current leadership development practices are driven mainly by event-based

and episodic interventions and hardly recognise development's continuous and ongoing

nature and contextual factors. These authors have criticised current leadership developmental

initiatives for targeting individuals to develop individual leadership attributes and change

their behaviours to fit them to a predefined competence model. According to Day and Liu

(2011), leadership is integrated across multiple levels, and development should not be

considered a process in which individuals are isolated and behaviours are stable. The authors

argued that most developmental initiatives fail to succeed because they do not consider the

dynamic leading-following interactions in collective leadership and the broader context in

which leadership occurs. These arguments conclude that poor behavioural approaches and the

isolation of behaviours from contextual factors are inappropriate, which implies that the

current study should adopt an integrated approach.

The criticism of the methodological and design choices of the current studies highlights the

importance of investigating LD in its natural setting and thus promotes case studies.

According to various scholars, leadership development activities need to be moved to its

natural environment where leadership is practised (Klein and Ziegert, 2004; Day, 2011b; Day

et al., 2014; Day and Liu, 2018; Raelin, 2018a). Raelin (2016b), for example, argued that

leadership development requires "acute immersion" in the participants' practices and experiences.

These observations and arguments point to experiences that occur in self-managed project teams (SMPTs) as appropriate for leader and leadership (collective) development. Investigating LD in SMPTs may also provide access to naturally occurring data even though learning and development largely take place outside classrooms beyond the researcher's or instructor's control (McCall Jr, 2004; McCall, 2010; Raelin, 2016b, 2018a). The current study could approach this investigation with a prospective cohort design due to the researcher's access to naturally occurring data for an extensive period (Baron, 2016). It could also utilise peer ratings of behaviours rather than self-ratings or supervisor ratings alongside the rich qualitative data.

Furthermore, the contextuality of learning and development from experience has been ignored to a large extent. The variety of results showcases the contextuality of leadership learning and development. A case study that was conducted by Galli and Muller-Stewens (2012) also supports the relationship between context and leadership. These researchers found that different tasks require different levels of social capital and thus contribute to social capital at different levels. The methodological approach in empirical research where variables are isolated from their contextual factors, experiences, and worldviews has also been criticised (Day et al., 2014; Raelin, 2016d, 2018a, 2019; Day and Liu, 2018). Despite its importance and high value, experience-based leadership development is complex, contextual, hard to distinguish, less visible, and less quantifiable (McCauley et al., 2013). As McCall (2010, p3) argued, the only "sure bets" in experience-based leadership development are the following:

- Learning takes place over time and is dynamic.

- Different types of experiences teach different lessons to different people.

- Tasks and assignments can be made more developmental by incorporating direct and indirect learning and formal and informal learning into workplace eco-systems.

This current study can verify these "sure bets" regarding self-managed teams and explore what learning takes place as a result of multiple experiences that occur in multiple contexts and how shared leadership behaviours emerge and develop across these experiences.

However, no theoretical framework is available to investigate the complex phenomenon of collective leadership development in the self-managed project team context. A broader theorisation of leadership that draws on multiple perspectives is needed. Whatever work has been done has either reproduced or extended the individual-based concepts of developing or coaching for (inter-) personal competencies or individual identity development (e.g., Day and Harrison, 2007; Day and Sin, 2011; Miscenko, Guenter and Day, 2017). The work by Day, Gronn, and Salas (2004) on leadership development in teams is considered to be an exception to this criticism.

The few existing forms of collective (shared) leadership development studies, although fragmented in terms of their basic assumptions, have mainly focused on network analyses and teams as the level of conceptualisation and unit of analysis (e.g., Small and Rentsch, 2011; Wu and Cormican, 2016; Lorinkova and Bartol, 2020). It is time to gather, compare, analyse, and integrate the multiple collective perspectives on leadership for a more extensive understanding of how the collective leadership capacity of organisations is developed. The following section introduces a few perspectives and models that have the potential to inform collective leadership development through self-managed project team experiences.

2.3   Introduction to Key Theoretical Perspectives to Study Experience-based Leadership Development at the Collective Level

This section presents the multiple perspectives that have the potential to inform collective leadership development as there is no existing appropriate theoretical framework for doing so (Yammarino et al., 2012; Eva et al., 2019). Although the pleas for theorising leadership development with multiple perspectives, such as shared leadership and complexity leadership, is nothing new (Klein and Ziegert, 2004; Friedrich et al., 2009; Yammarino et al., 2012; Clark, 2013; Eva et al., 2019), it has not been thoroughly realised yet.

This study aims to explore collective leadership development in an organisational unit. The conceptualisation of leadership as a complex and shared property of a collective, including interactions and interdependencies among individuals, implies a different way of working with leadership development (Day and Harrison, 2007; Uhl-Bien, Marion and McKelvey, 2007; Clarke, 2013; Eva et al., 2019). Therefore, it is imperative to review different theoretical models that are used in leadership development literature to select the most appropriate models for this study. Much of the current research points to leadership in teams as a collaborative learning process that leads to change in behaviours, performance, or network structures (DeRue and Wellman, 2009; Day and Sin, 2011; Small and Rentsch, 2011; Lorinkova and Bartol, 2020). However, existing research has been criticised for focusing predominantly on quantified behaviours in episodic approaches (Raelin, 2006, 2016b, 2016d, 2018a; Day, 2011b; Day et al., 2014; DeRue and Myers, 2014). Many scholars have pled for more informative and multi-perspective approaches to studying collective leadership development (Yammarino et al., 2012; Eva et al., 2019; Raelin 2016d, 2018a). The most recognised approaches and theoretical models that have the potential to inform collective leadership development are the following:

1. The Input-Mediator-Output-Input (IMOI) Model (Day, Gronn and Salas, 2004;
   Ilgen et al., 2005).

2. The social network approach (SNA).

3. Complexity leadership (Lichtenstein et al., 2006; Uhl-Bien, Marion and
   McKelvey, 2007; Clarke, 2013).

4. Learning through interaction and constructivist approaches (Bandura and Walters,
   1977; Hall, Scott and Borsz, 2008; Kolb and Kolb, 2009).

5. The shared leadership approach (Day, Gronn and Salas, 2004, 2006; Raelin, 2006,
   2018a; Day and Liu, 2018).

The section starts with the predominantly used IMOI model of behavioural change; although

it is not a theoretical model itself, it represents the predominant quantitative approaches to

leadership in general and collective leadership (2.3.1). Section 2.3.2 focuses on the dominant

social network approach within the collective, specifically in shared leadership literature. The

next sections move on to more qualitative and complex theoretical models such as complexity

leadership (2.3.3) constructivist approaches (2.3.4). Sub-section 2.3.5 focuses on the shared

leadership as the leadership style of self-managed teams and the lens for the collective

leadership development.

2.3.1   The Input-Mediator-Output-Input Model

This section first presents the IMOI model, which was developed by Day et al., (2004) to

inform how leadership develops at multiple levels through team experience. The model is of

relevance to the current study due to the temporal nature of collective leadership (Day, 2000,

2011a; Contractor et al., 2012). Accordingly, the current study investigates collective

leadership development across multiple projects within an extended time frame. This sub-section introduces the model and its unique advantages and then moves into its use in the existing empirical studies on experience-based leadership development.

Leadership results from dynamic and complex interactions and involves complex behaviours. Additionally, scholars (e.g., Day et al., 2004; Riggio and Mumford, 2011) have argued that leadership development is, by nature, longitudinal and that longitudinal research is vital to understanding complex behavioural processes and interconnected human relationships within leadership (Riggio and Mumford, 2011). The well-known and long-served input-process-output (I-P-O) framework for team processes is considered to have limitations for studying the complex, cyclic, and longitudinal nature of leadership because the notion of output implies an end to the process (Day et al., 2014). According to the I-P-O model, inputs at the individual level take various forms of human capital, such as individual knowledge, skills, and abilities. Leaders bring specific leadership skills and competencies (leadership capacity) to their teams in a team leadership context. These skills and competencies are used to influence different phases of team processes, such as transition (e.g., strategy formulation and planning), action (e.g., coordination and monitoring), and interpersonal processes (e.g., conflict management and social support) (Marks et al., 2001). Improved team processes are associated with outcomes such as team performance (Day, David V. et al., 2004, Carson et al., 2007).

Ilgen, Hollenbeck, Johnson, and Jundt (2005) pointed out that output that occurs during one period becomes input for the following process during a subsequent period. However, the single-cycle and linear form of the IPO model does not address the dynamic nature of teamwork and the critical role of feedback loops on team processes. The authors suggested an alternative IMOI model to replace the single-cycle I-P-O model (Ilgen et al., 2005). In this

model, "I" still refers to "inputs", just as in the I-P-O model. However, mediational influences ("M") replace processes ("P") because mediators are thought to have greater explanatory power regarding outcomes ("O"). Additional input ("I") at the end refers to the vital concept of feedback loops and the cyclical nature of the processes that are critical for understanding how teams function and perform over time (Mathieu, John et al., 2008). The dashes between letters are omitted to indicate the non-linear and conditional nature of relations and links.

Although more complicated than the simplistic and linear I-P-O model, the IMOI model provides a more realistic and holistic conceptualisation of how leadership develops over time through feedback from interactions, adaptive behaviours, and confidence-building (Day and Harrison, 2007; Day, 2011b, 2011a; DeRue, 2011; DeRue et al., 2012). Tasa, Taggar, and Seijts (2007) and DeRue et al. (2012), for example, found that previous stage performance is also input for subsequent team processes (Tasa, Taggar and Seijts, 2007; DeRue et al., 2012). To explain this complex system, Day, Grönn, and Salas (2004) proposed the cyclical Input/Mediator/Output/Input (IMOI) model to explain how human capital (individual capacities) affect social capital (collective leadership capacities) in teamwork.

The team leadership cycle model depicts a cyclical process in which team leadership capacity is both an input and an output. The primary input to the cycle is member resources, consisting of individual human capital, social capital, and existing team leadership capacity. The key output from this cycle is the enhanced team leadership capacity, which becomes an input for the following process. Team leadership capacity in this model consists of social capital that is defined as cognitive and motivational and affective states of sharedness, distributedness in the teams, and the connectivity of team members.

Figure 1

Team Leadership Cycle (Day et al., 2004, p 862)
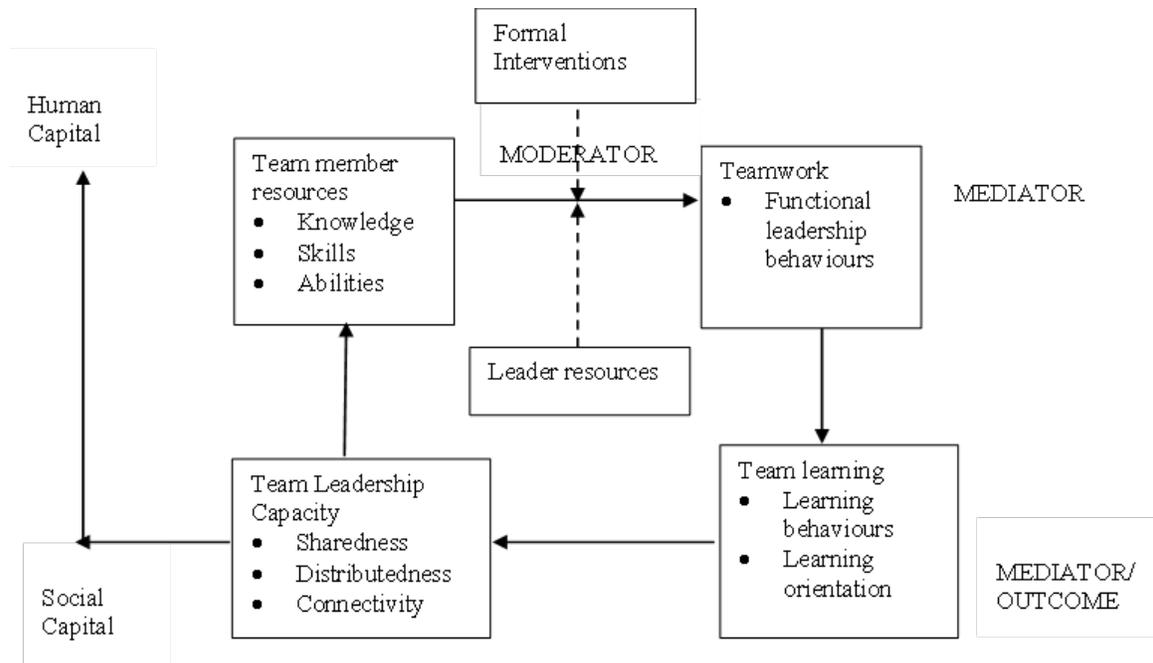
To summarise, this model highlights the role of team-based experiences in leadership development on multiple levels. It provides a basis for the relationship between learning and shared leadership behaviours in self-managed project teams with a long-term perspective. It has also been used as a basis for most leadership development studies that model change (e.g., DeRue and Wellman, 2009; Day and Sin, 2011; DeRue et al., 2012; Lorinkova and Bartol, 2020) at various levels of analysis. Like individual leadership capacity, collective leadership capacity is developed by addressing complex and adaptive challenges that affect team leadership. Therefore, the IMOI model is also relevant to the current study for examining shared leadership development across multiple and distinct tasks over time.

The current study aims to examine and control the emergence of shared leadership after the first project at Time 1 and compare them to the results of the upcoming two projects at Time 2

and 3 in 18 months. Additionally, given that the current study focuses on how leadership capacity is developed rather than how team performances are developed, team performances have not been incorporated into the investigation. However, the behavioural approach that is part of the intra-personal approach is not adequate for understanding how collective leadership is developed. Behaviours are isolated neither from the participants' complex environments nor the networks in which socially constructed learning occurs. Moreover, "sharedness" in the model requires identifying the number of individuals who participate in leadership. The social network perspective is introduced in the following section.

2.3.2 Social Network Perspective

This section provides an overview of the social network perspective to examine the "sharedness" of team leadership responsibilities as depicted in the IMOI model (Figure 1), which was developed by Day et al. (2004). One of the key characteristics of collective leadership is that leadership responsibilities are shared or distributed between multiple individuals. This characteristic is even more critical for the success of self-managed teams and self-managed project teams due to their autonomous nature and reliance on the leadership of team members. Therefore, identifying the number of individuals who participate in the leadership of any collective is imperative.

The recognition of the interpersonal nature of leadership, such as in the definition of leadership as a "dyadic, shared, relational, strategic, global, and a complex social dynamic" (Avolio, Walumbwa and Weber, 2009, p423) resulted in the emergence of the social network perspective. The social network perspective is essential to examining leadership as the interaction between two or more actors in a social context (Contractor et al., 2012; Innocenzo, Mathieu and Kukenberger, 2016). *Social networks* are defined as interpersonal relationship ties (i.e., a friendship, a mentorship, a teacher-student relationship, or a hindrance) among a

set of individuals (i.e., dyads and members of teams or organisations) within a collective. This perspective is used to identify, describe, understand, and explain the ties between actors rather than focus on the attributes of the actors as leaders.

Notably, existing research regarding the social network approach tends to focus on the nature and the extent of the ties between the members of a collective (Eva et al., 2019). After identifying the connected individuals within the collective, this perspective labels the types of ties between the actors to understand the different patterns and the leadership functions and activities that are shared or distributed within the collective and interpret the antecedents and outcomes of these patterns of interpersonal relationships (Contractor et al., 2012; Innocenzo, Mathieu and Kukenberger, 2016). Although relationship patterns are not within the scope of the current study, identifying individuals who have emerged as leaders is a critical concern as an indicator of collective leadership capacity and sharedness of leadership (Day et al., 2004).

Identifying individuals who have emerged as leaders in a collective has been realised with various methods in the relevant literature. One commonly used method and the most simplistic approach is asking team members to rate each other on a five-point (1 ["not at all"] to 5 ["to a very great extent"]) Likert scale with questions such as, "to what degree did your team rely on this person for leadership". This approach is widely used by researchers in the field, especially with the network approach to shared leadership (e.g., Carson, Tesluk and Marrone, 2007; Zhang, Waldman and Wang, 2012; Mitchell and Bommer, 2018; Lorinkova and Bartol, 2020). Carson, Tesluk, and Marrone (2007) used the social network perspective to investigate the number of informal (emergent) leaders who were participating in teams (network density) to determine whether network structures can enhance or constrain teams' effectiveness.

SNA has also been used in combination with leader-member exchange (LMX) (e.g., Graen, Hui and Taylor, 2006; Wang, Jiang, Liu and Ma, 2017). However, this method has been criticised for being subjective and contaminated by rater bias. According to Cook, Zill, and Meyer (2020), rater characteristics (which are ascribed to the social status of the target by the rater), perceived similarity, and liking are among the factors that affect the ratings of an individual's behaviour and contaminate the data. Some scholars have preferred to ask members to nominate one or two members as leaders to identify emergent leaders in a team (Wolff, Pescosolido and Druskat, 2002; Yoo and Alavi, 2004; Mehra et al., 2006; Serban et al., 2015).

A third method that is more relevant to the current study is using individual ratings on multiple leadership behaviours and selecting individuals who have been rated highly on one or more behaviours (e.g., Taggar, Hackew and Saha, 1999; Hiller, Day and Vance, 2006; Bergman et al., 2012). Current researchers consider this third method to be the least easily contaminated, the most bias-free, and, therefore, the most appropriate. Cook et al. (Cook, Zill and Meyer, 2020) argued that applying peer ratings to specific leadership behaviours solves these issues due to rater cognition and information processing differences. Researchers who have combined the functional and network approaches have often utilised this method. For example, Mehra, Smith, Dixon, and Robertson (2006) and Hiller, Day, and Vance (2006) combined the social network approach with the functional or behavioural approach to investigate the types of leadership functions that are suitable to effectiveness.

From this perspective, shared leadership in self-managed project teams encompasses multiple actors who form multiple relationships in a dynamic and reciprocal way (Wang, Waldman and Zhang, 2014; Innocenzo, Mathieu and Kukenberger, 2016; Wu, Cormican and Chen, 2020). Understanding the number of individuals who participate in self-managed team leadership is

critical as this understanding can inform the researcher about the resources at a team's disposal and therefore defines team effectiveness (Carson et al., 2007). Understanding the number of individuals who participate in leadership at the macro-level (i.e., organisational level) is also crucial. It informs researchers about the total number of leadership resources that organisations can potentially utilise to deal with the complexity of the business environment (Lichtenstein et al., 2006; Uhl-Bien, Marion and McKelvey, 2007; Cullen-Lester and Yammarino, 2016). In this sense, SNA that is paired with a developmental perspective has been the predominant approach in shared leadership research. Lorinkova and Bartol (2020), Small and Rentsch (2011), and Wu and Cormican (2016) used this approach to investigate the evolvement process of shared leadership across different project life cycles.

Collective forms of leadership (e.g., shared leadership literature) revolve around the plurality of individuals exercising leadership, which has resulted in empirical studies that focus on the social network approach to assess shared leadership development. However, another view of leadership suggests that leadership is a collective endeavour but is not the sum of individual actions. Instead, it emerges as a dynamic, emergent feature of interactions in complex systems (Lichtenstein et al., 2006; Uhl-Bien, Marion and McKelvey, 2007; Contractor et al., 2012). Carter and DeChurch, for example, argued that the plurality of leaders in networks is not enough to constitute collective leadership. Therefore, despite its wide usage in various collective leadership domains, using SNA alone in the conceptualisation of shared leadership has also been criticised. In other words, this approach or conceptualisation does not consider what these leaders do or why they do it.

Conceptualising SL without SNA is also considered inadequate. Bergman et al. (2012) argued that the number of leadership behaviours in a team is only one aspect of shared leadership; "the very essence of shared leadership is that more than one team member participates in the

team's leadership" (p 26). Bergman et al. (2012) operationalised shared leadership through the number of team members that engaged in positive leadership behaviours and the total amount of leadership behaviours that were displayed. Researchers who are conducting a multilevel study may have to choose a more blended approach (e.g., Mehra et al., 2006; Bergman et al., 2012) to assess shared leadership and its development.

To conclude, the social network perspective on collective leadership development seeks to understand one of the core essences of collective leadership (Eva et al., 2019). Therefore, the implication that the approach has for the current study is that the plurality of leadership sources is a critical component of collective forms of leadership (e.g., shared leadership) and should be incorporated into its conceptualisation (Bergman et al., 2012; Eva et al., 2019). Within the current study context, the SNA can help the researcher understand and explain the ratio of individuals who participated in leadership to the total population.

However, as with all the perspectives, the social network perspective alone is inadequate for explaining how collective leadership is developed because it provides information about network structures and density, not the actions that are taken within these networks. The ever-increasing complexities of the business environment require quality as well as quantity. Quality, in this sense, represents the ability of organisational members to engage in multiple and complex leadership behaviours to respond to the complexities of their environment, as explained in the section on complexity leadership theory (Denison, Hooijberg and Quinn, 1995; Day and Lance, 2004; Lichtenstein et al., 2006; Dooley and Lichtenstein, 2008; Clarke, 2013; Kjellström, Stålne and Törnblom, 2020).

2.3.3   Complexity Leadership Perspective

This section presents the complexity leadership perspective, which explains the complex and dynamic nature of the collective leadership environment and the need for multiple solutions

that collectives can use to solve their complex problems and challenges. Complexity theory explains how complex systems are ordered through uncontrolled interactions among multiple agents (Uhl-Bien et al., 2007). Complexity leadership theory (CLT) expands the complexity theory to leadership studies. It defines leadership as an emergent phenomenon and an outcome of relational interactions between agents (Lichtenstein et al., 2006, Uhl-Bien et al., 2007).

CLT offers a new and more realistic perspective to leadership by shifting the focus from individual leaders to more collective forms of leadership. In this view, leadership is not controlled by "independent variables" (Uhl-Bien et al., 2007) but rather is an outcome of the interactions between agents. Lichtenstein et al. argued that leaders are process enablers rather than direct sources of change (Lichtenstein et al., 2006, p 3). This statement is even more relevant to self-managed teams because all members have equal status and none can influence team decisions alone (Druskat and Wheeler, 2004; Solansky, 2008; Muller, 2014).

The complexity leadership perspective considers the relational perspective of leadership and individual influences (Uhl-Bien, 2006). However, more importantly, it extends the relational perspective further by connecting leadership processes with a system capacity for adapting to change, dealing with ambiguities, and responding to complex problems more effectively (Clarke, 2013). In this sense, the complexity leadership philosophy enables organisations to deal with dynamic environments more successfully.

While addressing the complexities in an environment, the theory makes several assumptions about the reality of complex situations and environments. The first assumption is that organisations are too dynamic and unpredictable to be understood with simple models. This theory challenges the value of reductionist approaches and the efforts to understand the impact of leadership in a complex system as linear and straightforward cause-effect

relationships (Clarke, 2013). "The focus is therefore on how leadership might bring about conditions that enable or facilitate organisational effectiveness, in contrast to determining it" (Clarke, 2013, p137). The second assumption is that organisations are adaptive systems that cannot be understood by breaking them down into their components. Interactions between these components and the environment result in unpredictable outcomes and behaviours. The complexity theory focuses on capitalising on these interactive dynamics and fostering productive outcomes.

Clark (2013, p 139) developed a model of complexity leadership development that has the potential to inform collective leadership development. According to the author, leadership development within the complexity approach can be analysed at the system (e.g., collective, organisational, department, and cohort) and individual levels. Therefore, the focus areas of complexity leadership development are (1) network conditions, (2) shared leadership, and (3) organisational learning. According to this model, network conditions refer to the formal and informal structures within which organisational members can interact to generate diverse and alternative ways of thinking and problem-solving. As Clark has stated (2013), studies that focus on the network structure within self-managed (project) teams support this idea. Members of these teams possess diverse expertise and information that could be effectively and quickly distributed to other members. These exchanges and interactions result in synergies between information and expertise (Ensley, Hmieleski and Pearce, 2006).

The model also focuses on shared leadership. Shared leadership and organisational learning are reviewed separately in the following sections of the chapter due to their high relevance to the study's objectives. However, it may be imperative to briefly summarise both as two of the three primary targets within the complexity leadership development model at the collective level. Clark (2013) argued that complexity leadership development requires fostering

interdependence between organisational actors to better understand complex problems and coordinate responses within the complex social system (Uhl-Bien, Marion and McKelvey, 2007). This requirement implies that leadership must be shared between actors throughout the system to capitalise on available resources. Indeed, the concept of shared leadership supports the idea that team members are collectively responsible for solving problems and reaching common goals (Gronn, 2002; Carson, Tesluk and Marrone, 2007). Therefore, shared leadership has a central role within the complexity perspective on dynamic interactions to generate new knowledge and collective learning and development.

The complexity perspective also highlights the significance of organisational learning as the key process for achieving adaptation and innovation. According to this perspective, learning is seen as experiential and social and becomes stored and available through explicit and tacit routines and procedures (Clarke, 2013, p140). Gaining new knowledge occurs through interactions between members, as well as between members and their environment. In this sense, the complexity perspective considers knowledge creation as a social process, as described by the social learning theory and social constructivism.

The complexity leadership theory has contributed to various frameworks that explain interactive dynamics that have been acknowledged by various emerging leadership theories, such as shared leadership (Pearce and Conger, 2003), distributed leadership (Gronn, 2002), leadership as an emergent organisational meta-capability (Hazy, 2006), and emergent team leadership capacity (Day, David V. et al., 2004). Much like the functional approach (Morgeson, DeRue and Karam, 2010), CLT in a team context indicates that anyone in the team can emerge as a leader at any moment. However, for a team to be effective, these leaders need to engage in a complex set of functions and behaviours (Denison, Hooijberg and Quinn, 1995). The implication for the current study is that the number of participants and the

strength of the leaders are not enough for evaluating shared leadership development as a collective capacity. Changes in the complexity of leadership need to be included as an essential dimension of development. Additionally, evaluating the changes in the complexity of leadership functions is essential to identifying the weaker areas that need additional support.

Complexity has mainly been employed in studies that focus on leader emergence or emergent leadership in connection with performance. For example, Yoo and Alavi (2003) and Carte, Chidambaram, and Becker (2006) indicated that leaders of better performing teams performed multiple complex leadership behaviours. Other scholars have also underlined the importance of functional diversity (Friedrich et al., 2009, Friedrich et al., 2010, Friedrich et al., 2016, Boone and Hendriks, 2009) for performance and leadership emergence at the team level. For example, Boone and Hendricks (2009) evaluated collaborative behaviours, the decentralisation of decision-making, and effective information exchange in top management teams relative to the functional diversity of a team. Their findings indicate that the functional diversity and expertise diversity of team members positively impacted team performance. The effects of diversity were even more significant when they were supported with increased collaborative behaviours and accurate information exchange. Carmeli and Schaubroeck (2006) further demonstrated that having multiple emergent leaders was insufficient without diverse expertise that could improve performance. These findings support the contention of the current study in determining the criteria for shared leadership development with more than the widely used network approach (Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Lorinkova and Bartol, 2020).

In summary, the complexity leadership theory is appropriate for exploring shared leadership development through self-managed project team practices because their environment is

complex and interactions occur in their authentic environments in an uncontrolled way (Uhl-Bien, Marion and McKelvey, 2007). Members of SMPTs need to engage in multiple and complex behaviours to reach their objectives in a complex environment, and these behaviours are not static (Yoo and Alavi, 2004; Carte, Chidambaram and Becker, 2006). Seeing leadership as an outcome of interactions implies that a proper understanding of leadership in a collective requires going beyond the dominant network approach in shared leadership development studies (e.g., Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Wu and Cormican, 2016; Lorinkova and Bartol, 2020).

This study views the social network and complexity approaches to shared leadership as complementary rather than contradictory. Both approaches are relevant for the main research question (RQ1) and RQ3. The study, therefore, utilises them both to create a complete picture of leadership development through self-managed project team experience. Behavioural complexity can be treated as one of the dimensions of leadership development. The number of leadership functions with high engagement rates can be compared over time to assess development, alongside the social network approach. Contractor et al. (Contractor et al., 2012) promoted complexity as "multiplexity" and identified it as one of the three dimensions (member concentration, role multiplicity, and temporal stability) of the collective leadership theory. They argued that although "multiplexity" has been subject to research for almost two decades as one of the most important aspects of this theory, there is no standard approach to studying this dimension.

Within the context of the current study, the complexity approach can be used to understand and explain the direction of development from one experience to the next in the set of leadership functions. According to Day and Sin, "development takes many shapes, and that it is probably better conceptualised as a web consisting of strands with different trajectories

rather than as a ladder in which people move only upward in relatively lockstep fashion" (Day and Sin 2011, 556). The use of the behavioural complexity approach in a multi-level study enables both the exploration of the development's direction in the leadership portfolio and the determination of whether many team members participated in the team's leadership (Bergman et al., 2012). This approach also minimises common method variance and avoids the biases that are associated with peer ratings of emergent leadership (e.g., the most talkative and well-liked members are being perceived as leaders) (Riggio, Riggio, Salinas and Cole, 2003 in Bergman et al., 2012, p19).

2.3.4 Constructive Perspectives

This sub-section introduces the constructive approaches that have been suggested by various scholars to understand the complex nature of collective leadership development (Mccauley et al., 2006; Raelin, 2006, 2016b, 2018a, 2019; McCall, 2010; Day and Liu, 2018; Liu et al., 2020a). First, constructivism in general and the criticisms about its interpretation (DeRue et al., 2012) in literature are discussed. Next, the social learning theory and social constructivism are introduced and discussed because the theoretical underpinnings of the relationship between shared leadership, learning, and development are provided by the social learning theory with an argument that meaning and learning are constructed in a social and collaborative setting (Raelin, 2016a, 2016d, 2016b, 2018a, 2019).

Constructivism is a theory that emphasises the active role of learners in the learning process and states that learners construct knowledge rather than just passively absorb information. People build their representations of the world by reflecting on their experiences and incorporating new information. Assimilation and accommodation play central roles in this process. Assimilation refers to the process of fitting new information into existing information, and accommodation refers to using information to reshape and reproduce

existing schema. Constructivism and qualitative research are gaining greater attention as alternatives to the dominant positivist paradigm. The arguments for integrating collective conceptualisations into leadership development literature are not new. Several researchers have sought to examine the context of the human experience, especially collective forms of leadership. Additionally, some scholars have suggested that researchers should focus on contextual experiences and social interactions through qualitative approaches due to the social and contextual nature of learning and development within collective leadership (DeRue, 2011; Day et al., 2014; DeRue and Myers, 2014a; Raelin, 2016b; Day and Liu, 2018; Raelin, 2018, 2019; Liu et al., 2020).

Constructivism argues that individual development occurs through reflecting on experiences and generalising them to develop new knowledge, skills, and mental models that will improve performance in future experiences (Kolb and Kolb, 2009; Kolb, 2014). Similarly, most scholars in experience-based leadership learning and development studies recognise that people actively construct meaning by reflecting on and making sense of themselves and their experiences (DeRue et al., 2012). However, some scholars have claimed that the social dimensions of learning have been ignored in most experience-based leadership development studies as researchers have focused on direct learning and development that involve challenging tasks.

It is commonly accepted that development requires time and that it grows with the multitude of experiences in different contexts that provide feedback, challenges, and support in the form of loops (van Velsor, McCauley and Ruderman, 2010). However, the constructivist approach to experiential learning makes assumptions that have been criticised. First, it assumes that individuals are the sole translators of experiences; they can accurately interpret how their behaviours contributed to specific outcomes and what the consequences might have been had

they behaved differently (Raelin, 2006, 2016b, 2018a; DeRue and Myers, 2014). Leadership experiences are often ambiguous, involve a complex collection of stakeholders, and require individuals to be involved in a complex range of behaviours and roles (Lichtenstein et al., 2006; Uhl-Bien, Marion and McKelvey, 2007). Social learning provides information about the roles of others (McCall, 2010) as part of informal and indirect learning in social settings.

According to Raelin (2018a, p63), learning from the practising leadership in a collaborative setting is a social learning process that is "associated with second- and third-order learning that seeks to uncover the underlying assumptions and presuppositions guiding current practices". In addition to direct learning from experience, social learning introduces the concept of "imitation" to modelling behaviour, which maintains that individuals learn by observing the behaviours of others and imitating them (Bandura and Walters, 1977). This learning model, which is called social learning theory (SLT) or observational learning, was initially proposed by Bandura and Walters (1977).

According to this theory, individuals eliminate needless errors by observing others and evaluating their options before acting. Bandura called this exposure to the guidance of others "informative learning" (in Black and Earnest, 2009, p185). SLT also recognises that there may be a time gap between learning and translating that learning into action: "a person can learn a behavior but may wait until a later time to display that behavior" (Black and Earnest, 2009, p185). The theory proposes that a person's behaviour is affected by their thought process and their exposure to social experiences. These experiences and observations then create the foundation for establishing new patterns and behaviours that often go beyond the observed levels. Modelling behaviours help individuals improve their self-efficacy by helping them believe that they, too, can accomplish what someone else can accomplish (Bandura, 1997).

According to social constructivism, both the learning environment and the social contexts that learners bring to their learning environments are crucial. This perspective emphasises the importance of culture and context in understanding the construction of knowledge and is closely associated with such contemporary developmental theories as social cognitive theory (Bandura, 2001), experiential learning theory (Kolb, 2014), and social learning theory (Bandura and Walters, 1977). Kim (2002) argued that social constructivism is based on specific assumptions. One of the assumptions is the subjectivity of reality; reality is constructed through human activity and did not exist before its social invention.

The second assumption concerns knowledge and its construction; knowledge is constructed socially and culturally. Individuals create meaning through their interactions with each other and the environments that they live in, as argued by various leadership scholars (DeRue and Myers, 2014; Raelin, 2016b, 2018a; Day and Liu, 2018). The third and connected assumption concerns learning. This perspective maintains that learning is a social process that occurs when individuals engage in social activities; it neither occurs within an individual in isolation, nor is it a passive behavioural development that is shaped by external forces (Kim, 2002).

These assumptions led to the intersubjectivity of social meanings as one of the core characteristics of this perspective. According to Kim (20002), intersubjectivity is shared understanding between individuals that is shaped by common interests and assumptions that provide the ground for their communication. Communication and other interactions require socially agreed-upon worldviews, social patterns, and rules. Therefore, the construction of meaning involves intersubjectivity among individuals. Social meaning, knowledge creation, and learning are shaped by and evolve through negotiations within teams and groups (Kim, 2002; Raelin, 2006, 2016b, 2018a). Intersubjectivity not only provides a basis for communication but also enhances activities in a collective and extends how people

understand new information because knowledge is created through interactions between people and between people and their environments (Day et al., 2014; DeRue and Myers, 2014; Raelin, 2016b, 2018a; Day and Liu, 2018).

To summarise, constructivism proposes that there are multiple realities and that different interpretations are shaped by particular circumstances that exist as a study unfolds (Creswell et al., 2007). Studies within the constructive paradigm aim to explore the realities of others through the detailed descriptions of their experiences and a deeper understanding of what is happening within a smaller sample (Guba, 1990; Guba and Lincoln, 1994). SLT and social constructivism indicate that a significant difference in participant leadership behaviours and performances should be identified. Additionally, the theory may provide a solid framework for identifying the process of developing knowledge, awareness, and perceptions that precede behavioural change and therefore is significant to the current study. The theory may also partially explain the negative findings about leadership development in studies that adopt a behavioural approach.

However, although behaviours are indicators of learning transfer and can be developed, they are not stable over time or across distinct contexts and situations. Zaccaro et al. (2018) indicated that individuals might perceive leadership affordance and demands differently in different contexts due to the complex relationships between individuals and their situations. Additionally, as maintained by social learning theory, there may be a time gap between learning and translating that learning into behaviours (Black and Earnest, 2009). Therefore, studies that focus on behaviours in a single short-term experience, especially in a formal interventionist experience (i.e., action learning), contribute little to the understanding of the longer-term LD processes (Day et al., 2014). Behaviours as indicators of development from a long-term perspective and in multiple and distinct experiences in various contexts have more

explanatory power on actual development. They include influences from distinct experiences and distinct situational demands and are shaped by complex and dynamic interactions.

Mccauley et al. (2006) and Liu et al. (2020), for example, recommended using constructivism in a qualitative approach to advance the understanding of leadership. They argued that focusing on behaviours alone may not be enough to explain leadership development thoroughly. Behaviours may be affected by individual interpretations of situational demands (Zaccaro et al., 2018) and interactions between individuals in teams and between teams and their environments (Uhl-Bien et al., 2007). It may be necessary to investigate how situational demands are interpreted and what is learned from the experiences. Additionally, complex interactions between actors and their environments have been ignored to a great extent. Approaches to assessing changes in behaviours as indicators of development have been overly simplified and isolated from the contexts within which they emerged.

Actual constructivism implementations in leadership development studies are rare despite various recommendations (Day and Liu, 2018; Raelin, 2018a; Liu et al., 2020a). For example, Liu, Venkatesh, Murphy, and Riggio (Liu et al., 2020a) suggested that future researchers should use a qualitative approach to advance the understanding of leadership and its development. In one of the rare qualitative studies that incorporates a constructivist approach, Hall, Scott, and Borsz (2008) examine the influence of experience on leadership skills in an educational institution by conducting a constructive case study. Although not explicitly positioned in constructivism by the authors, James and Figaro-Henry (2017) utilised a case study with a qualitative and interpretive approach to investigate collective leadership capacity development in a school setting. The authors (James and Figaro-Henry, 2017) focused on using collaborative digital tools in an educational leadership course.

However, constructivist approaches are relevant and appropriate for studies that aim to understand leadership development across time in a collaborative setting and a complex environment (Mccauley et al., 2006; Raelin, 2006, 2016b, 2018a; Dooley and Lichtenstein, 2008; Clarke, 2013; Day and Liu, 2018; Liu et al., 2020a). The current study explores leadership development through self-managed project team experience within a complex shared leadership environment. In this setting, learning is affected by dynamic interactions between team members of equal status (Raelin, 2006, 2018a), which also applies to the stakeholders within their institution and their actual clients. The participants learned from their experiences in multiple projects but learned much more from each other and other stakeholders through observations and feedback loops.

The social learning theory and constructive approach enabled the author of the current study to explore how participants make sense of their experiences in SMPTs, what they learn from them, and how interactions in a social environment shape the learning process and its outcomes. Thus, the study may better explain the process and outcomes of collective leadership development in a complex environment. The following section introduces this complex shared leadership environment and the developmental outcomes of the shared leadership practice and provides an overview of the current literature on this approach.

2.3.5   *Shared Leadership as the Leadership Style of Self-managed Teams and Lens for Collective Leadership Development*

This section reviews the shared leadership literature as a perspective on and lens for viewing the collective leadership phenomenon. For two reasons, shared leadership was selected over other relevant and overlapping concepts, such as distributed leadership. The primary reason is that SL is considered the leadership style of autonomous teams such as self-managed project teams (Carson et al., 2007; Solansky, 2008; Innocenzo et al., 2016), and such teams are part

of the context of the current study. The distributed leadership concept, on the other hand, is more dominant in the literature regarding school administration (e.g., Harris, 2013). Contributing to creating a common language was the second reason that this decision was made. This section has two subsections: 2.4.1 and 2.4.2. After an overview of the shared leadership concept, Subsection 2.4.1 discusses the learning implications of shared leadership and reviews the relevant literature on the concept. Subsection 2.4.2, however, focuses on shared leadership development and the few empirical studies that are available in the literature.

A variety of theoretical perspectives have been developed and proposed to conceptualise leadership as a collective process (e.g., Gronn, 2002; Carson, Tesluk and Marrone, 2007; Friedrich et al., 2009; Morgeson, DeRue and Karam, 2010). Most approaches define collective leadership as a dynamic process in which leadership roles are shared by (Carson, Tesluk and Marrone, 2007) or distributed (Gronn, 2002) among multiple individuals. The concept has been referred to as *collective*, *distributed*, and *shared* leadership in different contexts, which are often used interchangeably. They all commonly highlight the temporality of the process, the multitude of sources, and the multiplicity of roles (Contractor et al., 2012). This study adopted shared leadership as an overall conception of collective leadership without excluding distributed and collective conceptualisations to contribute to creating common language.

The shared leadership concept has been developed around the argument that leadership is no more about the practices of individuals in particular positions or the interactions between leaders and their followers. Teams are formed to handle tasks that are difficult for individuals to achieve. Founding a team and making a single person responsible for everything is not sensible, especially if the work is knowledge-based and requires creativity (Carson et al.,

2007). No individual would have all the necessary knowledge, skills, and competencies to lead such work alone. According to Spillane (Spillane, 2005, p145), identifying leadership as the actions of those in leadership positions is inadequate. In this sense, leadership should be seen as an emergent collective quality that is practised by multiple individuals in a team rather than by individual formal leaders (Carson et al., 2007; Contractor et al., 2012).

Shared leadership as a contemporary theory takes a dynamic and integrative approach to leadership in general and team leadership in particular. In more integrative and adaptive approaches (Avolio, 2007; Morgeson, DeRue and Karam, 2010; DeRue, 2011), leadership in teams is defined as an interaction between members and their situations. Leadership is dynamic, temporal, and reciprocal. It is more horizontal than vertical and is as much a bottom-up experience as it is a top-down one. Its direction is dynamic and changes with times and situations; a person can lead and influence a moment or a specific situation, become a follower, and be influenced as part of a following (DeRue, 2011; Day and Liu, 2018). Leadership is an emergent construct; there are no specific roles or positions that can be defined before the moment of truth; people take the role according to the needs of the moment and their strengths, competencies, and confidence levels at the given moment (Morgeson et al., 2010).

The literature presents various definitions of shared leadership (D'Innocenzo et al., 2016). Carson et al. (2007) defined shared leadership as an emergent team property that results from the distribution of leadership responsibilities across multiple team members. According to this view, shared leadership is a multi-level theory (Carson, Tesluk and Marrone, 2007, p1218). The definition is based on Yukl's definition of leadership: "influence processes involving determination of the group's or organisation's objectives, motivating task behaviour in pursuit of these objectives, and influencing group maintenance and culture" (Yukl, 1989, in

Carson et al., 2007, p1218). This definition also aligns with the adaptive concept of leadership (Kozlowski et al., 2009; DeRue, 2011), according to which the theoretical focus has been shifted away from people as leaders or followers and instead placed on the value of a dynamic and fluid leading-following process.

As previously discussed, the current study integrates the complexity leadership theory. This theory defines *shared leadership* as a dynamic, adaptive, and reciprocal learning process that enables organisations to develop capacities for adapting to change, dealing with ambiguities, and responding to complex problems more effectively (Lichtenstein et al., 2006; Uhl-Bien, Marion and McKelvey, 2007; Lambert, 2011; Clarke, 2013; Raelin, 2018a). According to this view, several characteristics can be ascribed to this type of leadership: (a) leadership is a shared endeavour; (b) it does not depend on positions and emerges within contexts; (c) leadership is about learning that leads to constructive change, and a leader is anyone who engages in the work of leadership; (d) everyone has the potential and the right to work as a leader; and finally, (d) the development of leadership includes all individuals at all levels in an organisation (Lambert, 2011).

Shared leadership started to gain attention in the research community in the mid-1990s, and that attention has substantially increased during the last decade (Avolio et al., 1996; Pearce, 2004; Hiller, Day and Vance, 2006; Carson, Tesluk and Marrone, 2007; Friedrich et al., 2009; Small and Rentsch, 2011; Bergman et al., 2012; Daspit et al., 2013; Liu et al., 2014; Innocenzo, Mathieu and Kukenberger, 2016). Shared leadership is often associated with team performance and creativity (Friedrich et al., 2010; Nicolaides et al., 2014; Innocenzo, Mathieu and Kukenberger, 2016). Despite the growing popularity of this type of leadership and the claims that shared leadership positively relates to team performance, the science that supports the value of shared leadership is unclear.

The results are inconsistent, which may be because of theoretical, contextual, and conceptual differences (D'Innocenzo et al., 2016). For example, Boies, Lvina, and Martens (2010 in D'Innocenzo et al., 2016, p1969) found that shared leadership that was identified using transformational leadership had adverse effects on team performance. However, Mathieu, D'Innocenzo, Kukenberger, and Reilly (2015) and Gupta, Huang, and Niranjan (2010) found that shared leadership relates positively to team cohesion but not directly to team performance. Nevertheless, a more significant number of studies on shared leadership has found that shared leadership has a positive relationship with team performance (Avolio et al., 1996; Carson, Tesluk and Marrone, 2007; Hoch, Pearce and Welzel, 2010; Hoch and Dulebohn, 2017) and that shared leadership acts as a better predictor of team performance than vertical leadership (Ensley, Hmieleski and Pearce, 2006; Hoch and Kozlowski, 2014).

The meta-analysis of the relevant literature suggests that team characteristics, task-related factors, internal team environments, and the top-down influence of formal team leaders have defining power on the emergence of shared leadership in teams (Innocenzo, Mathieu and Kukenberger, 2016; Wu, Cormican and Chen, 2020). In addition to antecedents, role overload, stress, role conflict, and role ambiguity were among the boundary factors that affect shared leadership (Shane Wood and Fields, 2007). Team-related antecedents of shared leadership include team characteristics and design, internal team environments, and other emergent states such as trust, collective efficacy, and team psychological safety (Drescher et al., 2014; Liu et al., 2014; Innocenzo, Mathieu and Kukenberger, 2016). These findings support the contextuality of leadership and its development.

Besides being associated with performance and creativity, shared leadership is also associated with co-construction and collective learning (Klein and Ziegert, 2004; Klein et al., 2006; Raelin, 2006, 2018a; Friedrich et al., 2009; Lambert, 2011; Bergman et al., 2012). Friedrich et

al. (Friedrich et al., 2009) defined shared leadership as a self-feeding practice and argued that practising leadership as a shared responsibility should further enhance the capacity to lead at multiple levels (Friedrich et al., 2009). Therefore, shared leadership is considered relevant and appropriate for conceptualising leadership development at the collective level and for acting as a source of learning. This notion is in line with the *complexity leadership development model* (Clarke, 2013) and previous arguments that state that shared leadership is a learning process that focuses on building social capital and collaboration (Day, 2000; Day, Gronn and Salas, 2004; Raelin, 2006, 2018a; Day and Liu, 2018).

The preceding discussion implies that shared leadership provides an appropriate lens for conceptualising shared leadership development. It also provides an excellent platform for collective learning and justifies the choice of shared leadership and self-managed project teams as an appropriate context. As a constructive and transformative learning process in a collective setting (Raelin, 2006, 2016b, 2018a; Lambert, 2011; Day and Liu, 2018), shared leadership offers conditions for most types of experiences that can facilitate individual and organisational learning (Day, Gronn and Salas, 2004; Klein et al., 2006; Raelin, 2006, 2018a; Friedrich et al., 2009; Day, 2011b; Bergman et al., 2012; Clarke, 2013). A considerable number of scholars have recommended that future researchers should investigate the link between shared leadership and leadership development (Day, Gronn and Salas, 2004, 2006; Klein and Ziegert, 2004; Klein et al., 2006; Friedrich et al., 2009; Day, 2011b; Bergman et al., 2012; Raelin, 2016b, 2018a; Day and Liu, 2018).

2.4   The Impact of Shared Leadership Practice on Collective Capacity

This section presents the self-feeding nature of shared leadership (Friedrich et al., 2009). This section also contributes to the discussion on how engaging in shared leadership further enhances the organisational capacity for leadership. As previously discussed, leadership

development involves building the leadership capacities of members, which requires them to acquire knowledge and skills that can enhance their leadership practices (Day, 2000; Zaccaro et al., 2018). As discussed in Section 2.1, the current study adopts a broader definition of collective leadership development: it is a constructive learning process in which individuals and collectives acquire KSAs and learn to engage effectively and adaptively in leading-following interactions across multiple task-and-team contexts (DeRue and Myers, 2014; Liu et al., 2020a). This broad definition incorporates both the process and outcome views of leadership development. It also highlights two dimensions of the shared leadership capacity: (a) the acquisition of knowledge, skills, and attitudes (in other words, learning) and (b) the ability to engage in shared leadership.

Thus, this section has two subsections. The first subsection (2.5.1) focuses on the process of the co-creation of meaning and learning under shared leadership. Subsection 2.5.2, on the other hand, explores how this process translates into the organisational ability to engage in leadership (in other words, the development of shared leadership behaviours).

2.4.1   Learning in Shared Leadership and Related Challenges

The social learning theory provides theoretical underpinnings for the relationship between shared leadership, learning, and development (Bandura and Walters, 1977). This section reviews the relevant shared leadership literature to provide an overview of the co-creation process and learning in teams with a shared leadership approach.

The social learning theory maintains that learning and developments occur through direct experiences that involve original work or observed experiences that are gained from situational sources, such as other people. Contrary to the focus on directly learning from task

experiences in experience-based leadership development, in the shared leadership context, learning and development take place through active participation in leadership, observation, and acceptance and denial feedback loops (DeRue and Wellman, 2009; Liu et al., 2014; Groves et al., 2015). Research on SL has also revealed that shared leadership may affect leadership development in various ways rather than only through direct experience (Liu et al., 2014).

In line with the social learning theory, the first and most obvious ways that SL affects leadership development is through practice and observation. Current research on SL that has incorporated a functional approach demonstrates that all members of a team are not actively involved in leadership simultaneously and that they are not active in all functions at the same time (Hiller, Day and Vance, 2006; Klein et al., 2006; Mehra et al., 2006; Bergman et al., 2012). In this sense, team leadership has two distinctive consequences. First, members can learn both from practice and by observing other active members who learn from them; second, when and if individuals specialise in certain functions, learning from practice will differ for different individuals.

For example, Klein, Ziegert, Knight, and Xiao (2006) found that shared leadership and active delegation enhance members' leadership skills. The authors argued that although members learned and developed most when actively involved in leadership, they also learned from others. With the grounded theory approach, the authors investigated the leadership being practised in trauma resuscitation units and found that team leadership is shared in a rotating format; there is only one active leader at one time.

Through interviews and observations, they found that the most critical functions of the leaders were the following: providing strategic direction, monitoring, providing a hands-on contribution to work (treatment), and teaching other team members (Klein et al., 2006). The

last function is noteworthy and not openly mentioned as a function of leadership in earlier studies that focus on organisational contexts. These findings on the developmental role that shared leadership plays through dynamic delegation is relevant and vital for the objectives of this current study. "Our findings suggest that dynamic delegation enhances extreme action teams' ability to perform reliably while also building their novice team members' skills" (Klein et al., 2006). Another significant finding of this study (Klein et al., 2006) is that all members of the teams did not have active leadership roles simultaneously. Instead, they took active roles at different times for different functions depending on task requirements, their confidence in themselves and others, and individual differences. This characteristic of shared leadership is critical as it provides opportunities for indirect learning through observation and hinders direct learning by limiting individualised practice.

Other studies also support this evidence (Yoo and Alavi, 2004; Hiller, Day and Vance, 2006; Mehra et al., 2006; Zafft, Adams and Matkin, 2009; Bergman et al., 2012). For example, Bergman et al. (2012) uncovered similar findings in their mixed-method study. They examined the process of shared leadership by studying 45 decision-making teams that comprised 180 undergraduate students in a laboratory setting; the teams had to complete a role-play task in a simulation. The authors found that many team members were rated highly on one type of leadership behaviour but were not rated highly on other types. The authors reported that this finding supported their argument that different individuals may be more motivated to engage in one type of leadership behaviour over another (Bergman et al., 2012). Seventy-nine out of 180 team members (43.9%) had engaged in at least one type of leadership behaviour, and the average number of behaviours that were engaged in by these 79 members was 1.5. They found no correlation between individual-level behaviours; however, there was a strong and positive link between the number of leaders and the number of behaviours exhibited in a team. The authors argued that team functioning is more effective

when multiple team members engage in multiple behaviours. This finding is significant for future studies that aim to assess leadership development at the collective level by stating that a poorly behavioural approach would be inadequate for capturing development. This study is also significant to the current one because of the method that was used to measure shared leadership.

Bergman et al. (2012) measured shared leadership by counting the number of members on the team who performed positive leadership behaviours (emergent leaders) and the number of leadership behaviours that were exhibited by the team. To assess the conditions for leadership, they qualitatively analysed the video footage of experiments and coded leadership behaviours as initiating structure, consideration, envisioning, and spanning behaviours first, then quantified the results with a 5-point Likert scale. The facts that the study utilised a laboratory experiment with ad hoc student teams and that the task was short-term and fictitious limit the generalisability of the results to the current study's context or other studies of work teams.

The authors (Bergman et al., 2012) suggested that future researchers should include a larger number of behaviours and that the impact of learning through observation and practice as an antecedent of leadership emergence should be studied. They also stated that emergent leadership behaviours are risky: some influence attempts may be accepted by a team and encourage further attempts that lead to high levels of shared leadership or even "over emergence" (Lanaj and Hollenbeck, 2015), while some rejected attempts may discourage further attempts and lead to low levels of shared leadership, which is also known as "under emergence" (Lanaj and Hollenbeck, 2015), or a "leadership void" (DeRue, 2011). As Zaccaro et al. (2018) argued, individuals may have different perceptions of different situations

(leadership affordances and demands) and hence may engage in different functions in different teams or task situations.

Similarly, Mehra et al. (2006) and Hiller et al. (2006) found that all members are not involved in all leadership functions simultaneously. However, more importantly, these researchers found that all leadership functions were not suitable for sharing in all situations. For example, Mehra et al. (2006) investigated 28 field-based sales teams. The social network analysis of the data from their mixed-methods investigation revealed that not all leadership functions were distributed. Some leadership functions were more suitable to be shared by many members, and some needed a centralised approach. The researchers argued that the centralised approach to task-related functions was important to improving the teams' performance. The influence of the centralised approach to certain leadership functions on learning and development maybe worth investigating. Hiller et al. (2006), on the other hand, collected data from road maintenance teams by using a 25-item survey questionnaire (Hiller et al., 2006, p 392). They found that relationship-oriented behaviours that were shared by team members improved team performance more than sharing task-oriented behaviours did, which suggests that certain leadership behaviours are more appropriate for sharing than others, which supports the findings of Mehra et al. (2006).

These findings emphasise the importance of using task characteristics to determine SL emergence, among other contextual factors. Centralising some of the functions in certain tasks may be essential for team performance. However, it may have a limiting impact on the breadth of development for certain team members. Although team members can also develop by observing others when they are not actively involved themselves, this development may be limited if they specialise in certain functions and practise them only throughout the team project. Regarding the current project, this implies that a better understanding of leadership

development in self-managed project teams requires the inclusion of multiple team projects to examine leadership development. Cullen-Lester and Yammarino (2016), Baron (2016), and Day and Sin (2011) also suggested that future studies on leadership development should examine the development that occurs through multiple tasks in a longitudinal manner.

In addition to learning from practice and observation, shared leadership experiences may significantly impact leadership development through interactions and feedback loops. Shared leadership is a dynamic process; individuals do not stay leaders forever once they emerge as leaders (Friedrich et al., 2009; DeRue, 2011; Friedrich, Griffith and Mumford, 2016). Team members, specifically self-managed project team members, switch roles in an interplay with their environment and situation (Marks, Mathieu and Zaccaro, 2001; Morgeson, DeRue and Karam, 2010; DeRue, 2011). According to Day and Sin (2011) and Bergman et al. (2012), these interactions, especially in the forms of acceptance and rejection, may significantly affect leadership development, especially for inexperienced participants who are in the initial stages of their development, such as the participants of the current study.

When individuals practise leadership, the experience affects their confidence levels and motivation to make further attempts at leading (DeRue, 2011; Day and Sin, 2011). For example, an accepted attempt as a positive experience is likely to enhance an individual's confidence as a leader and motivate them to make additional attempts to lead. These new attempts then lead to additional developmental opportunities (DeRue, 2011; Day and Sin, 2011). However, the result can be the opposite if a leadership attempt is a negative experience (e.g., team members reject the influence attempts). An individual's confidence level may be weakened if rejections occur multiple times, which can make further attempts and thus development opportunities less likely to occur.

Researchers have demonstrated that shared leadership is linked to efficacy (Avolio et al., 1996; Gully et al., 2002; Tasa, Taggar and Seijts, 2007; Tierney and Farmer, 2011) and motivation (Oh, 2012; Mitchell and Bommer, 2018). Within this dynamic process, confidence and motivation are iteratively aligned with visible behaviours over time (DeRue, 2011; DeRue and Wellman, 2009). Therefore, focusing on the learning outcomes of a shared leadership experience in self-managed project teams while monitoring team members' behaviours may shed light on this process.

Despite the theorisation about shared leadership as a collective learning process that has consequences for leadership development (Day, Gronn and Salas, 2004; Klein and Ziegert, 2004; Raelin, 2006, 2018a; Lambert, 2011; Day and Liu, 2018) and the fact that many empirical studies indicate the existence of this link, researchers do not have enough knowledge on SL as a self-feeding practice. Few studies focus on social learning through SL in SMPTs and how this learning affects the future emergence of SL. A few existing studies examine the relationship between SL and learning behaviours at different levels by utilising a quantitative approach. These studies measure learning behaviours with a questionnaire that was developed by Edmondson (1999) (e.g., "our team criticises each other's work to improve performance", "our team freely challenges the assumptions underlying each other's ideas and perspectives", and "our team engages in evaluating their weak points to attain effectiveness") (Liu et al., 2014; Lan Wang et al., 2017).

For example, Liu et al. (2014) developed a model (Figure 2.6) to investigate how shared leadership leads to learning at the individual and team levels through direct and observed experiences and found positive relationships between shared leadership and learning behaviours. The authors also found that the interaction between a team's psychological safety

and perceived job variety was positively related to learning at both the individual and team levels.

Figure 2

SL, team learning, and individual learning as adapted from Liu et al. (2014)
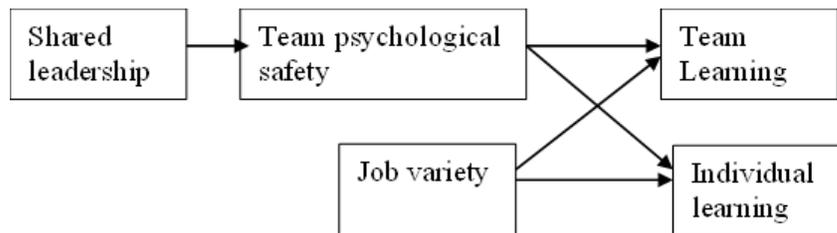
A few years later, Wang, Jiang, Liu, and Ma (2017) investigated the relationship between shared leadership and team learning behaviours in MBA student teams during a 5-day simulated business strategy game. Their study was also quantitative, and they measured SL by using a network approach (Carson et al., 2007) and examining the learning behaviours at the team level three times during the task process. Their study revealed that a reciprocal and dynamic relationship developed between shared leadership and team learning behaviours in self-managed teams over time and during the tasks. The researchers found that, in line with the previous work by Liu et al. (2014), shared leadership had a positive, linear relationship with team learning behaviours at the beginning of the task. However, they found no significant relationship at the midpoint and a curvilinear relationship near the end of the task. Wang et al. (2017) argued that this might suggest that sharing leadership may have diminishing returns at the advanced stages of tasks.

Despite their contributions to current knowledge about the relationship between SL and learning behaviours, the mentioned studies have various limitations regarding the current study. First, the researchers measured learning behaviours rather than learning, which included only discussing mistakes and disagreements and offering feedback with self-reported answers. Wang et al. (2017) suggested that future researchers should use alternative (qualitative) approaches. Second, Wang et al. (2017) included a single task that lasted 3.5 days. The authors suggested that future researchers should include multiple tasks and a more extended period to investigate whether proposed relationships hold across various tasks and contexts. Third, in both studies, SL was measured using the social network approach (Carson et al., (2007).

Although the network approach has been found to be more predictive than the alternatives (Nicolaides et al., 2014), the approach depends on participant perceptions of leadership "rather than unpacking the observed underlying behaviours" (Lan Wang et al., 2017, p184). The authors underlined the importance of investigating the particular set of behaviours that are associated with (shared) leadership in future research to refine the relevant constructs and measures, which implies that a more integrative and composite approach to shared leadership measures is needed for the current study. Due to the social aspects of learning and the embeddedness of learning in a context, which involves being shaped and influenced heavily by it, the current study adopts a more circular approach to learning in self-managed project teams within the social-constructive perspective.

To summarise, although conflicting at times, there is enough evidence for the influence of shared leadership on learning at multiple levels through experience, observation, and feedback loops. The current study can provide an understanding of complex interactions and sense-making and describe the learning outcomes of the process. However, the question of

how shared leadership itself emerges and develops over time is an open one. In other words, one must ask, "To what extent does learning from experience lead to more effective shared leadership performance?" The following section reviews the relevant literature and the longitudinal studies that focus on how shared leadership develops over time.

2.4.2   *Development of Shared Leadership as a Collective Capacity*

Besides focusing on the co-construction of meaning and learning, the current study is also concerned with the behavioural outcomes of development. In other words, the study also focuses on how shared leadership as a collective capacity develops over an extended time through multiple and distinct project experiences. Building shared leadership capacity within organisations is critical as many organisations flatten their structures and depend on self-managed teams to address complex environmental challenges effectively and solve organisational problems (Pearce and Conger, 2003; Ensley, Hmieleski and Pearce, 2006). Focusing on learning from experience and translating learning into performance provides a more thorough picture of collective leadership capacity development (Day et al., 2004; DeRue and Myers, 2014; Raelin, 2006, 2018a). This section provides an overview of the literature that focuses on shared leadership development. There appears to be a lack of studies that focus on shared leadership development across multiple tasks and extended periods. Few existing studies mainly investigate SL temporality over a team's life-cycle when it is limited to a single task.

Regardless of the scarcity of longitudinal studies, the literature is beginning to shift toward investigating how collective (shared and distributed) leadership emerges and develops over time (e.g., Sivasubramaniam et al., 2002; Mehra et al., 2006; Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Lorinkova and Bartol, 2020). Perry, Pearce, and Sims (1999, p43) noted that "shared leadership is a group process that requires time to develop, and its

display is more likely in mature teams". According to Small and Rentsch (2011), it takes time for team members to understand and appreciate each other's capacities in terms of knowledge and skills. Therefore, more mature teams are more likely to have the ability and willingness to utilise these capacities and engage in shared leadership in comparison to less mature teams. This statement could also be generalised to macro-levels such as cohorts, units, and organisations. Day, Gronn, and Salas (2004) theorised that shared leadership capacity is an emergent state that develops over time and is dynamic in nature.

Carson, Tesluk, and Marrone (2007) provided empirical support for this idea. The authors investigated the antecedent conditions of shared leadership in 59 consulting teams that comprised MBA students. Teams of five to seven members worked with their corporate clients for 5 months. The researchers found that a shared purpose, social support, opportunities for participation, and input from all team members were essential to developing shared leadership structures. According to Gupta, Huang, and Niranjan (2010), time is also an important factor that affects leadership within teams and therefore needs to be studied.

Although many researchers have acknowledged that the nature of shared leadership is dynamic, relational, complex, context-bound, and time-based, there is a lack of information on how it develops over time and across distinct experiences in an extensive way that represents this complex nature. Empirical studies in the field are limited in quantity and scope to provide such information. These studies often have a semi-longitudinal pre-test post-test approach that limits the results to the life cycle of a single project or task experience. They often assess development with a single dimension (e.g., a network). They are limited in explaining how shared leadership emerges and develops in different contexts across time and what participants learn from these experiences. Although they provide valuable information about the number of participants in leadership actions at a given time, network approaches are

also limited in their ability to facilitate reflection on the interactive, complex, and dynamic nature of leadership (Contractor et al., 2012, Lichtenstein et al., 2006, Uhl-Bien et al., 2007). For example, Carter and DeChurch (2012) criticised the network approaches and argued that the plurality of leaders in a network is not enough to explain collective leadership; they stated that collective leadership is "a network of dynamically shifting patterns of leadership relationships" (p 412). However, Contractor, DeChurch, Carson, Carter, and Keegan (2012) emphasised the importance of the diversity of behaviours among others in a shared leadership context.

Studies that feature a cross-sectional design (e.g., Hans and Gupta, 2018) have also been criticised for not considering the complex and dynamic nature of leadership (Day, 2011b; Day et al., 2014). For example, Hans and Gupta (2018) considered their cross-sectional design a limitation and suggested that future research should be longitudinal. Similarly, Cullen-Lester and Yammarino (2016) suggested that further studies that incorporate multilevel and longitudinal designs are needed to enhance the understanding of how collective (shared) leadership emerges and changes over time and with task conditions.

Except for the study by Small and Rentsch (2011), a significant number of empirical studies that investigate the development of collective (shared) leadership in teams (e.g., Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Wu and Cormican, 2016; Lorinkova and Bartol, 2020) demonstrate results that are similar to those of the leadership development studies that utilise an individualistic approach (e.g., DeRue and Wellman, 2009; Day and Sin, 2011); an increase in the early phases of the team life-cycle is followed by a decrease in the final phase. During their investigation Small and Rentsch (2011) utilised the network centralisation approach to examine shared leadership development in teams over their life cycle in a sample of junior and senior business majors in a public university. Two hundred

and eighty students worked in teams to complete a semester-long business simulation game that involved role-plays. In contrast to other the other mentioned studies, the analysis of two waves of data revealed that more shared leadership existed in Time 2 than in Time 1. Trust and collectivism positively related to shared leadership. However, this study was limited to the lifetime of the teams and a single project. The task types were also limited in their ability to generalise findings to work teams. As mentioned earlier, most other studies contradict this finding.

For example, Wu and Cormican (2016) explored the evolvement process of shared leadership over a project life cycle. The authors reported that "the optimal level of shared leadership appears in the early phase of a project, and when the team advances into later phases, the leadership changes and focuses on a few individuals" (p. 299). Similarly, Gupta et al. (2010) observed a drop in the team leadership level from the initial measure (4.05) to the final measure (3.85) during the team life-cycle (p 342). Gupta et al. (2010) collected longitudinal data from 28 project teams that consisted of undergraduate business students who had to play a business simulation game during a course. The authors measured and controlled the team leadership at Time 1 (3 weeks after the team formation) and compared it to Time 2 (5 weeks later). Gupta et al. collected the team leadership data by using an 8-item leadership scale questionnaire that measured three leadership behaviours: idealised influence, inspirational motivation, and teamwork encouragement. They did not check the changes in the number of participants who were participating in leadership.

In a more recent study, Lorinkova and Bartol (2020) examined shared leadership development throughout a project team's life cycle relative to team performance. The authors combined shared leadership and project management theories to create their framework and analysed the longitudinal quantitative data that were collected three to four times during their

self-managed project team experiences. Using a round-robin design the researchers collected the survey data from self-managed project teams of three distinct samples (master's degree students, employees of a mid-sized telecommunications and IT networking company, and undergraduate students). Shared leadership was conceptualised and measured following the social network approach (Carson et al., 2007). The analysis of the data supported the curvilinear development of leadership (i.e., Miscenko et al., 2018) and shared leadership. The results of the study approximate an inverted U-shape that follows a pattern of initially positive and then negative results, which reaches the highest point around the mid-point of the project team's lifetime. This pattern of change was also related to team performance (Lorinkova and Bartol, 2020).

Despite its rich data sources, the study that was conducted by Lorinkova and Bartol (2020) has two significant limitations regarding the current study. The first limitation is the conceptualisation of shared leadership that only uses the network density approach. The network density approach provides information about the number of people who emerge as leaders over time but not about what improvements take place in what they do as leaders or teams. Experts do not know what leadership functions team members engage in and how these engagement levels develop over time. Day (2000) argued that, although structural approaches such as social network analyses are essential, "social capital is defined more by its function than by its structure" (p 585). However, purely behavioural approaches that focus on leadership strength do not demonstrate that two or more members engaged in a team's leadership, which is the very essence of the definition of shared leadership (Bergman et al., 2012). Therefore, it is essential to incorporate multiple approaches to assess leadership development as social capital.

Another major limitation of the study and shared leadership studies in general is the focus on teams, which limits the analysis to the lifetime of a team or project. This approach informs us about the temporal dynamics of teams but not about what happens at the individual and organisational levels in the following projects, which involve different tasks. Additionally, shared leadership studies that utilise student samples are often limited in their generalisability to other task groups because of the nature of the tasks (i.e., simulation games, role plays, and case studies) in a controlled environment (i.e., a classroom or laboratory) (Small and Rentsch, 2011). The discussions in this chapter imply that, in addition to making contributions to the theorisation of collective leadership through the lens of shared leadership, the current study could also contribute to shared leadership literature. The contribution can occur by integrating the social network and behavioural complexity approaches and exploring developments across multiple tasks that go beyond the life-cycle of a team that is working on a single task.

2.5   Chapter Summary

This chapter illuminates the link between collective leadership and shared leadership concepts and locate shared leadership in leadership development literature. This chapter also highlights the main limitations of past research and help create a conceptual framework for investigating leadership development in a shared leadership environment across multiple events and an extended time frame. Besides viewing shared leadership as the leadership style of self-managed project teams, considering the two streams of literature and the location of shared leadership within leadership development is relevant for two reasons. First, this approach illuminates the shift from individual approaches to more collective approaches in leadership and its development. Second, it is a partial contribution to resolving the ambiguity in the existing literature regarding individual and collective leadership.

The focus of this thesis is collective leadership development, which is studied through the lens of shared leadership. In doing so, the chapter draws on the argument that experience is the primary source of development (McCall Jr, 2004; van Velsor, McCauley and Ruderman, 2010; McCauley et al., 2013). Furthermore, shared leadership as a collective and constructive learning process (Lambert, 2011) in self-managed project teams affects leadership development both at the individual and collective levels in a variety of ways (Klein and Ziegert, 2004; Klein et al., 2006; Raelin, 2006, 2018a; DeRue and Myers, 2014; Day and Liu, 2018).

Calls to examine how collective leadership develops are not new. However, many scholars in the field have increasingly begun to plead that these calls be answered (e.g., Bolden, 2011; Day et al., 2014; Day and Dragoni, 2015; Day and Liu, 2018; Raelin, 2018a; Eva et al., 2019). With the exception of Day, Gronn, and Salas (2004), who studied leadership development in teams, few researchers have developed theories that can inform research on collective leadership development (Yammarino et al., 2012; Eva et al., 2019). Whatever work that has been done has either reproduced or extended the individual-based concepts of developing or coaching for (inter-)personal competencies (e.g., Day and Harrison, 2007; Day and Sin, 2011; Miscenko, Guenter and Day, 2017) rather than engaging in broader theorising on leadership that draws on multiple perspectives. The few existing forms of collective (shared) leadership development, although they are fragmented in terms of their basic assumptions, mainly have focused on network analysis and teams as the levels of conceptualisation and units of analysis (e.g., Small and Rentsch, 2011; Wu and Cormican, 2016; Lorinkova and Bartol, 2020).

In creating a framework to explore the collective leadership development, the chapter accomplishes the following goals:

1) Introduces a wide disciplinary range of perspectives on leadership development to inform collective leadership development as the literature on collective (shared) leadership literature currently does not provide an adequate framework for a better understanding of how these perspectives inform approaches to collective leadership development.

2) Identifies collective leadership as shared leadership at the organisational level rather than the dominant team level view.

3) Integrates those perspectives with the particular approaches to shared leadership and then identifies key concepts for each approach.

4) Illustrates using a conceptual model how these perspectives can be utilised in shared leadership development as an organisational leadership capacity to enhance a specific 21st-century leadership exemplar that falls outside the norm of traditional frameworks and contexts.

The multi-disciplinary approach is justified by the novelty of collective leadership development practice and research, as well as the potential insights that can be gained by integrating multiple perspectives (Yammariono et al., 2012; Eva et al., 2019). Eva et al. (2019) argued that researchers are ignoring the rich advantages of integrating multiple perspectives by focusing on a single perspective: "…our superordinate call is for theorizing on collective leadership development to be informed by multiple theoretical perspectives…" (Eva et al., 2019, p11).

The literature review demonstrates that prior leadership development research predominantly focuses on the impact of formal experiences on individuals. These studies focus on such outcomes as social responsibility (Dugan, 2006), various leadership behaviours (Posner,

2009; DeRue et al., 2012; Mason et al., 2014; Rosch, 2015; Baron, 2016) , leadership skills (Hall et al., 2008, DeRue and Wellman, 2009), leadership effectiveness (Day and Sin, 2011), and identity development (Day and Sin, 2011; Miscenko et al., 2017). Most of the reviewed studies used quantitative (Miscenko et al., 2017, Rosch, 2015, Day, David V. and Sin, 2011, Dugan and Komives, 2007) or mixed-methods approaches (Baron, 2016, DeRue and Wellman, 2009, DeRue et al., 2012) and primarily focused on the cause-outcome relationship between variables.

Studies that focus on KSA acquisition with a collectivist approach are rare (Hall, Scott and Borsz, 2008; Galli and Müller-Stewens, 2012; James and Figaro-Henry, 2017). Galli and Muller-Stewens (2012) and James and Figaro-Henry (2017) focused on social capital building and collective leadership capacity development within the interpretative qualitative case study approach. Hall et al. (2008) focused on skill development at the individual level by using a constructive case study approach. Other qualitative studies on leadership development have mainly focused on types of experiences that influence leadership (Frawley et al., 2018) or produce challenges in various contexts (McAlearney, 2006).

Formal training and leadership development programs have received considerable attention in these empirical studies (Posner, 2009; Day and Sin, 2011; Mason, Griffin and Parker, 2014; Rosch, 2015; Baron, 2016; Miscenko, Guenter and Day, 2017). Most of these studies either focus only on the individual outcomes (Posner, 2009; Day and Sin, 2011; Baron, 2016; Miscenko, Guenter and Day, 2017) or on the causal effects of individual attributes on leadership development, such as goal orientation (Mason et al., 2014, DeRue and Wellman, 2009, Day, David V. and Sin, 2011), perspective-taking (Mason et al., 2014), self-efficacy (Mason et al., 2014), the motivation to lead (Rosch, 2015), and personality (Harms et al., 2011). Their findings conflict. Some of these studies present evidence of linear and positive

growth in behavioural outcomes (Mason, Griffin and Parker, 2014; Baron, 2016), while others present evidence of negative growth for the majority of respondents (DeRue and Wellman, 2009; Day and Sin, 2011; Rosch, 2015; Miscenko, Guenter and Day, 2017).

Studies that focus on leadership development at the collective level are few, and they primarily focus on the temporal nature of shared leadership in teams that incorporate a network approach (Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Wu and Cormican, 2016; Lan Wang et al., 2017; Lorinkova and Bartol, 2020). Similar to studies at the individual level, the results of these studies conflict when it comes to linear and positive development (e.g., Small and Rentsch, 2011) and the inverted U-shaped development, which indicates a decrease after a certain point in time (Wu and Cormican, 2016; Linlin Wang et al., 2017; Lorinkova and Bartol, 2020). The relationship between shared leadership and learning behaviours has also been investigated with a quantitative approach (Lan Wang et al., 2017; Day and Liu, 2018), which ignores the qualitative learning outcomes of multiple contexts. Of the two studies that have been identified and reviewed, Liu et al. (2014) found a positive relationship, and Wang et al. (2017) found diminishing returns for shared leadership.

Some scholars have criticised the simple behavioural approach when it is isolated from the contextual factors within the existing research. DeRue and a few other scholars have blamed the interpretations and assumptions of the experience-based leadership development (EBLD) approach on constructivism to explain why EBLD research has ended up in this situation. Some scholars have argued that EBLD generally adopts a constructivist perspective on learning (DeRue and Wellman, 2009; DeRue et al., 2012; DeRue and Myers, 2014). For example, DeRue, Nahrgang, Hollenbeck, and Workman (2012) argued that the constructivist approach to experiential learning assumes that individuals can solely translate their experiences and accurately reconstruct behaviours.

Despite being subjected to over two decades of criticism, the contemporary leadership development literature has mainly focused on individual leader development at the expense of understanding and explaining leadership development as a collective learning process (Day, 2000; van Velsor, McCauley and Ruderman, 2010; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018). Scholars have argued that this has partly been caused by the lack of an appropriate theoretical framework that can inform collective leadership development by using multiple perspectives (Yammarino et al., 2012; DeRue and Myers, 2014; Raelin 2018a; Eva et al., 2019). For example, DeRue and Myers (2014) argued that due to the lack of a framework, prior researchers have acknowledged the importance of leadership development and then focused narrowly on leader development. According to the authors, leader development and leadership development are both necessary. However, neither alone is sufficient for understanding and explaining how leadership emerges and develops, specifically in organisations that embrace shared leadership. There is a need for studies that use a multi-level and multi-perspective approach that goes beyond the dominant cause-outcome relationship orientation (Day et al., 2014; DeRue and Myers, 2014).

To conclude, the literature review has identified several limitations that relate to the existing research regarding leadership development and the predominant interventional and individualised approaches (Day, 2011b; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Raelin, 2018a). These limitations can be categorised as (a) limitations that relate to theoretical assumptions and frameworks and (b) limitations that relate to methodology and design. The first and maybe the most vital gap is the lack of theorisation on multi-level collective leadership development that is informed by multiple perspectives (Day and Dragoni, 2015; Raelin, 2016d, 2018a; Eva et al., 2019). Despite the long-standing calls that have been made on various platforms (Klein and Ziegert, 2004; Klein et al., 2006; Friedrich et al., 2009; Bergman et al., 2012; Day and Dragoni, 2015; Cullen-Lester and Yammarino,

2016), except for the work that was done by Day, Gronn, and Salas (2004) on leadership development in teams and the few attempts at proposals (e.g., Clarke, 2013; Cullen-Lester and Yammarino, 2016; Eva et al., 2019), there has been little theory development that informs research on collective leadership development. Eva et al. (2019, p11) argued that the further theorisation of collective leadership development that is informed by multiple theoretical perspectives is needed.

The second limitation relates to the methodology. Most prior researchers utilised behavioural approaches by predominantly focusing on causalities between variables in isolation from the context in which development occurs in a quantitative manner (Day et al., 2014; DeRue and Myers, 2014; Raelin, 2018a). At the individual level, development is measured as changes in behaviour (Posner, 2009; Day and Sin, 2011; Mason, Griffin and Parker, 2014; Baron, 2016; Miscenko, Guenter and Day, 2017), which is done using either cross-sectional designs or the retrospective memories of individuals. Shared leadership development as a collective construct has also been approached quantitatively within the social network approach and at the team level rather than at the organisational level (Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Wu and Cormican, 2016; Lan Wang et al., 2017; Lorinkova and Bartol, 2020). Although the SNA can provide information about the number of participants in team leadership, it leaves out what participants do and to what level of complexity they do certain tasks when they participate in leadership (Bergman et al., 2012). The SNA also leaves out what participants learn while practising leadership or observing others practising it (Day, Gronn and Salas, 2006; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Raelin, 2018a).

These studies are also limited to the life-cycle of teams in a single task, which disregards the impact of contextual factors in leadership emergence and development. Cullen-Lester and

Yammarino (2016, p177) suggested that further studies that incorporate multilevel and longitudinal designs are needed to enhance the understanding of how collective (shared) leadership emerges and changes over time and across different task conditions. Against the most common episodic approach with a single task, several other scholars have also argued for the integration of multiple tasks and a more extended time-lapse (Day, 2011b; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Lorinkova and Bartol, 2020). Scholars have called for future researchers to embrace the development process fully by capturing experiences, complexity, and temporality dimensions, which is challenging to do with the previous approaches and require multi-perspective approaches (Yammarino et al., 2012; Eva et al., 2019; Fairhurst et al., 2020).

The experiences in a collective have consequences for the participants as these experiences can challenge and change their perceptions and dispositions about leadership attributes qualitatively and dynamically. The complexity here refers to individuality and the diversity of experiences. According to Fairhurst, Jackson, Foldy, and Ospina (2020), even repetitive experiences are unique to a specific moment in time; they are deep-rooted in the sequential flow of time, situation, and who the involved individuals are as actors at any given moment. Complexity also concerns capturing "multiple voices and the competing interests, discourses, and interpretations that give rise to the complexity of organisational life" (Fairhurst et al., 2020, p608).

Therefore, the present study has the potential to contribute to leadership development and shared leadership research by: a) integrating leadership development and shared leadership constructs and informing them by integrating multiple theoretical perspectives, thus realising the long-standing calls (Klein and Ziegert, 2004; Klein et al., 2006; Raelin, 2006, 2018a; DeRue and Myers, 2014; Day and Dragoni, 2015; Day and Liu, 2018; Eva et al., 2019); (b)

quantitatively going beyond the focus on behaviours and exploring and describing what people learn from their leadership experiences (RQ2) (Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Raelin, 2018a, 2019); c) exploring leadership development at the collective level across time and multiple team- and task-related contexts (RQ3) (Day, 2011b; Day et al., 2014; DeRue and Myers, 2014; Cullen-Lester and Yammarino, 2016; Day and Liu, 2018; Lorinkova and Bartol, 2020); and (d) examining and identifying challenges to development and the need for additional coaching support (RQ4) (McCall, 2010). The use of the behavioural complexity approach in a multi-level study enables the exploration of development's direction in a leadership portfolio and whether more than one team member participated in a team's leadership. This approach also minimises the *common method variance*; it avoids the biases that are associated with the SNA and relate to emergent leadership (e.g., most talkative and well-liked members are perceived as leaders) (Riggio, Riggio, Salinas, and Cole, 2003, in Bergman et al., 2012, p 19).

Thus, this study joins the arguments that organisations are too dynamic and unpredictable to be defined by simple models. This study also "challenges the value of reductionist approaches that believe leadership and its impact within a complex system can be captured by simple and linear cause-effect relationships" (Clarke, 2013, p 187). According to this view, interactions between actors and their environments result in unforeseen and unpredictable outcomes and behaviours. Therefore, the focus is on how organisations can set conditions that enable or facilitate leadership development and lead to organisational effectiveness rather than determining or predicting it.

Therefore, the current study considers a combination of complexity and constructive approaches that are more appropriate for investigating the complex nature of collective leadership development through multiple and distinct project experiences by specifically

focusing on interactions between various leadership sources and participant development. In the context of the current study, projects are authentic and have a strong link to working life. Although teams are self-managed, leadership practices and leadership development opportunities within the teams are affected by the two sources of external leadership: teachers and the client organisation, in addition to team members as internal sources and other contextual factors (Morgeson et al., 2010). The constructive approach, on the other hand, is appropriate and relevant for examining the learning outcomes of the shared leadership experience in a complex social environment that is further complicated by multiple and distinct team and task varieties (Hall, Scott and Borsz, 2008; Day et al., 2014; Day and Liu, 2018; Liu et al., 2020a).

Combining multiple perspectives can provide information about the learning outcomes of the shared leadership practices of SMPTs and the development of shared leadership itself. Such an approach can provide information about the direction of the developments, patterns in the directions (if any), and the leadership areas that need additional support or intervention (Day and Sin, 2011; Day et al., 2014). There is a consensus on experience-based leadership development: all experiences do not lead to development, and experiences can be made more developmental (McCall Jr, 2004; McCall, 2010; McCauley et al., 2013). This integrative approach and the analysis of the directions of development may also provide information on how to make these experiences more developmental. The following chapter (Chapter 3) attempts to integrate all the perspectives that have been reviewed in this chapter to develop a contextual model to study the process and outcomes of collective leadership development that are accomplished through self-managed project team experiences in multiple projects.

3   INTEGRATION OF PERSPECTIVES AND CONCEPTUAL FRAMEWORK

Chapter 2 has provided a review of the relevant literature and a summary of the theoretical perspectives that various scholars have recommended for future research. This chapter attempts to integrate these perspectives to create a conceptual framework that can be used in the context of the self-managed project teams within the current study. The framework is presented in Figures 4 and 5. This chapter consists of three sections. Section 3.1 discusses the suitability of self-managed project teams as a platform for and the context of collective leadership development. The conceptual model that is informed by the multiple perspectives that are presented in Section 2.3 of the literature review chapter is presented in Section 3.2. The chapter concludes with a summary and discussion of the overall implications of the model and perspectives about the study in Section 3.3. No propositions or hypotheses have been provided due to the lack of a theoretical framework and any prior conceptualisation about leadership development that integrates shared leadership.

3.1   Suitability of Self-managed Project Teams as the Context

This study focuses on the practices of self-managed project teams and how they relate to collective leadership development. Therefore, focusing on describing the nature and practices of such teams and discussing their suitability as a context to study collective (shared) leadership is essential. This section summarises the arguments that favour self-managed project teams as a platform for leadership development, specifically collective (shared) leadership. This section first provides the characteristics of the self-managed project teams within the current study context. As a next step, the main arguments from the leadership development literature are brought forward to justify the rationale for their selection as the context.

In the current study, the participants were students in a BBA programme at a higher education institution in Finland. During their study, the participants worked in self-managed project teams in collaboration with industry partners during their second semesters. These projects often lasted an entire academic semester (4 months); ideally, they would result in a win-win approach. The teams aimed to provide a unique and employment-oriented learning environment for students. These projects additionally provided all participants with networking opportunities within their communities of practice. For industry partners, the projects were designed to provide practical and theoretical assistance with their various challenges.

For each project, small teams of three to five members were formed. They led and regulated their activities autonomously as a shared responsibility. They were also responsible for planning and implementing projects to find a solution for their partner organisations (clients). A team of teachers and a representative from each partner organisation acted as external leaders and coaches and supported the teams in reaching the set goals and learn simultaneously (Bolton, 1999; Wageman, 2001; Hackman and Wageman, 2005; Wageman, Hackman and Lehman, 2005; Carson, Tesluk and Marrone, 2007; Solansky, 2008; Morgeson, DeRue and Karam, 2010; Rapp, Gilson, Mathieu, and Rudy, 2016). The teams were encouraged to distribute the leadership responsibilities among all members. In cases where teams decided to elect a member as their team leader, the coaching team of teachers advised these team leaders to function as coordinators rather than project managers. These characteristics indicate that these SMPTs provided an appropriate context and platform for leadership development (Raelin, 2006, 2018a). The teams engaged in leadership practices in a group by working on their own tasks and solving their own problems in their own settings (Raelin, 2016d, 2018a; Day and Liu, 2018).

The literature review also demonstrates that self-managed teams, particularly project teams, provide an appropriate context for studying collective leadership development because they provide all or most types of experiences that are needed (Day, Gronn and Salas, 2004, 2006). For example, McCall Jr (2004) argued that most developmental experiences involve encountering the unpredictable, facing challenges, going into unfamiliar territories, and struggling with the unfamiliar. McCall Jr (2004) also argued that these encounters are often provided by challenging assignments or projects that involve substantial responsibility and exposure to other difficult people, hardships, and mistakes. The mentioned arguments support the basic assumption and the argument in the current study that authentic, multi-disciplinary projects and the autonomous way of working in self-managing teams support leadership capacity building and development.

Another strong argument for the suitability of SMPTs as a context for collective leadership development can be made using their association with shared leadership (Druskat and Wheeler, 2004; Carson, Tesluk and Marrone, 2007; Muller, 2014), which, again, is associated with leadership development (Klein and Ziegert, 2004; Day, Gronn and Salas, 2006; Raelin, 2006, 2018a; Friedrich et al., 2009; Day et al., 2014). Although collective leadership can occur in organisations, formal groups, teams, dyads, and formal organisational departments (Yammarino et al., 2012), distributing leadership responsibilities among multiple individuals (shared leadership) is often associated with self-managed teams (Druskat and Wheeler, 2004; Carson, Tesluk and Marrone, 2007; Muller, 2014). Members of SMPTs have both the freedom and the responsibility to share leadership with each other to achieve their goals (Solansky, 2008; Yang and Guy, 2011).

In SMPTs, leadership influence is not exerted by one formally assigned person. Instead, it is shared by individual members (Carson et al., 2007), which indicates that all individual

members hold responsibility for some leadership functions and are simultaneously leaders and followers (Morgeson et al., 2010; DeRue, 2011). Sharing leadership is a dynamic process of mutual influence that occurs among individual members and allows them to influence others and be influenced by others (DeRue, 2011). Within this dynamic and mutual process, individual members have opportunities to develop their leadership capacities by practising leadership and observing others' practices in different functions (DeRue, 2011).

Some scholars have argued that shared leadership is a learning process that focuses on building social capital and collaboration (Day, 2000; Day, Gronn and Salas, 2004; Raelin, 2006, 2018a; Day and Liu, 2018). For example, Friedrich et al. (Friedrich, Vessey, Schuelke, Ruark, and Mumford, 2009) argued that practising leadership as a shared responsibility and a self-feeding practice should further enhance the capacity to lead (Friedrich et al., 2009). While working collaboratively with others of equal status, members have the opportunity to learn and develop their leadership capacities through active participation in leadership, observation, and acceptance and denial feedback loops (Druskat and Kayes, 2000; DeRue and Wellman, 2009; Liu et al., 2014; Groves et al., 2015; Lan Wang et al., 2017). However, researchers have little knowledge about what individuals and collectives learn from their shared leadership experiences in self-managed project teams and how shared leadership capacities emerge in the following endeavours as a result of these experiences (Day and Liu, 2018; Raelin, 2018a).

Researchers also do not have a ready-made conceptual model that can inform how to investigate shared leadership development. Some scholars have stated that new perspectives and methods for collective leadership development and its examination are needed (Yammarino et al., 2012; Day et al., 2014; Day and Dragoni, 2015; Cullen-Lester and Yammarino, 2016; Raelin, 2016d, 2016b, 2018a, 2019; Day and Liu, 2018; Eva et al., 2019).

In this light, the following section presents Figure 4 to illustrate how multiple perspectives and methods can be used to study shared leadership development as a collective capacity across multiple projects in a longitudinal manner.

3.2   The Conceptual Model

The previous section provides a variety of discussions on the suitability of SMPTs as a context for collective leadership development. This section now turns to the integration of the previewed theoretical models to create a conceptual model that fits the context. The review of the current literature demonstrates that formal and informal learning from direct and indirect experiences within SMPTs significantly influence leadership development. Shared leadership within these teams provides all kinds of opportunities for leadership development at the individual, collective, and organisational levels (Klein and Ziegert, 2004; Klein et al., 2006; Raelin, 2006, 2016b, 2018a; Friedrich et al., 2009; DeRue, 2011; Bergman et al., 2012; DeRue and Myers, 2014). The literature review also reveals that leadership development can be studied with a process view, an outcome view, or a combination of both (Day, Gronn and Salas, 2006; Day et al., 2014; Day and Dragoni, 2015) with individualistic or collectivist perspectives.

This study explores shared leadership development as a collective capacity that is developed through self-managed project team experiences that take place in an organisational setting. Based on the definition of leadership development as the acquisition of knowledge, skills and abilities that can be used to effectively engage in multiple collective leadership behaviours (Denison, Hooijberg and Quinn, 1995; Dooley and Lichtenstein, 2008; Clarke, 2013; Kjellström, Stålne and Törnblom, 2020), this study pays particular attention to both dimensions of leadership capacity building: the knowledge and acquisition of KSAs and collective (shared leadership) behaviours.

A model has been developed to explore learning from experiences and emerging collective leadership behaviours by drawing on the theoretical models that have been reviewed. Because leadership studies in general and leadership development studies in particular are predominantly quantitative, the relationship between the acquisition of KSAs and leadership behaviours appears to be direct and linear in most conceptual models (e.g., Liu et al., 2014; Wu and Cormican, 2016; Zaccaro et al., 2018). However, in reality, it is not. Experiential development is a cyclical process (Kolb and Kolb, 2009; Kolb, 2014). There is a mutual relationship between learning from experience and emergent behaviours; they influence each other in cycles. Therefore, developing a hybrid model that incorporates multiple approaches to investigating leadership development's true nature and scope rather than solely focusing on quantitative behaviours was essential.

The model was developed based on the IMOI model that was developed by Day et al. (2004), which depicts how individuals and organisations develop leadership capacities by engaging in self-managed team projects and how their capacities become input for following experiences to develop further. According to this model, shared leadership in SMPTs is a self-feeding process (Friedrich et al., 2009) that allows the acquisition of KSAs that further lead to the development of shared leadership as a collective capacity (Day, Gronn and Salas, 2004, 2006; Raelin, 2006, 2018a). Organisational members bring specific resources as leadership capacities to self-managed project teams as input, practise shared leadership in multiple projects over time, and develop their leadership capacities further and their social capital at the group or organisational level. The developed capacities become input in the following projects, and the development cycle continues the same way as presented in Figure 3 (Day, David V. et al., 2004).

Figure 3

Development of collective leadership capacities in self-managed project teams (adapted from Day et al. [2004], Liu et al. [2014], and Zaccaro et al. [2018])
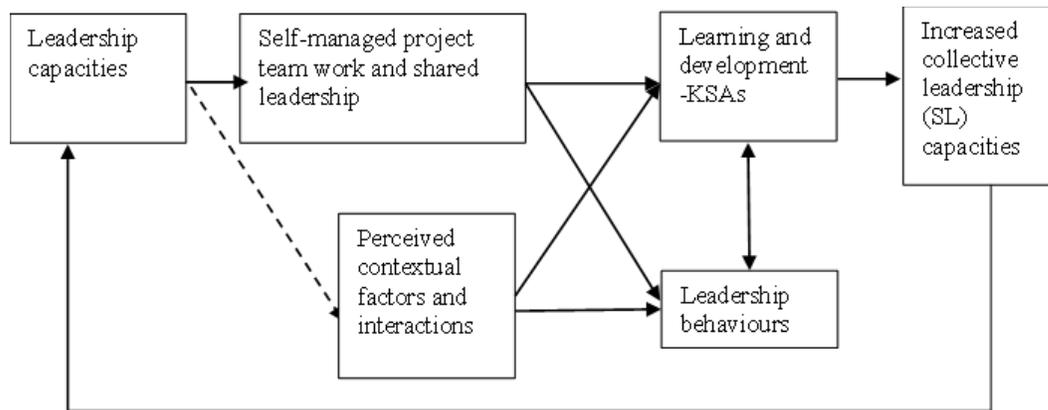
To allow the integration of contextuality, the model was adapted further to depict learning and development throughout three consecutive but distinct project tasks across three academic semesters (Figure 4), as suggested by Day et al. (Day et al., 2004). The model builds on the leadership development cycle that was proposed by Day et al. (2004) in the IMOI Team Leadership Development Cycle model. The output in the model becomes a potential input to future team projects within the cohorts of the case unit. Enhanced leadership capacities in the model refer to collective (shared leadership) capacities but incorporate the individual capacities in terms of their KSAs as they form the collective.

Figure 4

The IMOI model for studying leadership development in SMPTs through multiple experiences

over time

INPUT Leadership capacities (T0) → SMPT experience 1 → Learning and development -KSAs → OUTCOMES (T1) -Enhanced L.C

Perceived contextual factors and interactions → Leadership behaviours

INPUT Leadership capacities (T1) → SMPT experience 2 → Learning and development -KSAs → OUTCOMES (T2) - Enhanced LC

Perceived contextual factors and interactions → Leadership behaviours

INPUT Leadership capacities (T2) → SMPT experience 3 → Learning and development -KSAs → OUTCOME (T3) - Enhanced LC

Perceived contextual factors and interactions → Leadership behaviours

Change

Leadership Development

The IMOI model to study leadership development in self-managed project teams (SMPT)

According to this model, shared leadership capacity is an emergent state that is affected by learning as acquiring KSAs, perceived contextual factors, and interactions. Therefore, the model also integrates the complexity and constructive approaches to investigate the complex nature of collective leadership development across multiple and distinct project experiences. Zaccaro et al. (2018) developed a model to explain the relationship between leadership

capacities, perceived situational factors, and leadership outcomes. The authors argued that leadership capacities help individuals seek leadership roles and predispose them to using specific behavioural strategies to fulfil those roles. A limitation of the model that was developed by Zaccaro et al. (2018) regarding the current study is that they isolated the individual strategies from the role of ad hoc interactions and "intra-actions", which may reorient the flow of practice through some form of leadership agency (Raelin, 2018a, p61). Although the model accepts that leadership capacities (LCs) also affect how individuals perceive situational demands, Zaccaro et al. (2018) argued that the predisposed strategies of individuals are relatively stable over time and in different situations.

Therefore, it is imperative that the model incorporates multiple approaches to investigate the true nature and scope of leadership development. Self-managed team leadership emerges as individuals engage in team processes (Marks, Mathieu and Zaccaro, 2001; Zaccaro and Klimoski, 2002; Zaccaro, Rittman and Marks, 2002; Morgeson, DeRue and Karam, 2010). Individuals take the best-fitting roles and practise leadership based on how they perceive team needs at a particular moment. In addition to the prior capacities, various contextual factors and interactions affect these roles and practices (Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Raelin, 2018a). Since individuals may take a variety of roles and practise leadership in various areas in different team and task contexts, these practices may affect leadership development in multiple ways, which can make predicting the amount and direction of changes or the enablers and constraints of development difficult to determine. As McCall (2010) put it, these attempts are blind guesses. Therefore, no hypotheses could be developed.

3.3   Summary and Overall Implications of the Model

This section provides a summary of the chapter and implications of the conceptual model presented in the chapter. The conceptual model and approach presented in Figure 4 is unique and more comprehensive than the existing approaches for two primary reasons. First, the model integrates the shared leadership approach to the conceptualisation of leadership development and is also informed by the IMOI model, as well as the complexity leadership and social learning theories. Therefore, it realises that the previous calls for multi-perspective theory development that can be used to explore collective leadership development (Klein et al., 2004; Day et al., 2004; Friedrich et al., 2009; Yammarino et al., 2012; Day and Liu, 2018; Raelin, 2018a; Eva et al., 2019). Second, it allows the integration of contextuality to development by integrating three consecutive but distinct project tasks across three academic semesters. Thus, model responses to the calls to do so (Day and Sin, 2011; Day et al., 2014; Lorinkova and Bartol, 2020)

Such an approach has various implications for the study objectives and questions. It enables answering the research questions, which initiated this study and could not be answered using a single-perspective model. The study aimed to answer the main research question (RQ1) *"How does collective leadership capacity in an organisation develop through self-managed team experience across time and task settings?"* through three sub-questions:

RQ2: What do organisational members learn from their diverse leadership experiences?

RQ3: How does shared leadership as an organisational capacity emerge and develop?

RQ4: What are the challenging areas that need particular focus and intervention?

The RQ2 focuses on the complex learning process and acquisition of KSAs and requires a constructivist approach that draws on social learning and complexity leadership theories. The complexity theory is relevant due to the complex environments that most self-managed project teams work in, which are primarily caused by the equal status of the members and their autonomous ways of working. The social learning theory is relevant due to the shared leadership approach to self-managed project teams and the collaborative nature of learning within these teams. Various scholars have argued that shared leadership is a collaborative learning process and draws on the social learning theory (Klein and Ziegert, 2004; Raelin, 2006, 2018a; Lambert, 2011; DeRue and Myers, 2014).

The RQ3 focuses on the development of shared leadership. According to the complexity view, leadership development involves building organisational members' capacity to effectively engage in multiple and complex leadership functions to handle un-predicted problems or challenges in a complex business environment. Investigating shared leadership development requires incorporating the social network and behavioural complexity approaches to shared leadership emergence to explore the multiplexity and complexity dimensions (Contractor et al., 2012). The complexity theory suggests that an extension of the leadership capacity improves individual and collective adaptability across a wide range of unpredictable situations (Denison, Hooijberg and Quinn, 1995; Day, 2000). In this sense, growth in behavioural complexity may enable individuals and collectives to develop multiple solutions to a problem. Collectives have enhanced behavioural complexity if multiple members engage in leadership.

Therefore, the model proposes that shared leadership as the emergence of the collective capacity in various projects can be assessed with a combination of (1) the number of individuals who participate in leadership (sharedness), (2) the average strength of leadership

influence, and (3) the complexity of functional portfolios (the number of total positive functional performances), following the example of Bergman et al. (2012), which is in line with the suggestions that have been made by Day and other scholars (i.e., Day, 2000; Day et al., 2004). Comparing changes in the number of individuals who participate in leadership provides information about the second core dimension of shared leadership as an organisational capacity: how well do teams utilise the resources of all members? Changes in overall shared leadership ratings provide information about developments in the strength of leadership influence. However, changes in the number of positive behaviours being displayed can offer insight into developments in behavioural complexity (e.g., Carte et al., 2006; Yoo and Alavi, 2003). Changes in portfolios can also be used to explain the direction of development. Developments at the cohort and unit levels can be measured and assessed by aggregating the measures of cohort and unit levels.

Comparing different measures at different times aligns with the previous studies and is consistent with prior definitions of leadership development (Day et al., 2004, Klein and Ziegert, 2004), as well as research on modelling change (e.g., Tierney and Farmer, 2011, DeRue et al., 2012). For example, DeRue, Nahrgang, Hollenbeck, and Workman (2012) assessed leadership development by examining changes in the leadership behaviours of individuals over time (i.e., the change from Time 1 to Time 2) in a two-wave study. The current study also enhances their two-wave development model by adding a third wave. Two-wave studies have limitations because development appears to be linear, which contradicts the argument that leadership is non-linear (Day, 2011a, Day et al., 2014).

This study is interested also in investigating how situational perceptions are formed in distinct contexts and what influence these perceptions have on the emergence of portfolios and other outcomes. Leadership capacities also refer to KSAs that influence individuals to pursue

certain leadership functions and behaviours in different contexts (Zaccaro et al., 2018), and they develop over time and through multiple and distinct experiences (Day, Gronn and Salas, 2004; Zaccaro et al., 2018). LCs indicate the leadership functions (behaviours) that individuals are likely to engage in when situations require leadership responses. For example, individuals with higher cognitive capacities are more likely to utilise their related knowledge and skills in cognitively demanding situations. In situations that demand social capacities, on the other hand, individuals with higher social capacities are more likely to utilise their relevant skills, such as communicating, networking, and practising social and emotional regulation (Zaccaro et al., 2018). Cognitive capacities refer to cognitive skills such as problem-solving, critical thinking, cognitive flexibility, and creativity.

Alternatively, social capacity refers to skills such as communication, negotiation, persuasion, emotional intelligence, and behavioural flexibility. Therefore, understanding how participants construct meaning from their experiences and learn in a qualitative approach provides an excellent opportunity to understand and explain changes in shared leadership. These two research questions and the approaches to answering them are complementary.

The last question (RQ4) focuses on the challenging areas in which additional coaching support or intervention is required for a more effective leadership process. Due to leadership's contextual, complex, and dynamic nature, it is essential to identify the challenges to more effective leadership performance and development. McCall (2010, p17) stated that

> *It is clear that learning from experience is not automatic. . . but it is not as clear what the obstacles are to learning from different kinds of experiences, or on the flip side, what might enhance it. Until more is known about these aspects of learning from experience, efforts to intervene effectively to enhance learning will continue to be hit or miss.*

This research aims to highlight challenging leadership areas that self-managed project teams must face by going beyond guesswork. Analysing data to answer RQ2 and RQ3 combined can contribute to answering RQ4. Analysing how the participants understood their experiences and perceive their challenges can potentially provide a partial answer to the question. Changes in the portfolios would also offer insight into the development direction and support needs, which would complete the picture. The multi-perspective theoretical framework within the conceptual model of this pioneer study also affects the methodological approach. The holistic approach to finding answers to such versatile questions requires rich data from multiple sources using multiple techniques.

Assessing the changes in shared leadership as a collective capacity within the complexity approach requires identifying an array of leadership behaviours that complex environments require. Leadership functions and how these functions are shared between various stakeholders within the context of the current study were informed by the article that was written by Morgeson, DeRue and Karam (2010). Building on the work of McGrath (1962 in Morgeson et al., 2010), the authors extensively analysed team leadership processes (Marks et al., 2001). They identified 15 leadership functions that satisfy team needs in the transition and action phases of teamwork. These functions include structuring and planning, providing feedback, performing team tasks, solving problems, and supporting the team's social climate. These categorisations of functions would depend on the team's level of autonomy. Defining a mission, establishing expectations and goals, and monitoring the team can also be added, especially for self-managing teams.

Morgeson et al. (2010) also offered suggestions for the most suitable leadership source (internal vs external) for each function by distinguishing the formality of each source (Morgeson et al., 2010, p 10). The different potential sources of leadership are conceptualised

as external or internal based on the locus and formal or informal based on the formality of the leadership. The locus and formality of leadership (Morgeson et al., 2010, p 8) refer to the sources of leadership and mean that team leadership can originate from one of two sources: outside the team (i.e., external) or inside the team (i.e., internal). The formality of leadership, on the other hand, indicates whether the leader's authority is formalised in the organisation (formal) or whether there is no direct leader who holds responsibility (informal). The authors (Morgeson et al., 2010) presented project managers and team leaders as formal and internal leadership sources; they cited coaches, mentors, and sponsors as examples of formal and internal sources of leadership. They also classified shared and emergent leadership as informal and internal sources of leadership. Morgeson et al. (2010) provided the basis for developing the survey tool questionnaires within the current study. In the current study's context, a team of teachers and the representatives of the client organisations are the external leaders of the self-managed teams. They are essential to providing coaching support to the teams in their expertise areas.

In summary, the research questions that guide this research require a comprehensive, complementary, and pragmatic approach to the current study. While the third research question requires a behavioural and thus quantitative approach due to the quantifiable nature of behavioural data, the other questions require a rich description of experiences and learning from these experiences, which necessitates a more qualitative approach. Additionally, the qualitative data may also serve an explanatory function by providing descriptions of any KSAs that were developed and the need for further support. As argued by numerous scholars (Day and Lance, 2004; Day, Gronn and Salas, 2004; Uhl-Bien, Marion and McKelvey, 2007; Day, 2011b; DeRue and Myers, 2014; Day and Liu, 2018; Raelin, 2018a), development is too complex to be investigated using behavioural outcomes alone. Behaviours are affected by

multiple factors, and the rich descriptions of experiences and critical incidents may explain behavioural results.

Therefore, with its integrative approach, the model realises the long-standing pleas for multi-perspective theory development to explore collective leadership development (Klein et al., 2004; Day et al., 2004; Friedrich et al., 2009; Yammarino et al., 2012; Day and Liu, 2018; Raelin, 2018a; Eva et al., 2019). For example, Eva et al. (2019) referred to this need as a "primacy call". In addition to its potential contribution to the theorisation of collective leadership development, the conceptual model could make several other contributions to the existing knowledge and research in the field. First, the model facilitates going beyond the focus on behaviours quantitatively and exploring and describing what people learn from their leadership experiences (Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Raelin, 2018a, 2019). Second, the model also enables researchers to explore leadership development at the collective level across time and multiple team- and task-related contexts (RQ2) (Day, 2011b; Day et al., 2014; DeRue and Myers, 2014; Cullen-Lester and Yammarino, 2016; Day and Liu, 2018; Lorinkova and Bartol, 2020). Furthermore, the model provides the means for increasing the effectiveness of developmental activities as it can be used to examine and identify challenges to development and the need for additional coaching support (McCall, 2010).

4 METHODOLOGY AND DESIGN

This chapter discusses the philosophical considerations of the study, the research design, and the selected methodological strategies for data collection and analysis. The chapter finishes with a discussion of the methodological evaluation of the study, as well as its strengths and weaknesses regarding trustworthiness and credibility. This chapter attempts to justify a meaningful link between theory, method, and empirical inquiry (Guba and Lincoln, 1994; Shenton, 2004).

The chapter structure follows the foundation, pre-field, and field phases of case studies. The chapter starts with the foundation phase to provide the philosophical stance, inquiry techniques, and research logic considerations. Section 4.2 presents the research strategy and approach and provides the rationale for using the case study approach. Sampling strategies, the justification of the case selection, the prospective two-cohort design, and a summary of the participants' characteristics are discussed in Section 4.3. The approach to the data collection, various data sources, and collection tools and techniques are discussed in Section 4.4, which is followed by an explanation of the approaches to and methods of the data analysis (Section 4.5).

Section 4.6 provides an evaluation of the trustworthiness and credibility of the study. This section also includes the insider researcher's role and reflections as an insider researcher regarding the study's credibility concerns. The chapter concludes with a summary of the ethical considerations and limitations of the study in Section 4.7.

The epistemological and methodological considerations and decisions that are brought forward in this chapter address leadership development from multiple perspectives in its natural environment within the unique and complex context of the study. The study follows the pragmatist philosophy and utilises the mixed-methods data collection approach to capture

the measurable outcomes of experiential learning, such as leadership behaviours, and the less measurable consequences of these experiences, such as participants' interpretations and sense-making in relation to their learning environment.

The methodology and design of this research evolved throughout the literature review's completion and the iterations of developing the research questions. The study was originally going to incorporate a quantitively driven mixed-methods multiple case study approach but progressed to incorporate a qualitatively driven mixed-methods approach that utilises a two-cohort design. Under the two-cohort case study design, the semester projects were treated as events in a time-series analysis (Yin, 2013) rather than as separate cases, which was the initial plan. Multiple factors influenced this progression. The unique leadership culture within the case unit, the need for a qualitative approach to capture learning outcomes from shared leadership experiences (Klein and Ziegert, 2004; Klein et al., 2006; Raelin, 2006, 2018a; Lambert, 2011; Day et al., 2014) in self-managed project teams, and the relatively small size of the cohorts are among these factors. Figure 5 depicts the considerations and decisions that affected selecting the case study methodology and creating a case study protocol.

Figure 5

Research design and methodology

Research questions, complex environment, and an intrinsic motivation for organisational development	⟷	Ontology and epistemology: Leadership development is a constructive learning process affected by and affecting its environment

Single case study: Degree Program in Sales and Marketing ⟷ Mixed-method data collection and multiple data sources

Context: Collective leadership development through practices of SMPTs

Cohort 207

Cohort 2018

Qualitative: Experiences, complex and unquantifiable learning outcomes (RQ1, RQ2, RQ4)

Quantitative: Ability to engage in shared leadership behaviours, and sharedness (RQ1, RQ3 and RQ4)

Research objectives and questions

4.1   Philosophical and Epistemological Underpinnings of the Study

Epistemology is the intellectual pursuit of understanding how individuals acquire knowledge, and it plays an essential role in shaping any research methodology (Johnson and Onwuegbuzie, 2004). The context of the current study is a complex one. In addition to the personal characteristics of the organisational members, the collective leadership development process has been shaped by the social environment within the larger community of practice, as well as the organisation's culture and strategies (McCauley et al., 2013; DeRue and Myers, 2014; Day and Liu, 2018). For two primary reasons, pragmatism was considered more

suitable than other major philosophical approaches for exploring the complex inner world of organisational processes (Morgan, 2007; Hall, 2013; Kelly and Cordeiro, 2020). First, it emphasises that knowledge is constructed through experience; second, it encourages the researcher to analyse organisational practices through experience with an intrinsic aim and the motivation to act on it (Kelly and Cordeiro, 2020). Therefore, pragmatism in general – Dewey's pragmatism specifically – was considered relevant to the current study.

Furthermore, to a large extent, the researcher collected naturally occurring data from participant interactions within their daily activities and their natural environment to explore how the shared leadership capacity of an organisational unit develops. The two primary data sources (documents that cover post-project reviews and self and peer assessments of team projects) were part of the routine practices in the case organisation. Observations also occurred naturally rather than through manufactured data such as interviews (Silverman, 2013). Dewey's pragmatism enables insider researchers to make inquiries into their natural organisational settings. According to Dewey, there is no distinctive boundary between everyday life and research; instead, he viewed research as a more systematic, careful, and self-aware form of inquiry than most other human responses to challenging situations (Morgan, 2014). Transactional realism is also a characteristic of pragmatism. According to Hall (2013, p17), Dewey's philosophy moves away from traditional dualism. It locates itself in transactional realism, which suggests that the mind and world constantly interact with each other through transactions. These transactions are "adjustive processes" in which individuals actively engage with and transform their environments. Like in the constructive approaches, knowledge and reality are constructed and reconstructed continuously. However, although knowledge is constructed, it is simultaneously "real" (Hall, 2013).

Leadership development cannot be isolated from the contextual factors within which it occurs; therefore, past research has been criticised for being pre-dominantly individualised and thus not contributing fully to the proper understanding of development strategies (McCauley et al., 2013; DeRue and Myers, 2014; Day and Liu, 2018). There is a need for more interpretative epistemologies and qualitative approaches (Raelin, 2016d, 2019; Liu et al., 2020a). As a philosophical foundation, pragmatism offers opportunities to capture both individual and contextual explanations of leadership development. Therefore, a solely positivist approach is not appropriate for capturing both the process and the outcomes of leadership development in the context of this thesis. For example, shared leadership practices in the case degree program, the multiplicity of stakeholders, and the diversity of other contextual factors such as changing team structures and the nature of tasks all influence development. Besides, positivism is primarily associated with variable measurement, the testing of theories, and the investigation of causes and effects (Morgan, 2007).

Thus, the research was constructed using pragmatism with a practice-based approach. In practice-oriented leadership research, the approach is pragmatic, and the researcher's objective is not to prove or elaborate on a theory in its context (Raelin, 2016d, 2019). Instead, the researcher is interested in seeing what emerges from interactions between actors, their activities, and their environment (Uhl-Bien et al., 2007; Raelin, 2019). The theory is used to make sense of ongoing activities rather than act as the initial guide (Raelin, 2019, p3). In this sense, the author of this current study was both the researcher and a participant in the interactions as part of the teacher team in the case undergraduate program and was interested in seeing the emerging outcomes that would result from interactions.

When regarded as an alternative paradigm, pragmatism accepts "that there are singular and multiple realities that are open to empirical inquiry and orients itself toward solving practical

problems in the 'real world'" (Creswell and Plano Clark, 2011, p20–28). The practical

problem that this research aims to solve is developing a shared leadership approach in team

projects that can eventually enable more effective leadership development within the case

unit and larger institution. Therefore, pragmatism is suitable for the case study approach

(Scholz and Tietje, 2002) as it allows the researcher to be free of mental and practical

constraints that are imposed by the "forced-choice dichotomy between post-positivism and

constructivism" (Creswell et al., 2007, p27).

Pragmatists focus on understanding the utility of knowledge rather than mirroring knowledge.

The potential utility of the current study is a deeper understanding of the process of the

leadership development of undergraduate students within the context of the degree program

and the larger institution. A deeper understanding of the leadership development process and

the challenges to development can help tutors, teachers, and managers evaluate and determine

the appropriate levels of autonomy for project teams, as well as the time and context of

interventions that are needed for effective development. The effective development of

leadership capacity would also be a source of sustainable competitive advantage for an

organisation in the long run (Volz-Peacock et al., 2016). Besides the other spill-over effects of

best practices, one intended outcome of this practice-based research is providing a clearer

direction for all the other programs across the larger institution and encouraging the

leadership of team projects to use intentional strategies and more effective developmental

approaches.

The case study approach is in line with the assumptions of pragmatism. It allows the

researcher to be free of mental and practical constraints that are imposed by the dichotomy

previously mentioned (Creswell et al., 2007). Additionally, the case study approach does not

require a particular method or mixed methods and does not exclude other methods. Instead, it

aims to interrogate a particular question, theory, or phenomenon with the most appropriate research method.

4.2   Research Strategy and Approach

The study was planned and implemented as a micro case study within a prospective two-cohort design in a single higher education institution. The case focused on shared leadership development as a collective capacity through self-managed project teams. The contextuality of the leadership phenomenon and the lack of an established theorisation of collective leadership influenced the design choice.

There is no consensus in the methodology literature on how to define a case study regarding whether the case study is a method, methodology, or strategy. The disciplinary traditions, philosophical stance and considerations, and the decisions about case design and data collection define case studies in different contexts and disciplines (Yin, 1994, 2011; Thomas, 2010; Zainal, 2007). This study mainly draws on the definition that was proposed by Yin (2013). Yin defined the case study as an empirical inquiry that focuses on a contemporary phenomenon within its real-life context where boundaries between the phenomenon and its context are not clearly evident (Yin, 2013). This definition underlines the use of case studies for the following purposes:

1. The objective is to answer a variety of questions that include "how" or "why".

2. The topic is a contemporary phenomenon in a real-life context, and the investigator has little or no ability to control the events.

3. The context is complex as it involves multiple actors, tasks, and goals.

4. The pre-established theoretical framework is lacking or insufficient.

Case study research helps the researcher explore a phenomenon in a particular context through multiple data sources and collection techniques to reveal new and multiple facets of the phenomenon (Tellis, 1997; Creswell, Shope, Clark, Plano and Green, 2006; Thomas, 2010). This study is a broad exploration of collective leadership development that utilises an integrative approach that is informed by multiple theoretical perspectives (Cox, Pearce and Sims Jr, 2003; Yammarino et al., 2012; Eva et al., 2019). More specifically, the study explores what the participants learned from their leadership experiences in self-managed project teams and how they developed their ability to engage in shared leadership. The study includes the process (the participant knowledge, awareness, and perceptions) and outcome views (the ability to engage in shared leadership behaviours) of capacity building in a single organisation. Due to the epistemological view and the contextual and longitudinal nature of the research topic, a case study approach was deemed appropriate (Yin, 2013, 2017). Drawing primarily on Yin's (2013, 2017) research design and case study procedures and protocol, the researchers included multiple data sources and data collection methods in the design of the current study to enhance the richness and accuracy of the results.

4.3 Research Design

This section provides information about the design choices and the selection of the case and participants for this study. The section starts with the selection of the case unit within a larger organisation and continues with the introduction of the participants who were in the two cohorts.

The primary objective of the inquiry was an in-depth exploration of leadership development through self-managed project team experiences across time and multiple tasks. This objective required the researcher to follow the same participants and their experiences for longer durations. Leadership development is a longitudinal phenomenon, and it takes time to build

collective capacity for organisational members (Day, 200, 2011; Day et al., 2014). Therefore, the part of the study that focuses on the development of shared leadership was planned within a prospective cohort design to allow a time series analysis to be conducted, which is typical to leadership development studies that use a behavioural approach (e.g., DeRue and Wellman, 2009; day and Sin 2011).

The prospective cohort designs enabled the researcher to follow and assess the leadership development in time through real-time data. According to Day et al. (2014), cross-sectional designs such as sequential cohorts (e.g., Posner, 2009, Baron, 2016) are "incomplete and probably inappropriate for… questions related to leadership development. This puts a burden on researchers given the difficulties associated with conducting longitudinal research" (Day, David V. et al., 2014 p 79). In the retrospective cohort design, on the other hand, the researcher relies on self-declared answers about a process that has already been completed (e.g., Posner, 2009). Repetition with a second cohort has additional advantages in testing the reliability and validity of the data, similar to the advantages that multiple case studies offer (Yin, 2003, 2013).

4.3.1 Sampling Strategy and Selection of the Case

In case study inquiries, sampling takes place at two levels: selecting the case and selecting the participants within the case to be studied. The cases should reflect the characteristics and problems that were identified through the underlying conceptual framework (Yin, 2013). This qualitatively driven case study explores how collective leadership developed in an undergraduate business program at a prominent university of applied sciences in Finland. It provides an appropriate context for exploring leadership development through self-managed project team experiences as students typically work in self-managed teams to complete their collaborative learning projects in a unique environment. The participants further developed

shared leadership through their self-managed project team experiences across time and through distinctive project tasks (Day et al., 2014; DeRue and Myers, 2014; Cullen-Lester and Yammarino, 2016; Raelin, 2016a, 2018a; Day and Liu, 2018).

Additionally, the unit was appropriate for studying the contextual phenomenon and providing access to rich data sources for an extensive period to the insider researcher, who had intrinsic motivation. However, the heterogeneity and the diversity of leadership practices within the larger organisation did not allow the researcher to focus on the whole organisation or to investigate leadership development in a shared leadership environment. Therefore, with an embedded case study approach, the researcher focused on the practices of two sequential cohorts in a small BBA unit that was embedded in the larger institution. Embedded case studies allow researchers to focus on smaller units that are embedded in larger organisations and provide a more detailed level of inquiry via identifying appropriate sub-units (Scholz and Tietje, 2002; Yin, 2011, 2013, 2017).

The next step in sampling is the selection of the participants within the case unit to be studied (Yin, 2011). Because this study focuses on leadership development at the unit (degree program) level in a larger organisation, in an embedded approach, the students who were members of the two sequential cohorts were selected to be the participants of the study. This sampling level was based on convenience because these two cohorts coincided with the research duration. This decision affected both the levels of analysis and the design of the case study. Embedded case studies include units of analysis that are "lesser than and within the main case in a case study, from which data are also collected" (Scholz and Tietje, 2002; Yin, 2017, p287). This embedded single case study consisted of two units of analysis. The first and primary unit of analysis was the case itself (the degree program represented by the two

successive cohorts). The second level of analysis consisted of the individual members of the two cohorts as study participants.

Another justification for using the two-cohort design rather than a single one relates to the contextuality and personalised nature of learning. Learning from experience is complex and not automatic; different people learn different things from the same experiences. Even the same people may learn different things from the same or similar experiences in a different environment (McCall Jr, 2004; McCall, 2010; McCauley et al., 2013). Following the participants of two different cohorts who were working in self-managed project teams and following a very similar order for completing project tasks in a very similar difficulty order provided the perfect setting for exploring complex leadership development through self-managed project team experiences.

The small size of the cohorts was another influential factor in choosing the design. An increased representation capability at the program level was achieved through the integration of a second cohort with the same parameters and variables. Just as in multiple case studies, repetition with a different cohort improves the validity and reliability of the research (Astin and Lee, 2003; Pascarella, 2006). Studying two embedded cohorts within the unit also allowed the researcher to explore the case by analysing the data within the cohorts across time and between the cohorts and thus utilise some of the advantages of multiple case studies (Yin, 2003).

The number of data collection rounds and cohorts were predetermined by contextual factors such as the nature of the cohorts and the practices of the study field. To capture the appropriate length of time and data collection points to analyse the developments (Day, 2011b), the researcher incorporated all three semesters in which the students engaged in collaborative learning projects as members of cohorts. The leadership development literature

(McCall Jr, 2004; DeRue and Wellman, 2009; McCall, 2010; Day, 2011b; McCauley et al., 2013; Day et al., 2014) states that development is non-linear; therefore, the inclusion of a third wave was also essential to capture this non-linear nature. Two-wave data collection designs (e.g., DeRue et al., 2012) depict linear developments; therefore, three-wave designs are recommended (Volz-Peacock et al., 2016).

This kind of sampling and structure has both advantages and disadvantages. First, the data collection time is limited to the academic calendar and requires effective time management. Second, role duality places even more boundaries on how much time can be devoted to data collection when the first role as an instructor requires an intensive work schedule (Brannick and Coghlan, 2007; Coghlan, 2007; Manfra, 2009; Somekh and Zeichner, 2009; Thiollent, 2011). On the other hand, it creates opportunities by providing a good platform and access to longitudinal data to investigate the leadership practices of SMPTs and developments that are made through these practices throughout the study time, which improves the practices in the organisation (Manfra, 2009). The authenticity of tasks and methods allows the research to create comparisons and linkages with other work teams that work autonomously, such as self-directing/managing teams.

For the analysis of development in shared leadership, the number of participants in this study may appear to be small but is not inappropriate or uncommon for a case study in leadership development, especially within the current design. Other examples that feature relatively small sample sizes are the study that was conducted by Mason, Griffen, and Parker (2014), which included 56 leaders, and the study that was conducted by DeRue and Wellman (2009), which included 60 managers. Although they do not focus on leadership development, there are also examples of studies that investigate emergent leadership in a single case with relatively small sample sizes. The study that was conducted by Ziek and Smulowitz (2014)

featured 60 undergraduate students; the study that was conducted by Zafft, Adams, and Matkin (2009) focused on 81 engineering students. Yoo and Alavi (2004) studied a sample of 63 U.S. federal government agency executives.

4.3.2 *Participants in the Study*

The participants who took part in the study were selected purposively from two consecutive cohorts in the study program. In purposive sampling, participants are selected from a sample that could be particularly informative for a specific purpose (Teddlie and Yu, 2007). As mentioned previously, at the time of the study, the students in the program were engaged in collaborative learning projects that required self-managed project teams that had to complete varying tasks; these students were involved in teams across a few semesters, which made the situation an ideal case for studying shared leadership development across time and contexts. This kind of learning approach incorporated both closed cohort groups of students who followed their courses together in a prearranged sequence and non-cohort groups that included students from other degree programs and exchange students from the ERASMUS program. All the students (closed cohorts and non-cohort groups) worked on semester-long sales-and-marketing-related projects in small teams. This approach made the case even more natural and unique than the homogeneous closed cohorts did.

Table 1 illustrates the demographic structures of both cohorts that have been included in the study. As the table demonstrates, the two cohorts, as the basis for the longitudinal analysis, were originally small groups; however, with the addition of non-cohort student groups and due to some dropouts, the number of respondents at each time point was different (the smallest number of respondents being 16 and the largest 42). The starting number of participants was 27 for the first cohort (C1) and 16 for the second (C2). Although some students left the cohorts for an exchange period at a different university or dropped their

studies, the number of participants in Time 3 (T3) was much larger due to the high number of non-cohort participants. The values of the additional cohort at T3 for both cohorts were excluded from the assessment of shared leadership development so as not to contaminate the case study data.

On average, 73% of the participants were between 20 and 25 years old and came from more than 10 different ethnic backgrounds. The male and female distributions were relatively even; the average percentage of the female population in the two cohorts was 55%. The criteria to be included in the case unit's longitudinal analysis were participating in the original cohorts or joining one of the cohorts for at least two different semester-long projects. However, the participation of other participants was valuable for the learning and development of the original cohort members. The students in both cohorts followed the same curriculum with the same instructors. All developmental experiences were the same across both cohorts. The cross-cohort comparison data and a highly structured and consistent set of curricula across cohorts reduced the likelihood that the findings of the study would be subject to unknown mistakes or selection biases (DeRue et al., 2012).

Table 1

Demographics of the participants in two cohorts

	Cohort 1 (A)			Cohort 2 (B)		
Gender	Semester 3 Project1 N = 27	Semester 4 Project 2 N = 17	Semester 5 Project 3 N = 16	Semester 2 Project 1 N = 16	Semester 3 Project 2 N = 18	Semester 4 Project 3 N = 20
Male	10	9	7	7	7	8
Female	16	7	8	9	11	12
Other	1	1	1	0	0	0
Age Group						
Below 20	3	0	0	1	2	2
20–25	21	12	8	12	13	10
26–30	2	3	4	2	1	6
31–35	1	1	2	2	1	2
36–40	0	0	0	0	1	0
40+	1	1	2	0	0	0
Number of nationalities	15	12	12	10	10	11

4.4 Approach to Data Collection, Procedure. and Tools

This section presents the data collection techniques, procedures, and tools. First, a discussion of the mixed-methods approach and justification of its use regarding the objectives of the current study are introduced. After introducing the pilot study for tool development and the study timeline, the section covers various data sources and their role in the study.

4.4.1 *Mixed-Methods Data Collection*

Case studies provide a framework within which it is possible to use a synergistic mix of qualitative and quantitative data collection methods that also suit projects that seek to understand why and how phenomena occur in addition to "what" they are, but behavioural events cannot be controlled (Yin 2003). Going beyond the quantitative statistical results to understand the behavioural conditions through the actors' perspectives (Zainal, 2007) is ideally suited to inquiring about phenomena such as leadership that are strongly affected by contextual factors (Yin, 2011, 2013, 2017). Day (2011b) argued that leadership is already a complex phenomenon, and that development makes it even more complicated due to the longitudinal nature and multiplicity of its factors.

In line with the philosophical stance and pragmatic approach, this study has adopted a mixed-method approach to data collection that consists of qualitative and quantitative approaches (Leech and Onwuegbuzie, 2009; Yin, 2017). However, specifically during data analysis, more emphasis was given to the qualitative techniques because they were more appropriate for studying organisational phenomena in their natural settings (Yin, 2013, 2017). Mason (2006) suggested that a qualitatively driven mixed-method approach offers "enormous potential for generating new ways of understanding the complexities and contexts of social experience and for enhancing our capacities for social explanation and generalisation" (p 10). According to Mason, such an approach can employ and extend some of the best principles of qualitative research.

The mixed-methods approach was mainly utilised for data collection to capture both learning outcomes and behavioural outcomes concurrently. Rather than searching for truth and cause-outcome relationships, the researcher primarily sought to understand how the participants made meaning of their practices in the SMPT environment, what they had learned, and how

this learning was translated into leadership behaviours in the sequential projects and teams. Therefore, the analytical approach was mainly qualitative. Although a multi-perspective conceptual model was presented in Chapter 3, the objective was not to prove or reaffirm the theories. Instead, the theory was used as an initial guide for exploring new possibilities and clarifying the inter-subjective circumstances surrounding the actions of self-managed teams within the organisational unit (Raelin, 2019, p484).

Table 2 illustrates the links between various data types and collection methods and the research questions. As depicted in Table 2, the primary objectives for mixing the qualitative and quantitative data collection methods were twofold: answering different questions and achieving completeness (Bryman, 2006). Creswell and Plano Clark (2011) argued that combining the two methods helps researchers answer questions that cannot be answered with either of the methods alone and provides a greater portfolio of tools for meeting aims and objectives. Completeness, in this sense, refers to providing a more comprehensive and complete picture of the phenomenon under study (Bryman, 2006). The practice of exercising shared leadership in self-managed project teams has two major impacts on collective leadership capacity: (a) learning from complex and dynamic experiences in terms of acquiring knowledge and skills and (b) changes in the ability to engage in shared leadership effectively (Day, 2000, 2011b; Day and Lance, 2004; Day, Gronn and Salas, 2004, 2006; Lichtenstein et al., 2006; Dooley and Lichtenstein, 2008; Friedrich et al., 2009; Clarke, 2013; Raelin, 2018a).

Table 2

An Overview of the Rationale for Mixing Data

RQ1: How does collective leadership capacity in an organisation develop through self-managed team experience across time and task settings?		
Data sources: PPR documents, project documentation, observations, and survey questionnaires	Application: all rounds for both cohorts	Objective: complementarity, commonality, and contradictions
RQ2: What do organisational members learn from their diverse leadership experiences?		
Data sources: PPR documents, project documentations, responses to open-ended question in questionnaires, and observations	Application: all rounds for both cohorts	Objective: to identify major themes of participant experiences, learning, and skill development
RQ3: How does shared leadership as an organisational capacity emerge and develop?		
Data source: survey questionnaires	Application: all rounds for both cohorts	Objective: to control and compare shared leadership emergence across three sequential but distinct projects over 18 months
RQ4: What are the challenging areas that need particular focus and intervention?		
Data sources: PPR documents, project documentation, observations, and survey questionnaires	Application: all rounds for both cohorts	Objective: complementarity, commonality, and contradictions

In the context of the current study, gathering qualitative data was essential to obtaining a more detailed understanding of what meaning the participants made out of their complex and multifaceted experiences and what they had learned from them. These complex and dynamic processes are difficult to explore through cause and relationship approaches between variables (Day et al., 2014; Raelin, 2016b, 2018a; Day and Liu, 2018). However, assessing

development over time only qualitatively is challenging to manage (Liu et al., 2020) and

limited in terms of explaining how well learning is translated into behaviours in an

uncontrolled environment (Day, David V. et al., 2014). Combining the two types of data

would provide a more comprehensive picture of the complex leadership development

phenomenon. The development of leadership through collaborative semester projects took

place mainly outside the classroom, which made observation challenging for the researcher.

The nature of development requires using questionnaires to understand the quantity and depth

of shared leadership practices in multiple teams. However, quantitative data is inadequate for

addressing the complex domain of leadership practices and learning from it. Therefore,

qualitative data was needed to create a complete picture and distinguish the voices of the

participants (Creswell and Plano Clark, 2011; Tashakkori and Creswell, 2007).

Figure 6

Mixing qualitative and quantitative data during the various stages of the study

Initiation (Qual)
- Initial literature review and the distrubution of the leadership functions
- Validity check for the context with two interviews

Data collection (Qual&Quan)
- Survey: Personal differences, self- and peer-rated values for the leadership performances
- PPRs (group interviews): reflective sessions for identifying learning and describing experiences

Analysis (Qual, Quan to Qual)
- Thematic analysis of the qualitative data
- Descriptive statistics from the survey results (Quan)
- Qualitative analysis of the changes through comparison and the graphs

The first step in the case study protocol was the formulation of research questions. The starting point of the case study did not involve predefined propositions or hypotheses; it required the motivation to investigate the research questions. This approach aligns with pragmatism (Morgan, 2007; Hall, 2013) and co-creation in the practice-based approach (Raelin, 2016d, 2019). The researcher's main objective was to understand the process and outcomes of collective leadership development that occur through self-managed project team experiences and the bottlenecks in the process. Therefore, the main and overall question was, ***"How does collective leadership capacity in an organisation develop through self-managed team experience across time and task settings?"***

The three sub-questions that were formulated to answer the main question are the following:

- ***"What do organisational members learn from their diverse leadership experiences?"***

- ***"How does shared leadership as an organisational capacity emerge and develop?"***

- ***"What are the challenging areas that need particular focus and intervention?"***

Because of the absence of theory and empirical research on leadership development at the collective level (Yammarino et al., 2012; Eva et al., 2019), particularly in self-managed project team settings, a cohort-based explorative case study approach was considered essential and appropriate (Hall, Scott and Borsz, 2008; Galli and Müller-Stewens, 2012). Case studies are frequently used as part of organisational studies to investigate complex and contextually bound unexplained phenomena in a holistic way to understand the dynamics of the phenomena present in a unique setting (Yin, 2013). The holistic view of dynamics in a unique setting is enabled by including multiple sources of data on different levels of analysis

(e.g., organisational, group, and individual) and using multiple methods (e.g., documents, interviews, observation, and questionnaires) (Yin, 1994, 2013, 2017).

As insider research, the study mainly utilised data from the pre-existing practices within the students' natural environment in the case unit, such as peer assessments of the project teamwork and post-project reviews. Therefore, the primary data sources were the transcribed documents of post-project reviews (PPRs), project documentation, direct observations, and structured surveys through which participants rated the shared leadership performances of their peers. Building collective leadership capacity is defined as the acquisition of knowledge and skills to collectively engage in leadership actions (Day, 2000, 2011b; Day, Gronn and Salas, 2004). Therefore, the qualitative data that was collected from the transcriptions of reflections that took place in PPR sessions and open responses to the survey questions focused on the experiences and learning from them (acquiring knowledge and skills) (Raelin, 2006, 2016b, 2018a; Hall, Scott and Borsz, 2008; Lambert, 2011) in the various task and team situations. The structured survey data, on the other hand, focused on the changes in the participants' abilities to engage in shared leadership (Hiller, Day and Vance, 2006; Mehra et al., 2006; Small and Rentsch, 2011; Bergman et al., 2012; Lorinkova and Bartol, 2020).

4.4.2   *Procedure, Sources, and Tools*

Following the case study protocol and after obtaining permits from the institution and ethical clarification from the home university, the researcher mainly collected naturally occurring data from the daily practices of the participants in the two successive cohorts ($n = 45$) of the undergraduate business program for three semesters (18 months) across three distinct but consecutive semester projects. The data collection process was concurrent rather than sequential. As a general practice, links to the survey questionnaire were provided before the PPR sessions. On some occasions, the participants could see the preliminary results before

going into the PPR sessions. However, this practice was primarily based on time-management concerns rather than a sequential order.

As Figure 7 illustrates, the data collection was based on time series data. The researcher employed a combination of qualitative and quantitative data collection methods to answer the predefined research questions. Due to its longitudinal nature, the study incorporated three rounds of data collection (T1, T2, and T3) for both cohorts (six rounds in total). Each round was an embedded process: structured survey and project review sessions with each project team were conducted right at the end of the semester project implementation processes. This standardised procedure was applied at all time points for both cohorts. In all rounds, data was collected from the same sources using multiple techniques: (1) a document analysis of the PPRs and project reports (which is a common practice within the unit); (2) structured surveys as an extended form of peer assessment (which is also practised commonly to assess teamwork); and (3) direct observations, the first two being the primary sources. These resources, tools, and their purposes for the study are explained in the relevant sub-sections.

Figure 7

Study time-line for Cohorts 1(A) and 2 (B) (1 = T1, 2 = T2, and 3 = T3; PPR: Post-Project Reviews)

Survey Questionnaire Tool. Some of the primary tools for data collection were the survey questionnaires, which were distributed at the end of each project to both cohorts. Six surveys in total were deployed to collect data regarding three projects that involved two cohorts. The survey data was primarily gathered to assess shared leadership development through changes in leadership behaviours, and it was essential to understand the degree to which participants transferred their knowledge from one experience to the next. A survey questionnaire in a balanced round-robin approach was used to assess shared leadership as the central construct of the study. Differences in individual data such as demographics were also obtained and stored through the questionnaire. Values were obtained through self- and peer-rated data that was collected at the end of each semester project.

In addition to providing information on the demographics, the participants rated themselves and other members of the team on the extent to which they engaged in various leadership functions (behaviours) at the end of each 4-month-long project (three per cohort). Self and peer ratings were obtained regarding the extent to which each individual engaged in seven leadership functions using a 15-item questionnaire. Table 3 lists the 15 items that cover the seven leadership functions that were assessed by the participants. To encourage individual team members to participate actively in the team project and the online survey, the researcher told the participants at the start of the first project that the results would be shared and discussed with them within the practice-based approach (Raelin, 2016a, 2016b, 2019). They were motivated by this practice-based approach as it positioned them as active participants rather than subjects.

Table 3

I5-item leadership functions covered in the survey (adapted from Morgeson, DeRue and Karam, 2010)

Source	Functions	Items
Shared leadership (1–15)	1. Structuring and Planning (1, 12) 2. Providing feedback (5, 13) 3. Monitoring the team and tasks (7) 4. Performing tasks (2, 14) 5. Problem-solving (4, 8) 6. Coordinating (3, 6, 11) 7. Supporting the social climate (9, 10, 15)	1. My team member X is actively involved in and share responsibility for establishing the goals for the team and planning (1). 2. My team member X takes on a fair share of the work that needs to be accomplished (4). 3. My team member X links their own work and harmonise it with the work of others (6). 4. My team member X seeks a broad range of perspectives and alternative methods when solving problems (5). 5. My team member X recognises the achievements of others and encourage them to do better (2) 6. My team member X collaborates with one another to make decisions that affect this team (6). 7. My team member X monitors our team's process and inform others about our progress (3). 8. My team member X helps to identify, diagnose, and resolve the problems, issues, and conflicts that face this team (5). 9. My team member X steps in and help others (even if it is outside an area of their personal responsibility) to ensure the team succeeds at its task (7). 10. My team member X has an equal voice, and their opinion counts when they share their perceptions regarding a situation that affects the team (7). 11. My team member X openly shares information with others on the team so that all members can work more effectively (6).

12. My team member X works together to decide what individual performance goals should be (1).
13. When my work is not up to the team's expectations, my team member X points it out to me in a constructive way (2).
14. My team member X takes on a variety of roles depending on the situation that the team is facing (4).
15. My team member X expresses optimism and positivity about other team members and the project task to motivate one another (7).

As illustrated in the table above, the Likert scale statements included such statements as "My team member X is actively involved in and shares the responsibility of establishing the goals for the team and planning" and "My team member X takes their fair share of the work that needs to be accomplished". Individual ratings were averaged to the cohort level to obtain cohort-level data.

These leadership function items were developed based on the 82 leadership actions within the 15 functions of team leadership that were identified by Morgeson et al. (2010, p 31) and the suggestions on how these leadership functions are shared between different sources of leadership (Morgeson et al., 2010). The questionnaire was adapted to the context of the current study and kept short by excluding repetition and including only the most relevant items for the context of the study (DeRue et al., 2012). Otherwise, because the individuals had to rate themselves and other team members with identical items, the survey would have been too long and may have fatigued the respondents. The items used in the questionnaire are also very similar to the "Behavioural Observation Scale" (BOS) that was used by Taggar, Hackett, and Saha (Taggar et al., 1999, p 909) and the 25-item questionnaire that was used by Hiller et al. (2006). DeRue et al. measured leadership development (DeRue et al., 2012)

through changes in leadership behaviours by adopting six items from the Leader Behaviour Description Questionnaire (LBDQ). The suitability and validity of all leadership functions were checked with colleagues and senior students who were not participants in the study. Colleagues were interviewed. The number of functions and the statements that were used in the scale items were adjusted during a pilot study in that was conducted in autumn 2017.

Pilot Research and Research Timeline. The project started with the literature review and instrument development, which were completed in autumn 2016. The very first instrument was tested in spring 2017. With the realisation of multiple sources of leadership and the critical roles that different stakeholders play in the context of the study, the instrument was re-designed based on the article by Morgeson et al. (2010). Re-designing the instrument included making amendments to the number of questionnaires in the survey and the number of items that were included. Articles by DeRue et al. (2014), Day et al. (2014), Day and Liu (2018), and Raelin (2006, 2016a, 2016d, 2016b, 2018a, 2019) influenced this change.

During the survey tool development stage, the researcher interviewed two colleagues to adapt the survey questionnaire to the context of the study. With the help of these interviews at the initial stage, the functional distribution between sources in the survey tool regarding the expectations of external leaders and the practices at the research site were defined and tested qualitatively for construct validity. The interviewees' opinions were combined with the suggestions of various authors (Wageman, 2001; Wageman et al., 2005; Hackman and Wageman, 2005; Konradt and Hoch, 2007; Morgeson et al., 2010). Facebook discussions with several senior students were conducted to gain expert views to identify the leadership functions that the external leaders expected to see as coaches (instructors and project clients). This process resulted in the 15-item questionnaire that was employed to evaluate the emergence and development of shared leadership, which was adapted from Morgeson et al.

(2010). The first round of data collection took place in spring 2018 and was completed in December 2019 with the third and last round of data from the second cohort. In total, six rounds of data collection (three rounds per cohort) were conducted.

The decisions regarding the duration of the data collection time and the number of data collection rounds (successive semesters) were affected by the availability of the cohort data in the case unit and the suggestions that were made by prior researchers. For example, two-wave studies (e.g., DeRue et al., 2012) have been noted as being problematic by prior researchers as they can only portray change as linear and potentially miss fluctuations or other nonlinear manifestations (Day and Sin, 2011; Castillo and Trinh, 2018). Incorporating more than three waves would have been practically impossible due to the nature of the studies and the availability of cohort projects at the research site. Students in more advanced levels select their courses individually based on their interests.

Qualitative Data Collection. The qualitative data were gathered from a few sources: open comments in the survey questionnaires, post-project reviews within the group interview format, project documentation, and observations (the first two observations being the primary ones). This section provides a detailed description of these sources and data collection techniques.

Post-Project Reviews and Project Documentation. Alongside the comments in the survey questionnaire, the project evaluation sessions that were held in the group interview format with each project team were a primary source of qualitative data for the study. These sessions are called post-project reviews. PPRs are part of the routine process and practice within collaborative learning practices in the BBA programme and in other units of the larger organisation. They comprise reflection sessions that are held at the end of collaborative learning projects and are a vital part of the learning process. Once the projects are completed,

all the project teams are invited to evaluate their project experiences, achievements, failures, lessons learned, and the ways they contributed to the client organisation's goal achievement. These sessions are conducted as semi-structured group interviews (or sometimes as panel interviews if several teachers are available and present). PPRs are also rich in data as they provide a deeper understanding of the leadership development process concerning how the students make meaning of their experiences in SMPTs, how they evaluate teams' and individuals' performances, and their challenges and achievements.

PPRs were essential to identifying the acquired leadership KSAs that were not covered in the survey questionnaire but affected the behaviours that were assessed in the survey questionnaire (Zaccaro et al., 2018). In line with the practice-oriented approach (Raelin, 2016d, 2019), the participants were asked to describe their experiences and explain "how did the team perform and how did they contribute to the team performance in the project?" (self-explanation) (DeRue et al., 2012). Each participant was also asked to visualise and explain their motivational curve throughout the project. This practice provided rich data on how the individuals interpreted their experiences and made meaning of them. Next, the participants were asked about their individual behaviours and contributions to the project. The participants shared their views and interpretations of the events and factors that affected their behaviours. The participants were also asked about what worked, what did not, and what might have happened with a different approach (feedback). To conclude, the participants were asked about what they had learned and what they would do differently in terms of team leadership actions (feedforward).

The PPRs also provided opportunities to triangulate the results from the surveys and the possible explanations for perceived behaviours such as the explanatory role of motivation and adaptive behaviours. Factors such as motivation (Day and Sin, 2011) and adaptive

behaviours (Lichtenstein et al., 2006; Uhl-Bien, Marion and McKelvey, 2007; DeRue, 2011) that are undertaken in response to the complex leadership environment of diverse teams are considered essential for leadership development. Thus, the PPR notes served the purposes of answering RQ1, RQ2 and RQ4 and the triangulation of the survey results. Some issues that were identified through a quick view of the survey results were also addressed further during the sessions.

The PPRs were taped (with the permission of the participants) and transcribed. During these sessions, the participants could participate alone or in pairs if needed. The primary reason for this decision was to eliminate the limitations of free speech in teams. This strategy was also necessary for time management and provided opportunities for most of the participants to participate in the PPRs before the semester's end. Coordinating most of the involved parties' individual calendars would have been too complicated as this would have involved synchronising the calendars of two different degree programs and some exchange students, plus the researcher's calendar. During the data collection stage, the participants worked in 32 teams, and approximately 40 PPR sessions were conducted in total. These sessions lasted for 35 to 60 minutes depending on the number of people who were participating. All the sessions (except one) were voice-recorded with the permission of the participants and transcribed by the researcher.

In addition to the PPRs, the project teams also produced project reports as a routine practice to evaluate their practices in the projects and outcomes. These reports could be textual or visual and often included a section for self-reflection about learning and development through project work. Although the teams often opted for visual reporting, this study utilised the relevant reflections in these documents as an additional data source.

Observations. Besides PPR documents and surveys, the researcher's observations were used as an additional source of naturally occurring data (Silverman, 2013) for the current study. Silverman (2013) argued that interviews, for example, are manufactured data. However, the observations were secondary to and less systematic than the PPRs and surveys, which were the main data sources. As previously discussed in the Section 4.6.1, conducting a longitudinal case study as an insider researcher provides advantages regarding the researcher's full immersion in data sources. In line with the practice-based approach, the researcher was fully engaged with the data from the inside out (Raelin, 2019). Although the researcher was immersed in the practices of the BBA unit for an extensive period of time, the most intensive and systematic engagement occurred during the data collection process, which started with the piloting phase in autumn 2017 and lasted until autumn 2019.

In line with the pragmatism and practice-based approaches (Raelin, 2019), the researcher, as an insider, walked beside the participants as a learner and co-respondent who had an interest in understanding the dynamics of the practice and how the participants made meaning of their experiences. The researcher's observations, however, consisted of tentative notes to reflect on, as suggested by Raelin (2019). Table 4 lists of some of the most frequently made observations that are relevant to the study.

Table 4

Overview of observational data

Type of observation made	Context of observation and intensity	Relevance to the study
Observation 1: Team-building activities are important. Any team resource analysis that leads to performance management **rubric** tasks should be **tied** to **team building**. Filling in the Team Canvas is not serving the purpose fully. Team members should look into working styles and habits and the motivations of members and, based on that, plan HRM and performance management. Creating **rubrics without** this **connection** serves mainly the purpose of setting **smart goals**. This was evident in one experiment. The researcher asked the teams to provide their project plans before and after a performance rubric session was facilitated. A comparison of the plans pre- and post-rubric revealed significant differences. Project plans were much better in the latter half. One should of course be aware of the time effect. Therefore, maybe it could be argued that the improved results were due to a combined effect of time and rubric making.	Project planning facilitation and coaching support. Intensity level: multiple times	Clarity regarding performance expectations may lead to better results both in performance and development. Performance rubrics can also affect monitoring behaviours and thus motivation throughout the process, as well as before the actual results appear.
Observation 2: The most crucial factors that affect overall motivation and development are **empowerment**, **encouragement**, and **support**, which are provided through regular evaluative meetings in the written order. Two client representatives provided the first two in varying degrees (Company X and Company Y) to their teams through regular meetings, and these were the most successful and satisfied teams and clients. They also talked about the importance of **vaguely defined goals** for empowerment and encouragement, which may also require more regular evaluative meetings and support. But it seems to have paid off for both parties. The students reported feeling lost in the beginning due to this vagueness, but produced very good results in the end because it **allowed** them to use **creativity** and **problem-solving** skills constantly and try **multitasking** and learning a variety of skills and methods (rich learning).	Observing meetings between project teams and their clients and the final presentations. Intensity level: multiple times	Balancing autonomy and support through regular evaluative meetings is crucial for effective development. The participants may have less performance-cue bias in assessing peers.
Observation 3: People avoid providing **feedback** that is both **critical and positive** after failing once in doing it constructively. This is a way of avoiding conflict in the team. Task-oriented members are critical towards less active members during the early stages. They have asked for help from teachers (myself especially). In the following projects, they hardly ever asked for help to solve conflicts. However, during the PPRs, they admitted that the passive members still existed but that they stopped complaining **to avoid conflicts**. They reported they did not remember to use the code of conduct when they were reminded about it. They did it because the teacher asked for it.	Requests for teacher intervention for conflict resolution. Intensity level: multiple times	Feedback is important to leadership development. However, feedback avoidance was high in all teams at all levels. They needed support to develop skills to provide and accept feedback (more sessions were needed on how to provide constructive feedback and receive it).

Table 4 (continued)

Overview of observation data

Type of observation made	Context of observation and intensity	Relevance to the study
Observation 4: As the difficulty of project tasks increased over the semesters, which is in line with the pedagogical strategy of the institution, the success levels in achieving the project goals gradually declined.	Project documentations and final presentations.	1.This may have had a positive impact on learning and development. 2. However, this may also have had a negative impact on overall satisfaction regarding teamwork and thus may have made the participants more critical when rating their team members' behaviours.

4.5 Data Analysis Methods Overview

This section presents the data analysis methods used in the study, and the rationale for the choices made. This researcher employed Yin's (1994) analytic strategy for developing a case description, which provides a "framework for organising the case study" (p 104). As an explorative case study, this study focused on the developmental process and outcomes of leadership experiences in self-managed project teams by exploring what people acquire and learn and how this learning affects participation in leadership tasks in a series of projects across time. Following the pragmatist ideology and the ideas of Onwuegbuzie and Teddlie (2003), the researcher applied multiple data analysis techniques to analyse multiple types of data that had been collected from various sources. Table 5 illustrates the various data analysis approaches that were used for the current study and the links between these techniques and the research objectives and questions. For example, the thematic analysis of the PPR data was conducted to provide information on what individuals and collectives learn and develop as a

result of their leadership experiences in multiple teams and project tasks. However, the explorative time series analysis was conducted to focus on the changes in shared leadership emergence, including the overall effectiveness of SL, the complexity of behaviours, and the number of members who participated in leadership (sharedness). Making constant comparisons enabled the researcher to integrate all types of data from all sources across two cohorts to create a thorough overall picture.

Because the study took a holistic approach to leadership development that is defined as developments in collective capacities, the researcher focused on learning outcomes (KSAs) and behavioural change as indicators of leadership capacity development. Therefore, answering the first sub-question required conducting a thematic analysis of the qualitative data (Hall, Scott and Borsz, 2008). However, answering the RQ3 required performing a time-series analysis of observable and quantifiable behaviours (DeRue and Wellman, 2009; Day and Sin, 2011) as indicators of the internalisation of learning (Bandura and Walters, 1977; Friedrich et al., 2009; Raelin, 2016d, 2018a, 2019). The integration of both types of data was necessary to answer the main question and the third sub-question.

Due to the contextual and longitudinal nature of leadership development and the need to utilise the advantages of being fully immersed in the data for a long time as an insider researcher, the researcher began the analysis process right after the first round of data collection with the first cohort. The following sub-sections discuss the use of individual techniques (the thematic analysis and the time series analysis) and their integration to provide a holistic view of the research.

Table 5

Data analysis techniques and their relevance to the research questions

RQ1: How does collective leadership capacity in an organisation develop through self-managed team experience across time and task settings?		
Data sources: PPR documents, project documentation, observations, and survey questionnaires	Methods: constant comparison, thematic analysis, and time-series analysis	Objective: complementarity, commonality, and contradictions
RQ2: What do organisational members learn and develop from their diverse leadership experiences?		
Data sources: PPR documents, project documentation, responses to open-ended question in questionnaires, and observations	Method: thematic analysis, content analysis, and comparisons between data sources and across time	Objective: identifying major themes of participant experiences, learning, and skill development
RQ3: How does shared leadership as an organisational capacity emerge and develop?		
Data source: Survey questionnaires	Method: time-series analysis and comparisons across time	Objective: controlling and comparing shared leadership emergence across three sequential but distinct projects over 18 months
RQ4: What are the challenging areas that need special focus and intervention?		
Data sources: PPR documents, project documentation, observations, and survey questionnaires	Method: constant comparisons between data sources and different projects at different points in time	Objective: complementarity, commonality, and contradictions

4.5.1 Thematic Analysis

This sub-section focuses on the thematic analysis of the qualitative data. The emphasised

approach to data analysis was qualitative due to the epistemological concerns and the

contextuality and the complexity of leadership. The techniques that were used for this

research included using comparisons and coding as a form of thematic analysis. The thematic analysis is an inductive method that is used by qualitative researchers to analyse data that is collected through observation, interviews, documents, or other qualitative methods to identify common themes and patterns within the data (Braun and Clarke, 2006; Thomas, 2006). Braun and Clarke (2006) argued that the thematic analysis is appropriate for generating unanticipated insights through examining the perspectives of different research participants and highlighting similarities and differences. The thematic analysis was considered appropriate because this study focuses on the participants' unique experiences in SMPTs and collective learning that was heavily influenced by interactions and contextual factors. Additionally, the thematic analysis helped the researcher summarise the key insights from massive data that were collected throughout this longitudinal case study. The thematic analysis also required the researcher to take a structured approach to data handling and helped produce a clear and organised final report (Braun and Clarke, 2006; Thomas, 2006).

The thematic analysis is often associated with qualitative methods such as the grounded theory, the narrative analysis, or even the content analysis (Braun and Clarke, 2006; Thomas, 2006). According to Braun and Clarke (2006), the thematic analysis is a six-stage process: (1) familiarising oneself with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing the themes, (5) defining and naming the themes, and finally (6) producing the report. This researcher started the process by transcribing the PPR data and comparing them to the data that had been derived from open comments that were made in the surveys. All the PPR sessions except for one were audiotaped and transcribed, and field notes were used in the case where taping was infeasible. This process yielded 33 transcripts for analysis in addition to personal observation notes and answers to open-ended questions that were provided in free comment boxes in the survey questionnaires.

Next, the researcher coded and searched for themes. Coding as a technique provides data indexes, which makes storage and retrieval more productive (Thomas, 2010). Qualitative data were obtained through the PPRs, project documentation, open-ended questions within the surveys, and personal observations. Standard techniques for coding were applied to all the data. The researcher transcribed all the data himself and did the coding in multiple cycles right after each data collection phase and, in the end, holistically went through all the data.

The initial plan was to use the seven leadership functions that were used in the survey questionnaire for coding; however, a careful reading of the transcripts revealed the need to include additional themes and codes. Therefore, the researcher developed new ideas about the themes that were expected to be found and closely read the transcripts to advance the code development inductively. This iterative coding process permitted the researcher to organise the data into rich categories of findings and identify broad themes that emerged from the data. The term "theme" in this case refers to a cohesive category of responses that were found across time, projects, and cohorts. Additionally, in line with the practice-oriented approach (Raelin, 2016d, 2016b, 2019), the discussions with colleagues and the participants who acted as co-researchers and a constant review of the literature helped the researcher to validate, compare, and extend the findings where appropriate (Glaser and Strauss, 2017).

Although the thematic analysis was the primary method that was used to analyse the qualitative data, a content analysis was also applied to the data that were derived from the open comments in the surveys to understand how the content that the participants had interpreted as challenges had changed over time. This additional analysis method was necessary due to the lack of complete sentences and the participants' use of bullet points and lists to detail their strengths and challenges in their teams. The tool that was used for this analysis was a word cloud (http://www.edwordle.net/).

4.5.2   Explorative Time Series Analysis

As an integrative study, the current study involved applying intra-and inter-cohort analyses of changes in leadership values (Day, David V., 2011b, Day, David V. et al., 2014). To evaluate the developments in shared leadership, the researcher conducted a time-series analysis (Yin, 2013) using the survey data, which consisted of self and peer ratings of leadership performances and open comments. The time series analysis is a commonly used tool in longitudinal studies of leadership development and is an accepted approach for case studies, alongside the *pattern-matching* and *explanation-building* approaches. The researcher assessed shared leadership development by examining the changes in shared leadership performances over time (i.e., the changes from Time 1 to Time 2 and Time 3) for both cohorts (Baron, 2016), which were consistent with prior definitions of leadership development (Day and Lance, 2004; Klein and Ziegert, 2004) and recent research modelling changes (DeRue and Morgeson, 2007; DeRue and Wellman, 2009; Day and Sin, 2011; DeRue et al., 2012; Baron, 2016). Values that were obtained after the first project were used as the baseline and compared to the values that were obtained from the second and third projects that were conducted during the respective semesters as part of the time series. The decision to compare changes in percentages qualitatively rather than conduct a quantitative statistical analysis was influenced by such factors as the small cohort sizes, epistemological concerns, and the researcher's skills. The same procedure was applied to both cohorts (Baron, 2016).

After the first round of data collection within Cohort 1, the seven leadership functions were used to code all the questions in the survey questionnaire and documentation. This approach helped commence the preliminary analysis right after the data collection and thus guided the PPRs that were annexed to the survey data. Similarly, the transcribed PPRs and written documentation data were coded. The qualitative analysis was also extended to the quantitative

data by comparing the quantitative values as percentages (Thomas, 2010, 2011) and visual

graphs (Mehra et al., 2006). Following the example of Bergman et al. (2012), the researcher

adopted a more blended approach to operationalising shared leadership. Through the

integration of the functional and complexity models of leadership, shared leadership capacity

development at the cohort level was evaluated through the changes in the averaged values in

the following areas:

1) The overall strength of shared leadership

2) The total number of individuals who participated in leadership (sharedness)

3) The total number of high-performance functions (functional diversity)

4) The total number of individuals with high diversity (sharedness)

To measure the overall strength of shared leadership, the researcher controlled and averaged

the strength of each leadership function. The differences between the perceived values

provided information on the differences between leadership performances. By differentiating

between low- and high-performance functions, it was also possible to gain information about

the developments in the functional portfolios as complexity measures, which was in line with

the behavioural complexity theory (e.g., Carte et al., 2006, Yoo and Alavi, 2003). However,

developments at the cohort level were measured and assessed using the changes in the shared

leadership scores by aggregating the individual scores to the cohort level. However, before

relying on the averages, Cronbach's alpha was used in Webropol to check the scale reliability

and within-group agreements. The internal consistency rates for the various variables were

between 0.78 and 0.92 (acceptable to excellent), and most variables fell into the "good"

category ($.9 > a > .8$). A commonly accepted cut-off value for Cronbach's alpha is .70 (James,

Demaree and Wolf, 1984). Additionally, the survey data were visualised in Excel to assist

with identifying emerging trends and themes (Mehra et al., 2006; McCarthy, Sammon and Murphy, 2017). This approach allowed of the researcher to compare and triangulate data across time and from different sources to confirm whether leadership capacity in particular functions increased or decreased. The constant comparison method that was originally created by Glaser and Strauss (1967, in Glaser and Strauss, 2017) is often recognised as the most effective means of content analysis (McCarthy, Sammon and Murphy, 2017).

The exploration of the actual dimensions of development required examining both the levels and the breadth of the changes. Earlier researchers have demonstrated that leadership capacity development is not linear (DeRue and Wellman, 2009; Miscenko et al., 2017) or even always positive (Day, David V. and Sin, 2011). Day and Sin suggest that "development takes many shapes, and that it is probably better conceptualised as a web consisting of strands with different trajectories rather than as a ladder in which people move only upward in relatively lockstep fashion" (Day and Sin, 2011, p556). In line with the behavioural complexity approach, conceptualising developments as a web that consists of strands in different functions would provide the amount of change and its direction. This approach may be even more important for enhancing the effectiveness of leadership development through the right kinds of interventions, which is one of the objectives of the current study.

4.5.3   Data Integration

The thematic analysis of the qualitative data and the time-series analysis of the quantitative data that were obtained from the survey questionnaires provided the initial findings for the first two sub-questions RQ2 and RQ3. The main research question RQ1 and sub-question RQ4 required integrating data from all sources to reach the research objectives and partially answer the research questions. Combining the findings from the survey data and the

qualitative data from various sources was an essential next step in achieving the complementarity that was being aimed for from the start of the project.

Utilising the constant comparison method enabled the integration and comparison of the data that were collected from multiple sources using multiple collection techniques (Onwuegbuzie, Leech and Collins, 2012). Developmental outcomes were evaluated using the constant comparative method of the qualitative data analysis (Glaser and Strauss, 2017), which combined the thematic analysis of qualitative data and the time-series analysis (Yin, 2013) of the quantitative data. According to Onwuegbuzie and Teddlie (2003), qualitative and quantitative data can be subject to both qualitative and quantitative data analysis techniques (Onwuegbuzie and Teddlie, 2003, p352).

The technique of constant comparison has been used in some of the rare qualitative studies on leadership development (e.g., Hall et al., 2008; Galli and Muller-Stewens, 2012) and is therefore considered suitable for analysing rich data that are collected from various sources and using multiple collection technics despite being closely linked to theory building inductive studies (Glaser, 1965; Fram, 2013; Glaser and Strauss, 2017). The method allows researchers to go into the field as theoretically informed individuals to look for new perspectives with an iterative approach (Hall et al., 2008). As Table 5 illustrates, the method was used to compare the data within the same sources (e.g., observation vs PPR documents) and techniques (e.g., within the thematic and time series analyses) across times and projects, between different techniques, and between cohorts to create a holistic picture of the development process and its outcomes.

Like the analysis process, the integration process began right after the first round of data collection, which concluded upon obtaining the tables and graphs from the analysis of the questionnaire data and identifying common themes from the first round of PPR data.

Although Table 5 may indicate a linear process, the research started as a deductive process but transformed into an iterative one and continued iteratively throughout the whole data collection process up until the very last day before the submission of the thesis. The cyclic nature of the iterative analysis (Braun and Clarke, 2006; Thomas, 2006) supported the data integration and reporting. Besides integrating the data, the thematic analysis and the additional content analysis were also crucial to theorising the relationship between learning from multiple and distinct self-managed project team experiences and leadership development at the collective (shared) level (Braun and Clarke, 2006).

Table 6

Steps in data integration and methods that were used in constant comparison

Type of comparison	Data source	Activity	Research questions	Results
Step 1: Comparison between different types and sources of data	Survey questionnaire PPRs Observations Research reports	Descriptive statistics and graphs Transcriptions + first round of coding Notes	How does shared leadership emerge in different contexts? What meaning do people make of their experiences? What are their achievements and pain points? What are the lowest rated leadership functions?	Descriptive statistics, tables, and graphs Topics to be discussed in PPRS, Deductive codes for leadership behaviours
Step 2: Comparison within cohorts and between data sources	Survey questionnaire PPRs Observations	Descriptive statistics and graphs, as well as comparison of statistics between different points in time for each cohort Transcriptions + second round of coding Note-taking and reflection	How do the results of different projects that took place at different times compare? What is being learned and developed in different contexts? Do people learn different things from different experiences in different projects? What are the bottlenecks?	Descriptive statistics, tables, and graphs Initial ideas regarding how shared leadership develops in a single cohort Initial descriptive codes and PPR transcriptions that are coded in nodes
Step 3: Comparison between cohorts and within data sources	Survey questionnaire PPRs Observations	Comparisons of the changes between two cohorts Systematically coding and organising data and adding inductively emerged new codes	How do the two cohorts compare in each data type and source? Is there a need for new codes?	Joint descriptive statistics, tables and graphs, and memos Initial and new codes, as well as identified achievements and pain points

Step 4: Comparisons between all types of data and between both cohorts	Survey questionnaire PPRs Observations	Comparisons of the findings from all types and sources of data for both cohorts	How do other sources and types of data compare? Are there any patterns? Is there anything contradictory?	Comparisons of the data tables and graphs, themes that emerged from both cohorts regarding PPR documents, and observation notes Re-reading all the materials and cross-checking for both cohorts Final analysis of the relationships between learning and behavioural outcomes Re-visiting the conceptual framework

4.6 Trustworthiness

Pragmatism and the case study approach also have implications for the evaluation criteria of the current study. Credibility, validity, and transferability are interpreted differently regarding the case studies that incorporate pragmatism. For example, validity is interpreted as the relationship between theory and method; the closest possible match between theory and method is the "paramount criteria for judging the legitimacy [of] a method" instead of "correspondence to reality" (Hanson, 2008). On the other hand, for credibility, investigators attempt to provide a true picture of the phenomenon under examination. For transferability, researchers provide sufficient details about the research context for the reader to determine whether there are similarities in the environment and whether the findings can justifiably be applied to other settings due to similarities (Shenton, 2004).

Credibility and internal validity in case studies are measured using the extent to which the research was conducted to correctly identify and describe the subject of study, as well as the data that were collected to answer the research questions (Yin, 1994, 2011, 2013). The

researcher of this study has addressed four criteria to ensure that the design and execution of this study can be regarded as trustworthy: credibility, dependability, confirmability, and internal transferability (Guba and Lincoln, 1994). Credibility relates to a true and objective account of data capturing and analysing (Shenton, 2004). This study took place over 6 years, which included 2 years of longitudinal data collection, to provide an extensive opportunity for prolonged engagement and self-reflection, which is one method that can be used to ensure credibility (Hibbert et al., 2014).

Besides their advantages, longitudinal studies also bear the risk of data overload and messiness, although the researcher's awareness of saturation enhances credibility (Lincoln and Guba, 1985). The current study was designed to collect three-wave data to explore the non-linear nature of leadership development (DeRue and Wellman, 2009). Data collection in the current study stopped with the completion of the last project of the cohort as a closed cohort (Semester 5 for Cohort 1 and Semester 4 for Cohort 2). After that, the students focused on advanced and elective studies, and the multi-disciplinary nature of the projects was aborted for more specialised projects. Furthermore, qualitative and quantitative data from multiple sources were gathered to ensure triangulation (Zainal, 2007). The validity of the questionnaire items that were used in the surveys was tested during the piloting phase, and adjustments were made accordingly.

Dependability refers to transparency in the data collection and analysis processes (Merriam, 1998). A detailed trail of data collection was maintained to meet this criterion, including the decisions that related to the collection methods and categorisation. Confirmability, on the other hand, refers to objectivity and the bias-free interpretation of data (Zainal, 2007). Case studies and qualitative studies in general have often been criticised for their lack of rigour and the tendency of researchers to have a biased interpretation of their data. Such studies have

limited generalisability and replicability (Yin 1994, 2003, 2013; Zainal 2007). A retrospective two- cohort design was selected to achieve objectivity and confirmability (bias-free research procedure). The research process was described, and the researcher's own perceptions and biases on the topic were clearly defined. According to Sedgwick (2014), a retrospective cohort design offers more advantages regarding bias risk than a retrospective or sequential design. The advantages of insider research were also utilised. By using a practice-based approach (Raelin, 2016d, 2019), the researcher constantly shared the results with the research participants and other stakeholders and considered their views in the interpretation process.

Consistency or replicability focuses on whether the results of a study would be similar if the study were repeated and measured by the degree to which the research processes were systematic, rigorous, and well documented. Yin (1994, 2011) emphasised that the shortcomings of a single unique case can be compensated for by multiple cases, which would enhance replicability. This researcher achieved this by repeating the research process with a second cohort that was embedded in the same case unit. This repetition provided advantages that were similar to what multiple case studies provide in terms of replicability. The consistency and neutrality of the data were enhanced by the systematic documentation regarding note-taking and recording observations.

4.6.1 *Reflexiveness and the Role of the Researcher*

Social researchers need to clarify their role, especially regarding their credibility and the credibility of their research, which is considered crucial, especially for insider researchers. Insider researchers choose to study a group to which they belong, while outsider researchers do not belong to the group under study (Breen, 2007). In addition to being the author of this PhD thesis, the researcher of the study was employed as a senior lecturer at the institution where the case unit was embedded and taught the subjects of project management, human

resource management, and leadership. This dual role brought advantages and disadvantages to the project.

The practice-based pragmatic approach of the study was also suitable for strategies that utilised the advantages of the dual role and minimised the risks associated with it. Parallel to the shift in focus from leaders to leadership, Raelin (2016b, 2016d, 2016a, 2018a, 2019) suggested that future leadership studies should involve a practice-oriented approach in which the researcher is one of the participants, contrary to the positivist approaches that require the researcher to distance themself from the subject and sample being studied. According to this approach, participants are more motivated to participate because they and the researcher are both committed to changing their state of affairs (learning and developing), not merely recording them as they are (Raelin, 2016d, 2016b, 2016a, 2018a, 2019). As Raelin (2019) suggested, practice-oriented researchers provide participants with tools and encourage them to become inquirers themselves rather than studying participants as subjects from the outside.

This researcher was intrinsically motivated to understand how the participants made meaning of their practices in the SMPT environment, what they had learned, and how this learning was translated into leadership behaviours in sequential projects and teams. Although a multi-perspective conceptual model was presented in Chapter 3, the objective was not to prove or reaffirm the theory. Instead, the theory was used as an initial guide to explore new possibilities and clarify the inter-subjective circumstances surrounding the actions of self-managed teams within the organisational unit (Raelin, 2019, p484). In other words, the objective was not so much to search for the truth, cause-outcome relationships, or patterns.

Despite the associated risks, the researcher tried to utilise the advantages of being an insider at the organisation and closely engaged with the participants. The four distinctive dynamics of insider research are access, pre-understanding, role duality, and the management of

organisational politics (Coghlan, 2007). Similarly, Bonner and Tolhurst (2002) emphasised three key advantages of being an insider researcher:

1. Having a greater understanding of the culture being studied.

2. Not being an intruder and altering the flow of social interactions unnaturally.

3. Having pre-established intimacy that promotes both the reporting and the judgement of truth.

Additionally, being familiar with the politics of an institution, including the formal hierarchy and how it "really works" and knowing how to best approach people, provides an additional advantage over outsiders who may take a long time to acquire such familiarity (Smyth and Holian, 2008 in Unluer 2012; Unluer, 2012).

The current study was also prone to these advantages. For example, access to complex data for long periods is a prerequisite for examining the leadership development process. Day (2011b) stated that leadership development studies could not go beyond single events with the episodic approach to uncover the individualised nature of development because of the challenges of accessing data for such long periods. It would have been tremendously challenging for an outsider to gain the resources and access to collect data for the duration that this study covered. An insider who has a relationship with the actors and the environment where the studied interactions occur can have significant advantages in studying the emergence of leadership and its development (Brannick and Coghlan, 2007; Coghlan, 2007; Day and Sin, 2011).

Challenges that are attributed to insider research are pre-understanding, role duality, and organisational politics (Coghlan, 2007). Being part of a system or an organisational culture may impair a researcher's ability to objectively analyse a problem. Role duality between the

organisational and researcher roles may create challenges in sustaining a full organisational membership role and the research perspective simultaneously (Coghlan, 2007). In the current study's context, this challenge was most evident during the PPR sessions. Shifting from one role to another dynamically and clarifying the relevant role in a specific moment was very challenging. Sometimes, the analogy of "changing the hat" was utilised to inform the participants about the shift in the researcher's role.

Role duality also creates time management issues and conflicts of interest. On the one hand, the organisational role demands complete involvement and active commitment; the researcher role, on the other hand, may demand a more detached, reflective, and theoretical position. According to Coghlan (2007), the access to and use of data, dissemination, and the publication of reports are intensely political acts; researchers need to be attentive, intelligent, reasonable, and responsible when confronting the challenges of organisational politics.

Additional concerns that relate to general social studies involve problems and challenges that are related to validity and reliability concerns and ethical considerations that are associated with insider research. These challenges stem from insider access to sensitive information, role duality, and bias caused by familiarity. For example, greater familiarity with an organisation, subject, and data sources can lead to a loss of objectivity and bias. While utilising the advantages within this study, the researcher implemented several precautionary practices to address disadvantages and concerns. Some of these practices related to the transparency of the process, including different perspectives besides the researcher's and the use of the multi-source and multi-method approaches.

The researcher was constantly aware of his dual role as both the subject and the object of the research. Besides being the researcher, he was a member of the instructor team for all the project teams that were being monitored for this study. He knew that his convictions, passion

for the topic, and presence in the setting might impact the research. admitting his biases, the

researcher planned and implemented a transparency strategy and sharing sessions to avoid

contaminating the data collection and interpretation processes through passion and

disposition. Measures were taken to monitor the researcher's bias and subjectivity. The

objective of the sharing sessions was to share the researcher's interpretations with colleagues

and student participants to hear and understand their interpretations. This required planning

these sharing sessions and listening carefully. Aware of the possibility of bias, the researcher

constantly reflected on how his subjectivity shaped the data collection, analysis, and

interpretation. Winter (2002) suggested that reflecting on issues can help a researcher to

become aware of their own ideas and biases (reflexive critique) and that discussing different

reflective interpretations of practices can help a researcher to understand the relationships

between all the parts of their environment and see how everything fits together (dialectical

critique).

4.6.2   *Limitations and Internal and External Validity*

Leadership and its development are context-specific, which limits the generalisability of

results. This study is no exception to the rule. Due to the contextual nature and the dynamic

nature of teamwork, the results of this study are valid for one time only. There is no guarantee

that the results can be replicated, even with the same stakeholders and tasks. Different people

may react to the same things differently, and even the same people may react differently to

the same things in different settings and at different times. Therefore, selecting the right case

that would provide the best information for the study's purposes was critical (Teddlie and Yu,

2007). The researcher carefully considered this by choosing a particular degree program and

two cohorts instead of a single cohort. The researcher was also aware that the sampling size

that is typical to case study approaches was also a limitation regarding the generalisability of the results for other organisations and settings (Yin, 2011).

Contextual Limitations of Generalizability. Like most case studies, the current study has limitations regarding the generalisability of its results for other contexts and domains due to the contextual restrictions that were caused by the unique case environment and the participants' characteristics. The current study provides valuable and much-needed information on the leadership development of young adults as students and potential leaders of the future (Day et al., 2014). However, the results for more advanced and experienced professionals may be different. Although these projects make the work genuine and are very close to the environments of the work teams, the consequences were different, and the students were not paid for their work. The absence of compensation may have impacted how seriously the team members took their responsibilities. Nevertheless, it would be important to emphasise that this study has an authentic nature as it involved project teams who were working on real-life problems or the needs of an industry partner in collaboration with them, which resembled the functioning of organisational teams. Additionally, the researcher aimed to generalise the findings to other teams and contexts.

Another contextual restriction that may have affected the generalisability is the diversity of the participants' backgrounds. The culturally diverse backgrounds of the participants may have restricted the generalisability of the results to more homogeneous teams. The members of both cohorts as the participants of the study were culturally diverse (i.e., 15 and 10 different ethnic backgrounds, respectively). Culturally diverse teams may have different leadership processes in comparison to culturally homogeneous teams. Members of culturally diverse teams may have versatile characteristics, dispositions, and openness to cultural

diversity, which may affect their leadership behaviours (Lisak and Erez, 2015). Therefore, the results of this study may have limited generalisability for monoculture teams.

Participant Bias and Fatigue. This study may have limitations that are related to behavioural data collection tools as incorporating self and peer assessments can lead to bias due to grade concerns. This risk was addressed by using a practice-oriented approach and informing the participants that the focus was on development rather than single-performance outcomes. Respondent fatigue, on the other hand, was addressed by limiting the number of items in the survey to an optimal minimum and using a survey design that facilitated the assessment of multiple members in one attempt.

The researcher bias and participant bias limitations have also been addressed via reflexive and practice-oriented approaches that were made through the opportunities that were created using the mixed-methods approach to data collection. Being humble, acting as a fellow participant, and asking for multiple interpretations of the results were some practices that the researcher employed to align with the practice-oriented approach. Raelin (2019) argued that in the leadership-as-practice approach, "… the role of the researcher would not so much be to inquire from outside the activity but to provide tools to encourage the observed to become inquirers themselves" (Raelin, 2019, p3). In this approach, the relationship between the researcher and the participants is based on mutual support. The researcher should walk alongside the participants as a learner and co-respondent; they may act as a coach to encourage the participants to engage in self-reflection. The participants, on the other hand, can also serve as coaches to encourage more refined observation and understanding on the part of the researcher (Raelin, 2016d, 2019). Hibbert, Sillince, Diefenbach, and Cunliffe (Hibbert et al., 2014) suggested that the researcher should make themself vulnerable by questioning their own biases, acknowledging their limits regarding their knowledge, and

embracing the situated nature of their relationship with the participants. This researcher also utilised the advantages of insider research to minimise fatigue. Insider research allows the researcher access to different types of data with minimal intrusion into the natural course of action. Quantitative data collection, for example, was built into the peer assessment process of the project teams. This researcher also had natural access to qualitative data sources. The post-project reviews were also a natural part of collaborative learning through project work.

Changing teams and tasks across time and project experiences minimised the same-source bias (DeRue et al., 2012) and was encouraged at the research site. However, the small cohorts limited the possibility for individuals to work with entirely new team members. The project teams at the second and third data collection points in Times 2 and 3 consisted of two or three individuals who had worked well together during the previous semester's project. Although this may have slightly increased the risk of producing same-source bias, allowing this was important for creating feelings of safety among the participants and the practice-oriented approach to the study.

4.7   Ethical Considerations and Precautions

Despite the advantages, an insider researcher must address the rights and needs of all participants and parties involved in their research. The ongoing relationships between teachers and students may have positive or negative histories and may involve some power struggles between the teacher-researcher and individual student participants, which can make the freedom to participate or decline unclear (Nolen and Putten, 2007). According to the ethical standards that were published by AERA (2000), "participants, or their guardians, in a research study have the right to be informed about the likely risks involved in the research and of potential consequences for participants and to give their informed consent before participating in research" (Nolen and Putten, 2007). The participants who were part of the

current study were informed about the project, the expected outcomes, and the potential

benefits of the process. Consent forms were distributed at the start of the first project, and

option to withdraw at any point without any need for explanation was offered. All the

individuals signed these consent forms voluntarily, and the participants were treated as co-

researchers rather than as subjects of the study (Raelin, 2019).

The confidentiality of the data and the anonymity of participants are approached with extra

sensitivity in insider research. Confidentiality may be jeopardized merely by the fact that the

teacher-researcher can easily be connected with a particular class of students during data

collection. Therefore, the key players and informants may be easy to identify for many people

within the community, which can create challenges to reporting the research, even with the

use of pseudonyms and vague descriptors (Nolen and Putten, 2007). All the information,

personal or sensitive, was treated confidentially. For example, the participants were given the

option to participate in the interviews as individuals or pairs in case they felt uncomfortable

with talking in the presence of other team members. The participants' identities were

anonymised. A team of instructors were informed, and their cooperation was ensured for each

project.

4.8   Chapter Summary

This chapter describes the methodology, design, and methods that were used for this

qualitatively driven mixed-methods case study. The chapter attempted to justify a meaningful

link between theory, method, and empirical inquiry. The procedure and decisions regarding

the case and participant selection and the information about the two-cohort design, the

participants, the plan, and the execution of the data collection and analysis processes was

described in detail. The researcher of this study has defined and explained his dual role as an

insider researcher. Reflections were also provided about the potential subjectivities and biases

that may have been caused by the researcher's dual role. In the final section, this chapter addresses the trustworthiness concerns and limitations of the study.

The chapter structure followed the foundation, pre-field, and field phases of case studies. The chapter started with the foundation phase to provide the philosophical stance, inquiry techniques, and research logic considerations. Section 4.2 presented the research strategy and approach and provides the rationale for using the case study approach. Sampling strategies, the justification of the case selection, the prospective two-cohort design, and a summary of the participants' characteristics are discussed in Section 4.3. The approach to the data collection, various data sources, and collection tools and techniques are discussed in Section 4.4, which is followed by an explanation of the approaches to and methods of the data analysis (Section 4.5).

Section 4.6 provided an evaluation of the trustworthiness and credibility of the study. The section also includes the insider researcher's role and reflections as an insider researcher regarding the study's credibility concerns.

5   DATA ANALYSIS AND FINDINGS

This chapter provides the findings of the data analysis. The chapter features five main sections with first four focusing on the research questions. The last section provides a summary of the chapter. The primary question was addressed after the sub-questions in Section 5.4 due to its macro level nature. Section 5.1 focuses on the acquisition of knowledge, skills, and attitudes to answer the first sub-question RQ2: ***"What do organisational members learn from their diverse leadership experiences?"*** Each of the subsections within this section is dedicated to one theme out of the seven main themes that emerged from the analysis of the qualitative data: PPR documents, open responses to the questionnaires, and observations. Section 5.2 focuses on the developments in shared leadership across three different projects that spanned over three academic semesters in 18 months. This section attempts to answer the second sub-question RQ3: ***"How does shared leadership as an organisational capacity emerge and develop?"*** The three subsections focus on the three dimensions of shared leadership conceptualisation within the current study: the overall strength of shared leadership, the participation ratio (sharedness of leadership), and the complexity of shared leadership behaviours. Section 5.3 integrates the thematic and time series analyses and compares their results to answer the third sub-question RQ4: ***"What are the challenging areas that need particular focus and intervention??*** This section is structured based on the themes that were derived from the comparison of two types of analysis in Sections 5.1 and 5.2. Section 5.4 integrates all kinds of data and addresses the macro level main question RQ1: ***"How does collective leadership capacity in an organisation develop through self-managed team experience across time and task settings?"***

Finally, Section 5.5 closes this chapter by revisiting the conceptual framework and drawing the findings together to answer all four research questions of the study.

This study was initiated due to the researcher's intrinsic motivation to explore how self-managed project team experiences enhance the development of collective leadership capacity in an organisational unit. The context of a BBA unit in a Finnish higher education institution was specifically chosen due to the shared leadership culture and the use of the self-management approach in project teams to achieve more effective learning and development. The researcher also aimed to extend the knowledge on collective leadership development while attempting to find answers to questions concerning whether the strategy works, whether shared leadership practices in SMPTs can further develop leadership capacities, and what the learning and behavioural outcomes are.

As explained in Section 4.5 of Chapter 4, the overall analysis involved a thematic analysis of the qualitative data, a time series analysis of the peer-rated behavioural data, and a comparison of the two as a synthesis of the interpretations to create an overall picture of the process. Additionally, the constant comparison method was applied to all the data to compare the results across the methods and sources, across time within the methods and sources, and across the cohorts, methods, and sources to develop a holistic picture and to answer the main research question, as well as the third sub-question, which required an integrative approach.

Due to the lack of prior studies, developing an overall understanding of collective leadership development is essential. Leadership development as a collective construct refers to the development process of multiple individuals, teams, groups, or an entire organisation. It is defined as "expanding the collective capacity of organisational members to engage effectively in leadership roles and processes" (Day, 2000, p582). In the context of the current study, collective leadership was conceptualised through the lens of shared leadership. In this sense,

shared leadership development in this study was seen as human cultural capital and social capital that are developed as an outcome of shared work and interactions (Lambert, 2011; DeRue and Myers, 2014; Day and Liu, 2018) within self-managed project teams. Therefore, the focus was on both dimensions of leadership capacity: the acquisition of KSAs and the ability to engage in shared leadership behaviours. This kind of holistic approach requires multiple data sources and collection methods. Therefore, this study had a holistic approach and combined multiple sources and types of data to achieve an overall understanding of the phenomenon. Data were collected from three primary sources: post-project reviews, participant surveys, and direct observation, with the first two being the main sources.

5.1 Thematic Analysis: What do Organisational Members Learn from their Diverse Leadership Experiences?

This section explains how the participants experienced shared leadership and what they learned and developed through these experiences. The qualitative approach was appropriate because learning through shared leadership practices in SMPTs is social (Raelin, 2016b, 2018a). The social learning theory maintains that learning and development occur through direct experiences with one's own work or observed experiences that are gained from "situational sources such as others" (Bandura and Walters, 1977). Data were derived from post-project reviews, project documentation, and open survey comments.

The thematic analysis of the transcribed PPR data and the open comments within the survey questionnaires revealed various major themes. The transcription of the PPR data and texts that were extracted from project documentation comprised over 10,000 words in 26 single-spaced pages. Additionally, 3,600 words of text from the open comment sections of the questionnaires provided the base for the coding and thematic analysis. Enabled by the longevity of the data collection process, all the audio recordings were transcribed by the

researcher, who also manually coded all the documents for all the rounds by checking and re-checking for overlaps and discrepancies. While transcribing the data, the researcher kept the original language, phrases, and words that were used by the participants to assure objectivity. Although all the informants were referred to as "participants" or "team members", a distinction was made between the members of the core cohorts and the non-cohort participants. No informant abbreviations were used because most of the participants re-appeared in different teams and contexts throughout all three projects due to the longitudinal nature of the study.

The seven broad themes that emerged are (1) openness to diversity and working with others, (2) communication and coordination, (3) self-awareness and confidence, (4) problem-solving and decision-making, (5) situational awareness and adaptability, (6) the awareness and acceptance of different leadership styles, and (7) the motivation of others. Diversity, conflicts, and feedback were seen as important sources of learning and development. Table 6 illustrates these themes and applied codes that emerged during the thematic analysis stage. The following sub-sections detail these themes separately.

Table 7

The emergent major themes and applied codes

Major Themes	Codes and sub-themes
Openness to diversity and working with others	Accepting differences
	Individual differences
Internal and external communication and coordination	Cultural differences
Self-awareness and confidence	Performance management
Problem-solving and decision-making	Role distribution
Situational awareness and adaptability	Confidence

The awareness and acceptance of various leadership styles for effective teamwork	Accepting the leadership of others
	Adaptiveness and flexibility
Motivating others	Self-awareness
	Communication (verbal and non-verbal)
	Informing others (coordination)
	Helping others
	Conflict management and avoidance
	Multiple approaches
	Creativity
	Motivation

5.1.1   Openness to Diversity and Working with Others

Diversity leadership and dealing with differences was found to be one the most repeated themes of development. This theme has several dimensions, including increasing awareness of other personalities, increasing awareness of other cultures (as well as organisational cultures), appreciating different opinions and perspectives, and being able to relate to differences. One team member summarised this well:

> *I have learned to work with different people from different backgrounds and cope with different ways of thinking. This led me to be more open to hearing new ideas and to understanding different points of view. Seeing how things are done in different cultures and how work is achieved at different paces by different individuals was eye-opening.*

Another team member provided concrete examples of indirect learning and how diversity helped her develop. She said, "Some people were creating challenges and making mistakes that made me learn, become better and stronger. Others were giving good examples through

their own behaviour, which made me follow them and use their methods". She continued by

pointing out the connection between experiences within different cultures and growing

confidence, which was one of the main and most repeated themes:

> *I became aware of difficulties that might arise while working in a team. I have worked*
>
> *with people from different cultures and with different motivation levels and maturity*
>
> *levels. To some extent, I now know what behaviour to expect from Vietnamese,*
>
> *Finnish, Russian, and Chinese people. I have greatly changed since I started working*
>
> *in teams. I feel more confident and can lead a small group of people.*

One team member who described herself as a solo performer said that she had developed into

a team player and reflected on areas for further development:

> *In the beginning, I would describe myself as an individual worker; it was hard to do*
>
> *tasks together with the group. Now I more prefer to meet up with people and do tasks*
>
> *and make decisions together, as the results of teamwork are on an absolutely different*
>
> *level. I've learned to cooperate with people, listen, and agree with others' ideas. As a*
>
> *leader, I am still in a development process. I need to be more open to people and trust*
>
> *them in order to be on the same page. I had an experience with a perfect team last*
>
> *semester, in which we went through stressful moments of misunderstanding and*
>
> *cultural differences to total trust inside the team. That experience helped me look*
>
> *differently at teamwork and leadership in general.*

A non-cohort participant (an exchange student) mentioned emotional intelligence as a skill

that she had developed:

> *I learned how to work with different type of people, and I learned how to adapt my*
>
> *leadership regarding this point… I am a team player, and I don't hesitate to give my*

opinion. I can listen to people, understand them, and then find a way to work

efficiently. My emotional intelligence has been improved a lot.

One participant from the core cohort pointed out how she had learned to be adaptive:

> *I am more open about my opinions and thoughts and taking other people's opinions*
>
> *into consideration and noticing them and giving people the feeling that I myself listen*
>
> *other peoples' ideas. In some projects, I felt that I took charge depending on the*
>
> *dominant people in the team. When there are people who are more dominant than me,*
>
> *I usually feel like backing up and being the "follower" who gives ideas and takes*
>
> *responsibility sometimes, but when there was a team whose members all felt lost, I felt*
>
> *like I took charge, but usually I feel like being the backup leader who mostly follows*
>
> *and listens to what to do. I feel like I learned to be more confident and more open*
>
> *about my thoughts and ideas, which I couldn't do before coming to the university.*

Another non-cohort participant from the other degree program highlighted the importance of adaptiveness for teamwork and how she developed that skill. She said that she also gained confidence as a leader:

> *… Also, I developed teamworking skills because I had to adapt a lot. I learned to work*
>
> *with different kinds of characters and people from different nationalities. I learned*
>
> *how cultural differences can affect people's behaviour and how they act in different*
>
> *situations. I also realised during this semester and while working with this team that*
>
> *there is potential in me to also be a leader, even though I wasn't a leader. I took a lot*
>
> *of responsibility for task submissions and team meetings and made sure that everyone*
>
> *did their part.*

A participant from the core-cohorts stated the following:

I believe that the variety of different people with different cultures and personalities has been the main key to developing my teamwork skills. This is something I have reflected on, for example, during job interviews. It helps me to have some assumptions about how people from certain backgrounds may behave in some situations, but the most important thing that I should remember is that every person is different – no matter what their background is.

Differences in organisational cultures and the practices of different departments were also referred to when discussing the positive aspects of diversity. A participant who was enrolled in the aviation program discussed diversity and the need for different leadership styles:

… Because we were a very diverse team – not only from different cultures but also from different programs and being different persons in general – there was a big opportunity to benefit from the wide range of knowledge in our team. Because we are all very different, every member of our group needed their own style of leadership from the rest of the group. This was, from my point of view, the biggest opportunity to develop: learning to lead and be led by totally different people.

Adaptiveness was also linked to the ability to accept all members as leaders regardless of their leadership styles ("I consider all my team members to be leaders, and I accept them no matter the type of leadership that they use. I used my flexibility.").

5.1.2   Internal and External Communication and Coordination

This theme has two sub-themes: communication in linguistics and understanding each other correctly and communication in terms of informing others about one's work and linking one's work with others. Although this was identified as one of the more challenging areas through the analysis of the quantitative survey data and notes from the researcher's personal

observations, the theme also came up regularly as a positive learning and developmental outcome. One of the team members from the core-cohorts provided a perfect example of how people learn and develop communication skills through challenges that relate to working with diverse teams:

> *While working with different personalities, it is even more important to be able to talk about the assignments and if there is anything that doesn't feel right. The risk of misunderstanding seems to be higher when the working methods are different inside the team. We had a conflict when a comment made by me was supposed to be only a reminder to one of the teammates to include all relevant members in the discussion. The comment was taken as personal criticism and led to bad feelings, but it was later resolved by talking openly. In leadership learning, it is easy to unintentionally end up being kind of a hidden leader that others depend on if you take an active attitude from the beginning. When the motivation and initiative levels vary greatly inside the team, it is best to assign tasks according to these factors. It means that the creative works goes to the active members, but at least this practice gets input for the project from all of the members. Understanding attitudes, listening skills, and communication are the most effective ways to create a nice working atmosphere.*

Another participant similarly said that he had learned the importance of communication because their team did not practise it. He underlined the importance of listening as part of effective communication: "[You] learned to listen yourself and other team members more instead of the 'leader' who was not collaborative all the time".

His teammate summarised what good communication does for a team:

> *I developed communication skills for effective teamwork. I realise that frequent communication and always confirming information is good for teamwork. Thus, it*

helps to better understand the situation and others' thoughts. It also helps to form

bonding relationships between members.

Members of the team also highlighted the importance of internal and external communication: "I learned a lot about communication as a team [and] how to communicate efficiently with others, including our commissioner". Someone else similarly stated, "I gained communication skills. I have learned to provide a relevant conclusion or suggestions during group discussions".

The importance of self-expression in a team was also brought up: "I learned how to better express my ideas and to complete achievement in a project".

5.1.3 Self-awareness and Confidence

A considerable number of the participants felt more confident. The confidence theme captures three sub-themes: confidence in one's abilities and leadership skills, confidence in other team members, and preparedness for potential future challenges. One participant from the other degree program that joined the case for the third project wrote the following in the open question section of the survey:

> *I also realised during this semester and while working with this team that there is*
> *potential in me to also be a leader, even though I wasn't a leader. I took a lot of*
> *responsibility for task submissions and team meetings and ensured that everyone did*
> *their part.*

This statement is important to the case analysis because the participants from this degree program were experiencing self-managing teamwork and shared leadership for the first time. They reported that they always had one project manager who held the majority of authority and responsibility.

Another first-time participant, a transfer student, similarly pointed out the growth in his confidence as a leader:

> *The different difficulties and obstacles that we discussed in the team meeting last week showed that I can also be a leader and take the leading role. I have never been in that role before in the projects or, at least, not in such an obvious way. Because it was very important to succeed in this project. I wanted to take the lead also to get through the obstacles and tough times, so there would be the reward at the end.*

A participant from the core cohort who had experience from completing the two other projects mentioned her growing confidence and trust in others and her team:

> *Since we kind of failed during the first project, I did not take it as badly… since my previous semester's project failed because of the lack of communication with the commissioner, so I knew that the team could manage somehow. I remember that when we had a bad situation with Company M and one of the team members refused to find another company, me, M, and H took charge, and we started to look at other companies even though our project leader didn't want to seek an Option B. I was proud of that step since we took charge instead of listening one person's opinion only.*

Her teammate also noticed the growth in her confidence as a potential leader:

> *I have learned a lot about myself: how I adjust myself in teams, how well I cooperate with different people, and, surprisingly, how much I enjoyed leading the team and the project. I never thought of myself as a leader, but in the projects, I automatically took the leading position and enjoyed guiding others.*

Another teammate added that learning to be flexible with her growing confidence was a bonus:

In our team, I had to take the lead quite often, which was really good for me. I had been quite shy earlier when leading, but this experience has made me more mature. I have been learning about flexibility since in our team we all had our own lives and timetables needed to be flexible. Sometimes, someone had to do more than someone else, but it was a good learning experience.

One participant summarised all the mentioned themes in his statement by referring to diversity, problem solving, and confidence:

I became aware of difficulties that might arise while working in a team. I have worked with people from different cultures and with different motivation levels and maturity levels. To some extent, I now know what behaviour to expect from Vietnamese, Finnish, Russian, and Chinese people. I have greatly changed since I started working in teams. I feel more confident and can lead a small group of people.

He also pointed out the importance of various contexts and playing different roles in different teams for confidence building:

We were almost always assigned to teams during our projects, in which each member chose a different role. At times, we would be working on different projects at the same time, which required being a part of different tasks. This helped me see the perspective of each role that is played in business development. Moreover, we got to experience new methods such as leadership sharing. I think that given today's agile work environments, that was significant for us to be able to experience.

Changes in the team structures appeared to influence confidence building that related to leadership. One participant explained why and how her monitoring behaviour had increased

in comparison to the earlier case and also in comparison to the planning phase of the present project:

> *...In the earlier project, I was not confident enough, and there were more assertive members. The situation was similar at the beginning of this project. However, the assertive member had to be absent for another project elsewhere, and I felt I could very well take the role, and it seems my teammates were satisfied with my role… This feels good and increases my confidence as leader.*

A statement from another participant also provided a good summary and evidence for growing confidence from one project experience to the next: "Also being more of a leader myself, in comparison to last semester's project, where I was looking from the outside in. I think that this project developed my leadership skills quite a bit."

All learning was not about growing confidence in leadership abilities. Some statements were made that are perfect examples of self-awareness of one's own limitations. One participant admitted her failure to inspire individuals without intrinsic motivation:

> *I had a challenge with inspiring other people to work harder on the project. I wanted good results at the end of the project, but not all the students had the inspiration to work hard. As a group member and team leader, I had not come up with a way to stimulate others. I think that a person has to be stimulated himself first. But there are still means for encouragement that can be added on top of personal motivation. The impact it has had on me is that I believe that the leading role is not for me yet, not at this moment. But I am looking for solutions from examples of leadership at my workplace so that I can learn how to lead team members. However, in my later projects, I was pushing myself to work harder to give my teammates an example of the work level that should be kept in the project.*

5.1.4   *Problem Solving and Decision Making*

Situational awareness is an important skill in relation to problem-solving and decision-making. One participant who had acted as a leader in her team said,

> *In the beginning, I did not know what to do or how to approach the situation, but in the end, I learned that just being honest and telling them what you think and agree on works fast. I gained some skills, such as making decisions faster and not overthinking.*

"Conflict" was another term that was frequently mentioned as part of the problem-solving process. One participant, who said he had a conflict-avoiding personality, stated confidently,

> *I'm the kind of person who wants to avoid conflict as long as possible, even though I know that they will still eventually happen. Getting into these conflicts during our projects has driven me possibly the most out of my comfort zone, which, of course, is the area where you will learn and develop the most. Without these conflicts, I would surely be more shocked in similar situations in my future career. By getting myself into situations where I may not be with the people I'm best friends with, I've actually learned the most.*

Another member of the same team agreed:

> *My key experience that I gained is not being afraid of conflicts. Conflicts are good and healthy in group work, if the team deals with them properly. If this is the case, they can even help to increase the productivity and the work morale of a team. But there is a thin border between good and helpful conflict and destructive conflict. Before the project, most of the time I tried to avoid conflicts to keep the harmony, but now I have learned to differentiate between when to avoid and when to start a discussion that could lead to a conflict.*

Stress-handling was also seen as part of problem-solving. One participant who previously considered herself to be a solo player pointed out how she developed stress-handling skills by observing others:

> *First of all, good leaders are inspiring. Peer learning is the best to actually gain some knowledge. Observing other leaders helps you to understand what are you doing wrong, what to improve, and what works the best. I also like to observe and learn from open-minded people who are good at dealing with stressful situations. I am not good at controlling stress levels, but I've improved already and can lower it down to avoid conflicts or not continue them.*

Another participant explained how he had encouraged his team to change their approach to solving some challenges that they had faced: "Half way through the project some issues occurred within the team. I had to step up sometimes and encourage my team to take a different approach". One participant realised that ignoring problems to avoid conflict did not always work: "Before the project, I mostly accepted things just to avoid tension in a group – now I know that sometimes it is necessary to speak up and create a little bit of tension to get things going".

Problem solving was also connected to the leadership of a team. One participant explained how they took the initiative when shared leadership (probably referring to the leadership void) did not work: "Our team chose to go with shared leadership, but in stressful and challenging situations, I found myself taking the lead and trying to explain and share tasks by giving frequent reminders about deadlines".

5.1.5   *Situational Awareness and Adaptability*

Although not included in the survey instrument, a more careful second round of thematic

analysis revealed that one of the skills that was developed in the self-managed teamwork was

situational awareness and adaptability. This was evident in two ways. First, many of the

participants claimed that they had developed the ability to work with diverse personalities and

accept differences. Second, some of the participants provided explanations about how

individuals behaved or behaved differently in comparison to their past behaviours. Several

participants explained the changes in their behavioural complexity by using their behavioural

portfolio to discuss their improved situational awareness and how they had interpreted certain

situations.

For example, one participant said that, "The team members affect how you behave.

Dominant people take over, and you let them lead". Another one agreed: "When nobody

takes the lead, I feel someone has to do it, and I start doing it". One participant explained why

he had scored higher for some behaviours in comparison to his earlier performance and said

that there was no need to take these roles last time because two other members were doing the

job rather well. Another team member said that there were a few dominant members who

took all the space but that the environment was easier this year. A third member from the

same team agreed and said that the team, tasks and situations defined the results. She said,

"the active members were away for some time this year, and I had to step in".

However, the analysis of the data demonstrates that not only did different individuals interpret

different situational factors differently but also that different individuals reacted to even the

same situations differently. For example, one participant, when referring to the roles of others

and behaviours, said, "The effect was opposite for me. If there were ambitious members, I

was more ambitious. If there were laid-back members, I became laid-back too". A male

participant agreed: "I prefer the dominant leaders to push me to work better and harder". The former participant also highlighted the importance of trust by stating that "trust is important then, if you have trust that members will do well, you don't push and become less dominant".

Some interpreted these situations and the diversity as learning opportunities:

> First of all, good leaders are inspiring. Peer learning is the best for actually gaining some knowledge. Observing other leaders helps you to understand what you are doing wrong, what to improve, and what works the best. I also like to observe and learn from open-minded people who are good at dealing with stressful situations. I am not good at controlling my stress level, but I've improved already and can lower it to avoid conflicts or to not be the one to continue them.

Someone else interpreted the passiveness of some members as a learning opportunity. One participant said,

> At least team members who were not that active in the team's tasks developed my skills to push everyone to do their parts to be able to reach our common goals. Also, there were team members who had great experience and knowledge, so I could learn from them a lot.

Another participant added, "I think that because some of them were not invested, it helped me to, instead of being upset, find a solution and to communicate about this issue. It helped me to have some reflection about that." These distinctive interpretations of situations and reactions to them is in line with the personalised character of learning and development (Day, David V., 2011b), team leadership (Zaccaro et al., 2002, Morgeson et al., 2010), leadership complexity (Uhl-Bien et al., 2007).

Some participants also claimed that they had learned to accept differences and to work with different people. One participant said, "I learned how to adapt myself to different personalities, and I know how to react when some type of issue appears within the team". He stated that he had continued accepting the leadership of others, although he himself did not hesitate to take the leadership role anymore: "… I don't hesitate to take the lead when needed, and I am more confident with that… I consider all my team members to be leaders, and I accept them no matter the type of leadership they use".

Someone else argued that flexibility and adaptability were the most significant learning outcomes:

> *The most important learning experiences came from my team members. People act differently in work settings than they do than in casual meetings. Working methods may differ drastically and bring surprises. This requires flexibility and patience, which I have developed throughout the semesters. For the upcoming studies and in the future, I will choose teammates based on motivation and working methods.*

Situational awareness was also linked to other contextual factors. One participant emphasised the importance of using opportunities to fulfil diverse roles in different team and task situations to learn from experience:

> *We were almost always assigned to teams during our projects, and each member chose a different role. At times, we would be working on different projects at the same time, which required fulfilling different roles. This helped me see the perspective of each role that is played in business development. Moreover, we got to experience new methods such as leadership sharing. I think that given today's agile work environments, that was significant for us to be able to experience.*

5.1.6 Awareness and Acceptance of Various Leadership Styles for Effective Teamwork

Although leadership awareness could be linked to situational awareness due to its connection to situational leadership, the additional review of the open comments as part of the iterative process identified leadership as another strong theme. The EdWordle tool (http://www.edwordle.net/) was used to triangulate the existence of the theme and compare the word cloud results of open comments that were provided during the surveys at all three points. EdWordle is a word cloud tool that is used to identify the most repeated content and keywords in a text document. The additional comparative analysis on the results of the EdWordle tool revealed that the weight of "leadership" and "leader" were 0.87 and 0.63, respectively, in T3 for both cohorts, although they were not visible in the top 10 keywords for T1 and T2.

Moreover, "role" and "lead" as relevant terms were also mentioned regularly with equal weights of 0.58 each. The importance of leadership was discussed numerous times in relation to such sub-themes as the shared leadership of a team, the importance of assigning a clear leader to maintain the clarity of roles, and the availability of various leadership styles. One participant expressed their opinion about how important it was to learn different leadership styles: "Understanding the different leadership styles was extremely important to my personal learning. We had a chance to utilise these skills in at least two of our projects. We decided to share leadership and responsibility for most of our tasks".

One participant nicely connected various themes and sub-themes by summarising the connection between situational awareness and adaptiveness that overlaps with other themes (communication, conflict, etc.): "Thanks to some new knowledge and tools to use (feedback, emotional intelligence, etc.) I consider all my team members to be leaders, and I accept them no matter the type of leadership they use. I used my flexibility".

For example, one participant summarised how important the experience was for leadership development:

> I learned a lot during this project from working in a team and using leadership skills. Coming into a whole different environment without knowing anybody really challenged me during this process. It was a good learning experience for me. Then getting to know different people's working styles and how they do things was also instructive. When I did not know how people were going to react when there were challenges ahead or something went wrong, it was interesting to see how I could manage those situations. When the team's effort sort of slowed down, I asked myself how I could get them on the right track again. How we as a team could get the best results and move forward to the goal was also amusing to experience.

Another participant mentioned the importance of challenges and learning through them while also connecting this theme to the theme of growing confidence:

> ... taking the leader's role when everything was happening really changed the view that I had about leadership and made me think that I can also actually do it. Taking the charge of contacting different companies, sending them emails, calling them, and meeting them encourage me to take the lead in these parts of the process as well. Facing different obstacles during this project was actually the best thing that could happen. I think that is why I enjoyed it the most and that is why I learned the best from teamwork and the leadership point of view.

Two participants mentioned taking a directive leadership approach when shared leadership did not work. One said,

> *Sometimes I felt that I was adopting directive leadership in terms of assigning the roles of teamwork and tasks, setting up the following meetings with commissioners, and taking care that the team was running smoothly with the commissioner and team members.*

The second one, who took leadership to an almost autocratic style, said,

> *I have learned that we should not encourage special treatment for anyone because that only leads to the allowance of that different behaviour. We should encourage extra effort when there is a need for it. I have developed a direct selling and business perspective, such as making use of the resources that have been provided and being able to project the further steps.*

One non-cohort participant discussed the suitability of the shared leadership approach for their team and argued that transactional leadership would have been more suitable to their needs:

> *Shared leadership is absolutely not suitable for every team. I learned that with this project, which might have benefitted more from transactional leadership. With a reward system, my team might have been more motivated. Another issue concerns the code of conduct. If one is made, it should be more strictly respected by each team member – including myself.*

There were others who had similar thoughts about the suitability of other leadership styles. One participant mentioned the importance of using positive reinforcement as a transactional leadership strategy (Bass, 1998; Bass and Bass, 2009) without mentioning transactional leadership:

I was able to test and learn about different types of leadership methods, such as positive reinforcement, in real life and see their effects. Our team worked efficiently without a set leader. When the situation needed it, someone took more responsibility and led to push others in the right direction.

Another non-cohort participant was more determined about the unsuitability of shared leadership "Well, I learned that shared leadership is complete BS; it does not work at all. We should have chosen a clear leader for this project". There were others who were able to see the need and the possibility of adapting the leadership style to the situation: "I also learned that one leadership model is not always enough and that a team has to adapt to different situations".

Not all of the comments were negative. There were also appreciative comments about shared leadership. A participant (non-cohort) from the degree program who joined the project during T3 summarised his feelings:

I never experienced shared leadership before, and I hated it in the beginning because of the confusion it created for me. Now that the project is over, I dearly appreciate the experience when looking back. It was such a valuable experience; it taught me a lot about myself and other people. I am a different person now. I would not want to go back the old ways again where I only did what I was assigned to without thinking about it.

Another non-cohort participant also approved of this way of working and noted that it encouraged him to emerge as a leader without an assignment:

I learned to take more responsibility for the whole team by taking on the role to lead the team even though I wasn't the team leader. I also developed my communication skills by being active in our team's WhatsApp group and starting conversations.

There were also signs that shared leadership was confused with the "leadership void" (DeRue, 2011) as some participants stated that shared leadership could work if all the members were motivated but that leadership may be needed in some situations:

I learned that a group does not always need one leader. Shared leadership can work if everybody is motivated. But there are also situations where a leader is required. Before the project, I mostly accepted things just to avoid tension in a group. Now I know that sometimes it is necessary to speak up and create a little bit of tension to get things going.

5.1.7   *Motivating Others*

Motivation was identified as one of the critical factors that affects leadership behaviours and was mentioned both as a challenge and a learning outcome. One participant wrote about the importance of recognising how different individuals are motivated to achieve team goals in the open comments section of the T3 survey: "I noticed that it's very important to recognise what motivates a certain individual to get them to contribute to the workload". Another participant mentioned that even positive reinforcement as a leadership strategy can motivate others to work together as a self-managed team without an assigned leader:

I was able to test and learn about different types of leadership methods, such as positive reinforcement, in real life and see their effects. Our team worked efficiently without a set leader. When the situation needed it, someone took more responsibility and led to push others in the right direction.

One statement underlined the importance of intrinsic motivation and the difficulty of leading by example to inspire others during one of the PPR sessions. She said,

> *I realised the importance of motivating others and leading by example. I had a challenge with inspiring other people to work harder on the project. I wanted good results at the end of the project, but not all the students had the inspiration to work hard. As a group member or team leader, I did not come up with a way to stimulate the others. I think that a person has to be stimulated themselves first. But there are still means of encouragement that can be added on top of personal motivation.*

Another member described how they learned to motivate others thanks to their growth in confidence as a leader: "I don't hesitate to take the lead when needed, and I am more confident with that. It, for me, helped to fix some issues when we had motivational issues. I motivated my team and helped them find a solution." There were also participants who learned different ways to motivate different people to achieve success: "I noticed that it's very important to recognise what motivates a certain individual to get them to contribute to the workload."

However, the difference between how core-cohort participants and non-cohort participants approached motivation and the role of shared leadership in it is noteworthy. The difference was very apparent in one of the debates between a member who had recently joined the project as an exchange student and a member of the original cohort. The new member said, "The project wasn't special or interesting; therefore, nobody was motivated. Because we were using shared leadership, it was no one's job to motivate others. Nobody took the responsibility to motivate". When asked why she had selected the project, she said,

> *I wasn't present when the project was introduced. I read the description and though it might be interesting. Soon, I realised that I had no idea how to accomplish the tasks. Having been in Finland only a couple of months was not helping the situation much.*

The response of the regular degree student displayed a distinct perspective on the role of leadership in teamwork:

> *I mostly agree; however, I'm not sure if things would have been different if we had a single leader instead of using SL… It may be because of the insufficient language skills. I was the only Finnish speaker in the team, and we were mainly using my networks, so the others could not help much. This may be the reason that people were not motivated. People may have thought that they couldn't contribute even if they wanted to.*

This debate may indicate that member maturity and prior familiarity with the self-management concept and shared leadership are important predictors of the emergence of shared leadership (Avolio et al., 1996, Sivasubramaniam et al., 2002, Small and Rentsch, 2011) and learning from it.

5.2   Time Series Analysis of Survey Data: How does Shared Leadership as an Organisational Capacity Emerge and Develop?

This section provides the behavioural results that relate to shared leadership. As explained in previous chapters, (collective) leadership development has been defined as acquiring knowledge, skills, and attitudes to engage in effective leadership behaviours collectively. Section 5.1 focuses on acquiring KSAs as learning outcomes. This section focuses on the ability to collectively engage in shared leadership behaviours as the second dimension of collective leadership capacity building.

Carson et al. (2007) argued that leadership could be conceptualised either in relation to the strength or effectiveness of influence, the sources of influence (i.e., single versus multiple team members), or a combination of both. The current study has conceptualised shared leadership as the combined function of the strength of influence (the aggregated average of all functions), functional diversity (the number of positive behaviours per person), and the sharedness of the leadership (the ratio of individuals who displayed at least one positive behaviour) (Bergman et al., 2012). Table 8 provides the descriptive statistics from the survey questionnaires for two cohorts that completed three different projects over three academic semesters (18 months). The table has been structured into three main sections to provide the descriptive statistics for both cohorts and the case unit level as the units of analysis. The case unit values were calculated by averaging the values of the two cohorts. The first two rows provide information on the demographical characteristics of the units of analysis. The following rows show the mean values for shared leadership and the percentage of changes in these values from Time 1 to Time 3.

Table 8

Descriptive statistics (Time 3 scores are only from the core cohorts)

	Case Unit				Cohort 1				Cohort 2			
	T1 N= 43	T2 N= 36	T3 N= 71	% of change	T1 N= 27	T2 N= 17	T3 N= 16	% of change	T1 N= 16	T2 N= 18	T3 N= 20	% of change
Gender % of female					F = 59%	F = 41%	F = 50%		F = 56%	F = 61%	F = 60%	
Age 20–25					74%	67%	56%		69%	67%	57%	
Structuring and planning	4.08	3.9	3.83	-6%	3.98	3.93	3.89	-2%	4.18	3.87	3.77	-10%
Performing tasks	4.14	4.04	3.97	-4%	4.05	4.01	4.05	0%	4.22	4.07	3.89	-8%
Coordinating	4.15	4.08	3.97	-4%	4.14	4.05	4.09	-1%	4.16	4.1	3.84	-8%
Monitoring	3.77	3.75	3.78	0%	3.71	3.79	3.78	2%	3.82	3.71	3.78	-1%
Problem-solving	3.92	3.93	3.78	-4%	3.74	3.96	3.89	4%	4.09	3.9	3.67	-10%
Providing feedback	3.82	3.85	3.65	-4%	3.6	3.72	3.78	5%	4.04	3.97	3.52	-13%
Providing social support	3.98	3.95	3.76	-6%	3.89	3.92	3.89	0%	4.07	3.98	3.62	-11%
Total strength of leadership	3.98	3.93	3.82	-4%	3.87	3.91	3.91	1%	4.08	3.94	3.73	-9%
Number of positive behaviours per individual	4.3	3.83	3.52	-18%	3.71	3.59	3.69	-1%	4.88	4.06	3.35	-31%
Ratio of individuals with minimum one positive behaviour to total population	0.83	0.89	0.76	-8%	0.71	0.88	0.81	14%	0.94	0.89	0.7	-26%
Ratio of individuals who displayed six or seven types of leadership behaviour	0.51	0.37	0.33	-35%	0.43	0.29	0.31	-28%	0.59	0.44	0.35	-41%

As Table 8 illustrates, the shared leadership ratings differ significantly between the two cohorts, which provides support for the contextuality of leadership. These differences also indicate the limited generalisability of the results, even across different groups within the same organisation. Despite the differences between the two cohorts, the combined results of the survey questionnaire display a negative development in all shared leadership measures (the number of high-performance functions and the number of individuals who participated in leadership) at the unit level. The extent to which the values declined in the second cohort is noteworthy:

- Up to 9% in average strength.

- Up to 31% in the number of positive behaviours.

- Up to 26% in the number of individuals who participated at least in one leadership function.

- Up to 41% in the number of individuals who participated in six or seven leadership functions.

5.2.1   The Comparison of Average Leadership Strength

Figure 8 is a graph that shows the changes in the share leadership strength for both cohorts and the case unit as an average of two cohorts. As figure demonstrates, the compound results of the two cohorts exhibit a gradual but non-linear decline in the overall strength of shared leadership in the unit. Starting at a relatively high level of 3.98/5 at Time 1, it decreased to 3.93 by Time 2 and to 3.82 by Time 3. However, the two cohorts that represent the case unit have significant differences, which made the researcher hesitant to generalise the results to the case level. It may be more meaningful to analyse the results of the two cohorts separately and compare them to understand the role of contextual factors and their perceptions that different groups of people have about them.

For Cohort 1 (C1), the respective values slightly increased from T1 to T2 and stabilised by T3 (3.87, 3.91, and 3.91), respectively. However, the trend in the respective results of Cohort 2 (C2) is a gradual decline all the way to T3: starting at 4.08 at T1, the trend declines to 3.94 by T2 and sharply drops to 3.73 by T3.

Figure 8

Changes in the strength of shared leadership
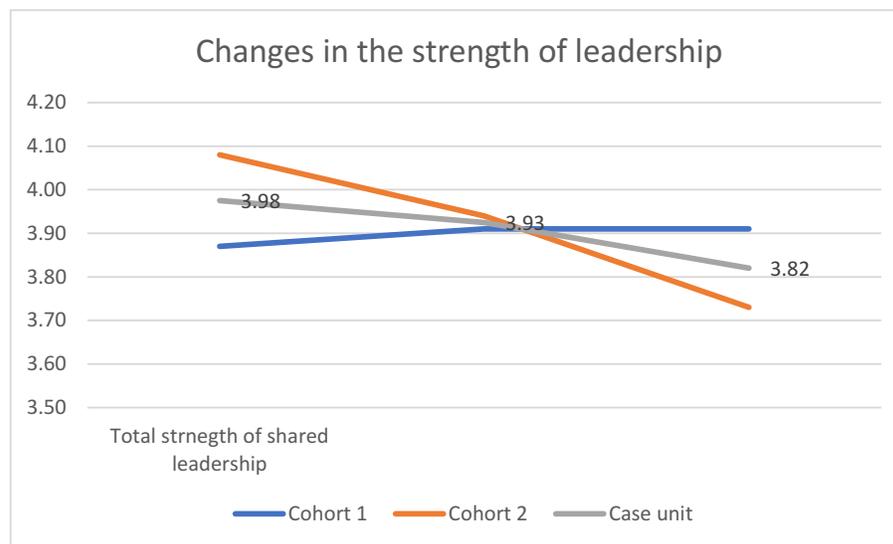
The results also demonstrate that the decline in specific functions was not homogeneous. The most significant decline related to the "providing feedback" function (about 13%), which was followed by "social support", "problem-solving", and "structuring and planning", which had 11%, 10%, and 10% declines, respectively.

5.2.2   *The Comparison of the Total Number of Leadership Sources: The Social Network Approach*

The number of individuals who contribute to leadership actions is crucial as it defines the size of the resource pool for collective leadership (Day and Lance, 2004; Lichtenstein et al., 2006; Clarke, 2013). Therefore, it is an essential tenet regarding the collective leadership capacity of an organisation as much as it is for shared leadership (Bergman et al., 2012). Plurality is considered one of the common characteristics and determinants of shared leadership (Carte, Chidambaram and Becker, 2006; Bergman et al., 2012; Carter and Dechurch, 2012; Contractor et al., 2012).

By utilising the SNA, the researcher analysed the plurality of the leadership with the ratio of individuals with at least one positive behaviour (graded four or higher in at least one leadership function out of the seven within the questionnaire) to the total number of individuals in the cohort (Bergman et al., 2012). Figure 9 illustrates the changes in the number of individuals who participated in the leadership of their teams at the cohort and unit levels. As the figure demonstrates, despite the high participation rates, a declining pattern can be observed for C2. At T1, 94% of the cohort members participated in leadership (16 out of 17). This ratio first dropped to 89% (16 out of 18) by T2 and dropped further down to 70% (14 out of 20) by T3. For C1, changes in the number of sources and the strength of influence followed different patterns. In terms of plurality or sharedness, there was an increase to 88% (15 out of 17) by T2 from 71% (20 out of 28) at T1 but a decline to 75% (12 out of 16), which forms an extended and inverted v-shape. There is a similar situation at the case level, and the values are 83%, 89%, and 76%, respectively.

Figure 9

Changes in the number of individuals who participated in leadership

Changes in the number of individuals participating in leadership
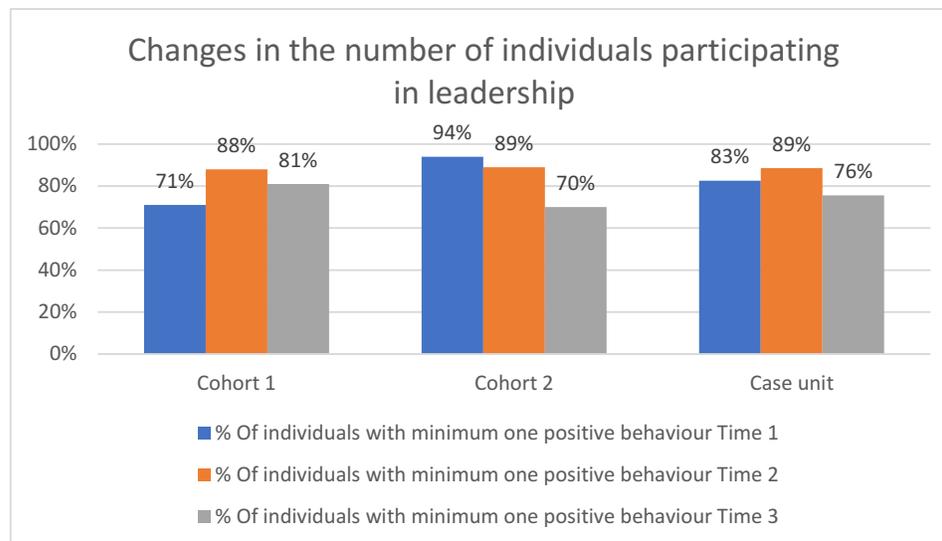
5.2.3 The Comparison of Behavioural Complexity Levels: Complexity Leadership Approach

Collectives (teams, groups, departments, cohorts, and organisations) are better equipped to respond to environmental challenges when they can respond to a given situation in multiple ways (Denison, Hooijberg and Quinn, 1995; Day and Lance, 2004). Therefore, growth in behavioural complexity is one of the tenets of leadership development (Day and Lance, 2004) or shared leadership development in the context of the current study. To examine the growth of complexity, the researcher controlled the average number of positive (rated four or more) leadership behaviours per individual at T1 and compared these to the respective averages at T2 and T3 (Bergman et al., 2012). As expected, as with all other values, the complexity values were significantly different between the two cohorts. Figure 10 depicts the changes in the number of positive behaviours per-person. Developments in both cohorts at the unit level were calculated by averaging all values. In the case unit, the number of positive behaviours

per person was 4.30 at T1, which means that, on average, each individual engaged in more than four leadership functions out of seven included in the survey questionnaire. The values dropped to 3.83 by T2 and 3.52 by T3. For C1, the respective values are 3.71, 3.59, and 3.69 for T1, T2, and T3. C2 started with a high value of 4.30, which means that each individual displayed more than four positive leadership behaviours. However, as with all the other cohort values, the decline was substantial (4.06 by T2 and 3.35 by T3). However, despite the adverse developments, the minimum number of positive behaviours in both cohorts is still more than 3 (3.52 by T3 for C2).

Figure 10

Changes in the number of positive behaviours per person
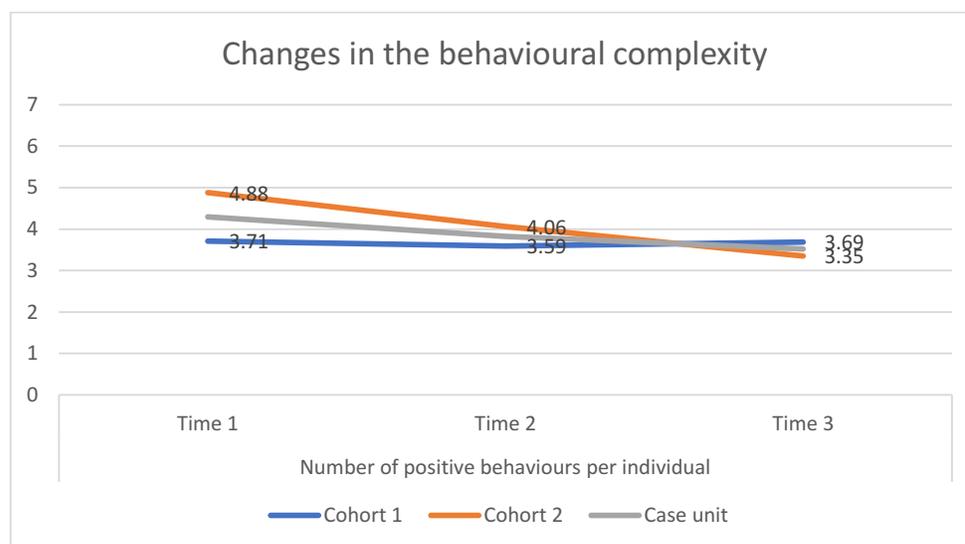
Additionally, the changes in the total number of fully diverse individuals (rated four or more in at least six out of seven leadership functions) were also analysed. Despite the significant differences between the two cohorts yet again, the analysis revealed signs of better delegation due to trust in the abilities of others (which is also supported by the qualitative data). This is

most obvious in C1, where a 14% (0.71, 0.88, and 0.81) increase in the leadership resource

pool (the total number of individuals with at least one positive leadership behaviour) was

observed, although a 28% decline was observed in the number of highly diverse individuals.

At T1 for C1, 12 out of 28 persons (43%) were rated 4 or better on six or seven leadership

behaviours. However, this dropped to 29% and 31%, respectively, by T2 and T3. These

changes can be interpreted as a positive development in the equal distribution of leadership

functions among less diverse members. The same conclusion can be drawn for the second

cohort. Although there is a negative development regarding both values, the decline in the

general leadership resource pool is much smaller (-25%) than the decline in the number of

fully diverse members (-41%). Figures 12 and 13 illustrate the changes in the various

functions in a cobweb fashion for both cohorts.

Figure 11

A cobweb view of the changes in the behavioural complexity of Cohort 1
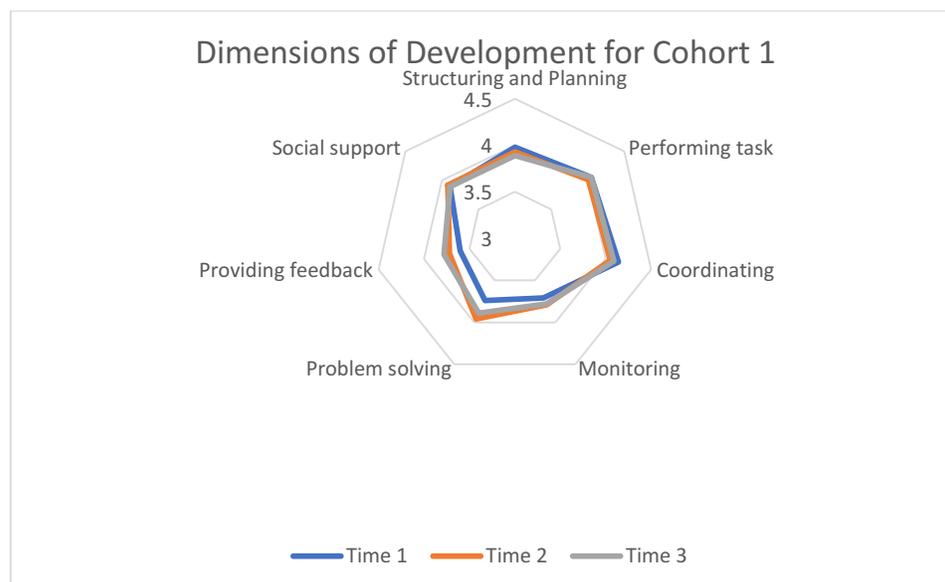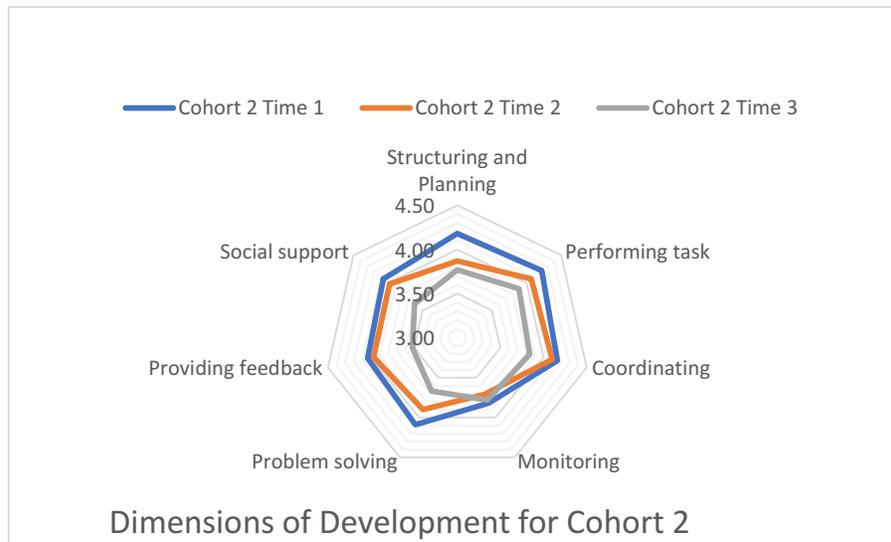
Figure 12

A cobweb view of the changes in the behavioural complexity of Cohort 2

Comparing the respective results between the two cohorts implies that social capacities have more significant elasticity than cognitive capacities. As seen in Figures 12 and 13, the most significant changes are registered in the "problem-solving", "providing feedback", and "social support" functions that represent the social aspects of leadership capacity and interpersonal skills. These changes are slightly positive for Cohort 1 and considerably negative for Cohort 2. The thematic analysis of the qualitative data that were derived from multiple sources (PPR documents, project documentations, open comments in questionnaires, and observation) supports this statement. The themes that are presented in Table 6, when paired with the evidence that is provided in Section 5.1, also fall into the same social and interpersonal aspects of the leadership capacity, as discussed in Chapters 2 and 3.

5.3   Data Integration and Comparison: What are the Areas that Need Particular Focus and Intervention?

This section focuses on integrating the data analysis that was conducted using data from various sources various techniques to define the bottlenecks in the developmental process. Analysing qualitative data from PPRs and open comments in surveys and self- and peer-rated values of seven leadership functions in 15 items contributed to identifying the most challenging areas. The four most significant themes that emerged from the thematic analysis of the qualitative data were planning and scheduling, monitoring, providing critical feedback, and team building. Similarly, survey data analysis identified structuring and planning, monitoring, and providing feedback as the three leadership functions that were weaker than others. Values of these functions were also constantly or frequently below the average shared leadership strength. Table 9 provides a comparison of the qualitative themes, applied qualitative codes, and quantitative codes for the most challenging areas. Figures 13 and 14 demonstrate how the average values of the seven leadership behaviours compare to each other within two cohorts.

Table 9

Qualitative themes, applied qualitative codes, and quantitative codes for the most challenging areas

Qualitative themes	Codes and sub-themes	Self- and peer-rated leadership functions
Planning and scheduling	Need for clearer goals and structure	Structuring and planning
Monitoring		Monitoring
Providing critical feedback	Need for establishing performance expectations from individuals and code of conduct	Providing feedback
Team-building		

Critical feedback avoidance
with the fear of conflict

Need for midterm goals to
maintain motivation

Motivation loss due to
confusion and lack of
midterm goals

Need for following the
progress and informing
others

Time management

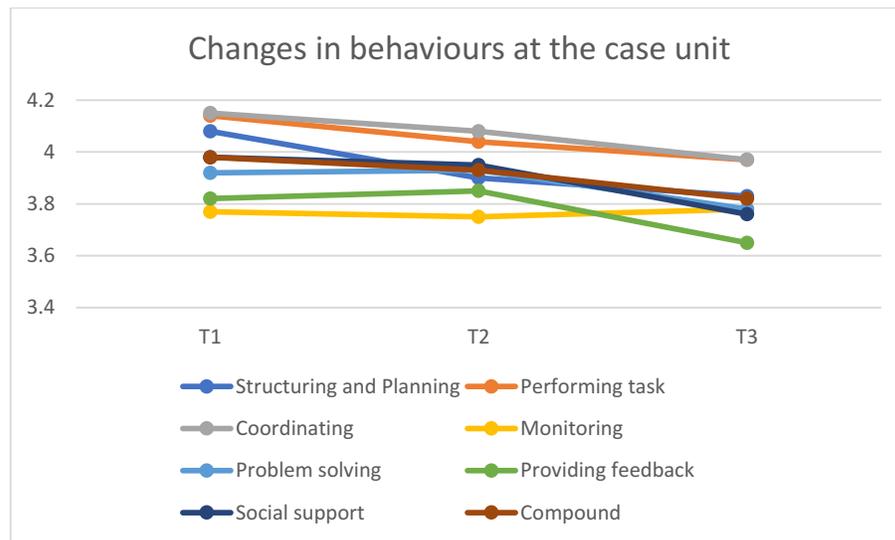Scheduling

Role division

Performance management

Communication

Time-wasting

Feedback avoidance

Figure 13

Shared leadership behaviours below the overall average level


As Figures 13 and 14 demonstrate, out of the seven leadership functions, two leadership functions were constantly rated low in both cohorts and stayed below the compound values: monitoring and feedback. Moreover, structuring and planning also stayed below the compound values at T2 and T3 despite the higher starting value at T1. These findings support the findings of the thematic analysis. Team-building emerged as the fourth challenging area in the qualitative data analysis. The analysis revealed that the areas in need of support were more extensive when the teams had the characteristics of cross-functional teams or post-acquisition/merger teams that represented multiple cultures. In the case of the current study, the temporary integration of the degree programs coincided with more advanced levels of autonomy (T3). In such complicated situations, self-managed project teams require additional

support and intervention from external leaders and coaches to build the team and create trust.

This theme was dominant in both the PPRs and open survey comments at T3.

Figure 14

A comparison of the average values of leadership behaviours

Monitoring and Providing Feedback as Challenging Areas
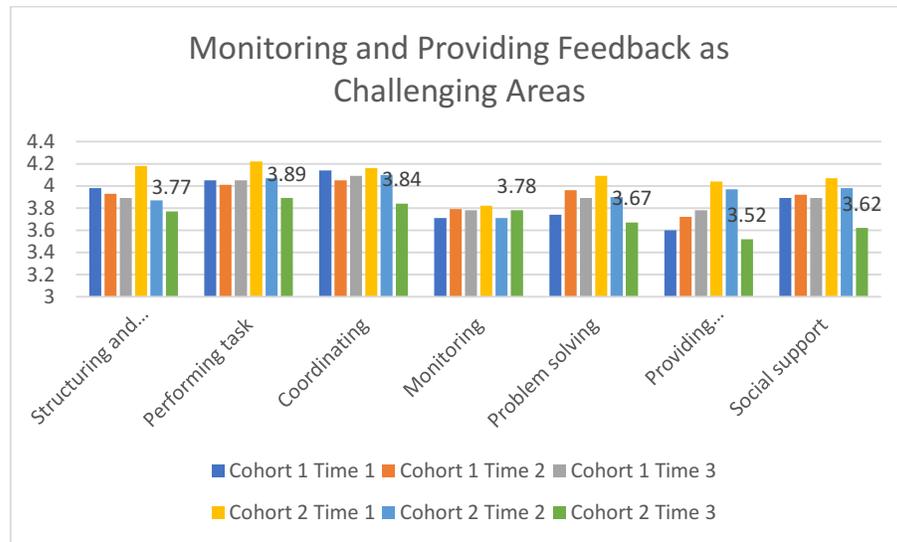
5.3.1 *Planning and Scheduling to Identify KPIs and Midterm Goals*

One of the biggest challenges to and needs for intervention is planning and scheduling. Most

of the teams faced challenges with identifying KPIs, midterms goals, and deadlines. The

participants explained this need with two common phrases: a) "*nothing happens then*", and b)

"*we thought we knew what was expected from us, but we noticed that we didn't*". Many of the

participants reported that they should have scheduled more work in the beginning when asked

what they would do differently if given a chance to repeat the project. For example, during

one of the PPRs, one participant pointed out the need for more detailed planning that included

the "HOWs" in addition to the "WHATs":

I was excited at the beginning and motivated because I liked the project and the

commissioner (client). The task seemed clear, and I had a feeling that I had this.

Sometime later, we realised that some tasks weren't that clear after all. We didn't

actually do much during April because of that. Now things are getting better; we are

doing more work, and motivation is rising again. The ideation class was helpful, and

we started to see some links and results.

This statement also reveals the fact that the ideation workshop was helpful, but maybe it should have come earlier or maybe there should have been two such workshops so as not to waste the month of April.

Another participant pointed out the same need for better planning in relation to a different task: "We underestimated the difficulty of cold calling. We should have given this more time". Another teammate continued with the same topic: "we waited too long to get answers and wasted time. We should have worked on other things while waiting".

There were several other similar statements, such as, "We should have scheduled more work at the start of the project", "The beginning is always slow, and we ended up with so much work in such a short time at the end", and, "Some compulsory deadlines and compulsory classes facilitated by teachers may help".

Inadequate planning causes a waste of valuable time and thus decreases the chances of achieving a goal directly through passive behaviours, which is indirectly due to motivation. The participants' reflections on motivation revealed the impact that it had on planning. Members of each project team hand-drawn graphs to illustrate their motivation level throughout the project life-cycle and point out the turning points with reasoning. Although there were differences between individuals, when asked about their motivation levels, the majority drew a U-shaped line across the semester. Figures 15 and 16 are representations of

different patterns of how motivation develops during the lifetime of a project or team. As Figure 15 and Figure 16 illustrate, the process often began with a high level of motivation due to the novelty of the project, challenges, and networking possibilities that may or may not have led to further opportunities such as employment. However, there was a significant drop in motivation after the planning phase, which did not improve until some results became visible during the final stage. The following statement summarises this rather well:

I had high motivation at the start due to the new project and team, but I lost motivation towards the middle because the process felt so long and nothing was really happening. Things started to come together, and some results appeared at the end. But there were too many deadlines, and it was stressful and demotivating.

Another participant summarised this pattern of diminishing motivation that began soon after the start of the projects with a different statement:

I had a good start due to the interesting and big real project. The was lowered by the buyer personas and not receiving replies to our survey but picked up at the end with some results. I didn't know what to ask to create good buyer personas.

Figure 15

An example of how motivation in self-managed project teams develops
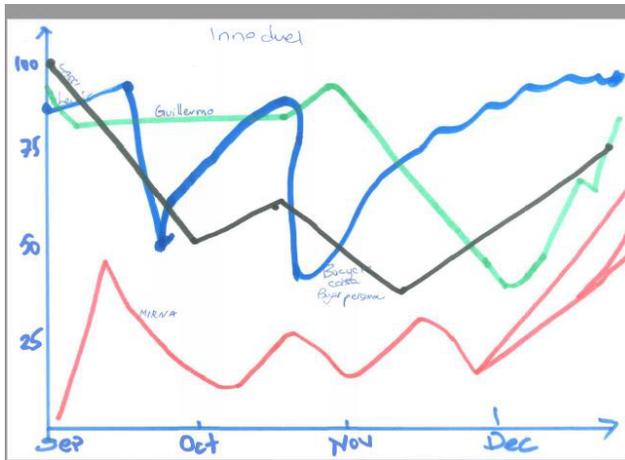

A statement pointed out the same pattern and the importance of receiving positive feedback to boost motivation:

> *I was motivated because of the genuine task at the start. Later, we became confused about what the client wanted and what the client's clients wanted and needed. Getting good feedback was also a factor in the rise of motivation.*

However, there were cases where motivation declined and did not pick up. These were often the cases where teams failed to achieve their set project goals.

Figure 16

Motivation curve during an unsuccessful project
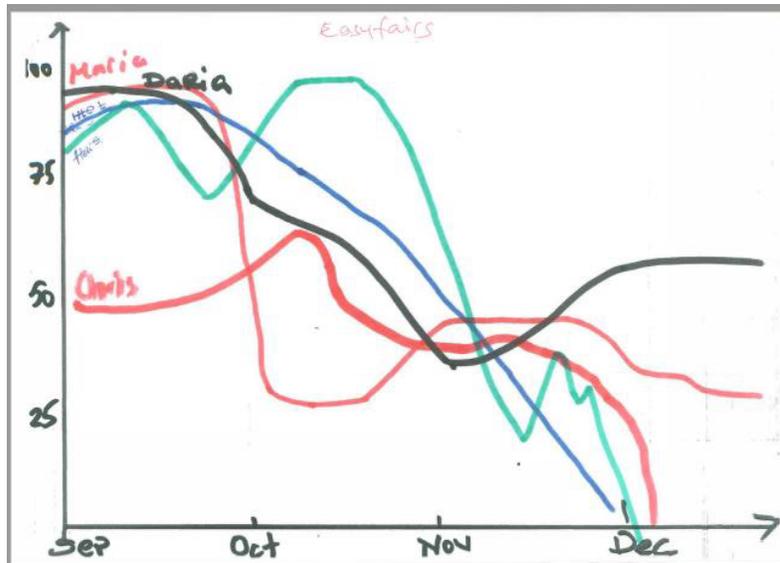
These patterns of how motivation develops during the lifetime of a project or team align with the findings about how shared leadership develops over a team's life-cycle (e.g., Gupta, Huang and Niranjan, 2010; Wu and Cormican, 2016; Lorinkova and Bartol, 2020), as well as the findings from individual-level studies such as DeRue and Wellmann's (2009) and Day and Sin's (2011). Overall motivation may affect the leadership behaviours of individuals, and individuals may become more critical towards their own and their peers' performances when motivation is low (Tasa, Taggar and Seijts, 2007).

5.3.2   Monitoring Progress

Monitoring was identified as one of the challenging areas that needed additional support from the external coaches. Although the monitoring function followed a similar development pattern as overall shared leadership strength did, it stayed relatively lower than the overall

average strength at all times for both cohorts except for T3 for Cohort 2. Figure 17 visualises

the development of monitoring behaviour in comparison to the overall strength of shared

leadership for both cohorts.

Figure 17

A comparison of monitoring behaviour values and the overall average values
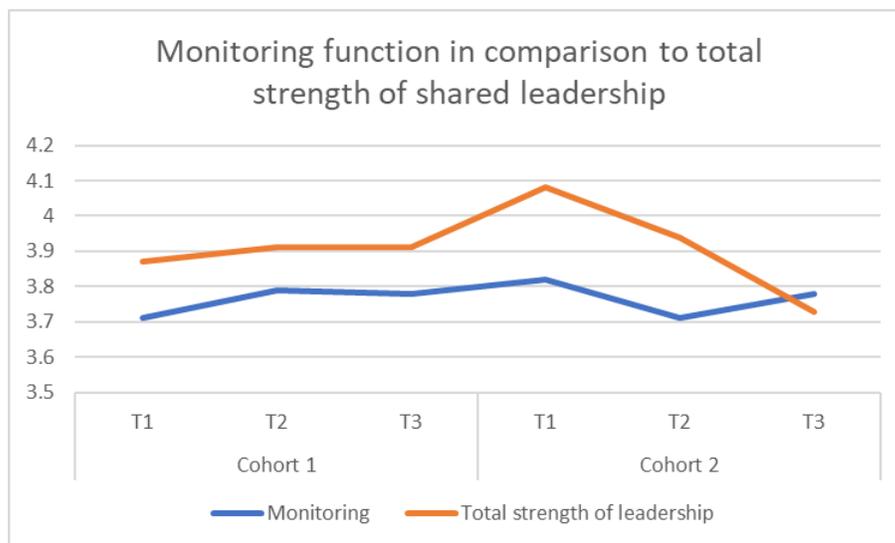
Although monitoring was not explicitly mentioned in the PPRs or project documentation,

such comments as, "We should have given this more time", "We waited too long to get

answers and wasted time", and "we should have worked on other things while waiting" were

also interpreted as a lack of monitoring. These statements were also associated with planning

and scheduling.

Similar comments were also registered during the reflections in relation to motivation levels

throughout the projects. "Nothing happens then" was the most common explanation for why

the motivation levels declined in the middle of the project before picking up again towards the end when the results started to appear. Additionally, the researcher's observations support this finding. As presented in Table 3 in Section 4.4.2, most project team members had difficulties with setting up goals and identifying key performance indicators. The observational data and the mentioned comments may explain why monitoring behaviour was observed as one of the lowest rated behaviours for both cohorts.

5.3.3   *Providing and Receiving Feedback*

In the behavioural survey, feedback was assessed with two items. Figure 18 demonstrates how feedback functions compares to the total leadership strength in two cohorts. As the figure depicts, both positive (the recognition of others' achievements) and critical (constructively pointing out when an individual's performance was not up to standard) feedback were rated lower than the average strength of shared leadership. On the other hand, Figure 19 illustrates the comparison of feedback to both average strength of shared leadership and task performance. Figure 19 demonstrates that the combined feedback ratings are clearly below such behaviours as "task performing" and overall average in comparison to "total strength of leadership". Although the feedback ratings indicate positive development for Cohort 1, the ratings are still comparatively low. For Cohort 2, the feedback ratings followed the overall tendency of adverse development in almost all areas. However, the drop at T3 was sharper than it was for most other behaviours.

Figure 18

A comparison of feedback behaviour values and the overall average values separately for two cohorts
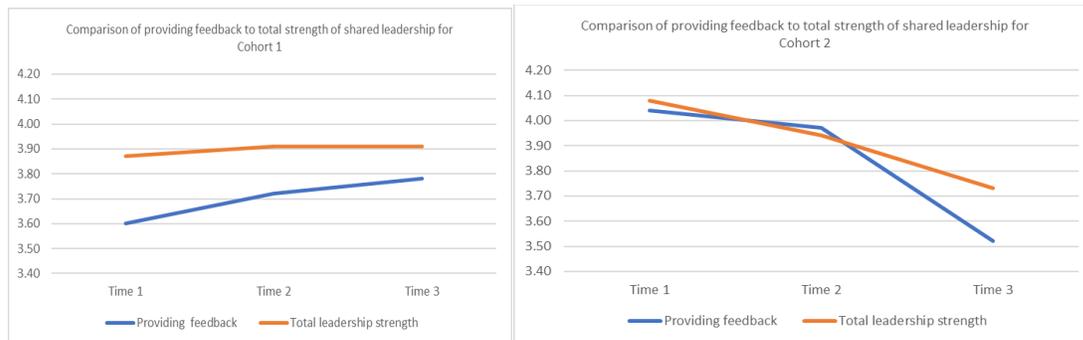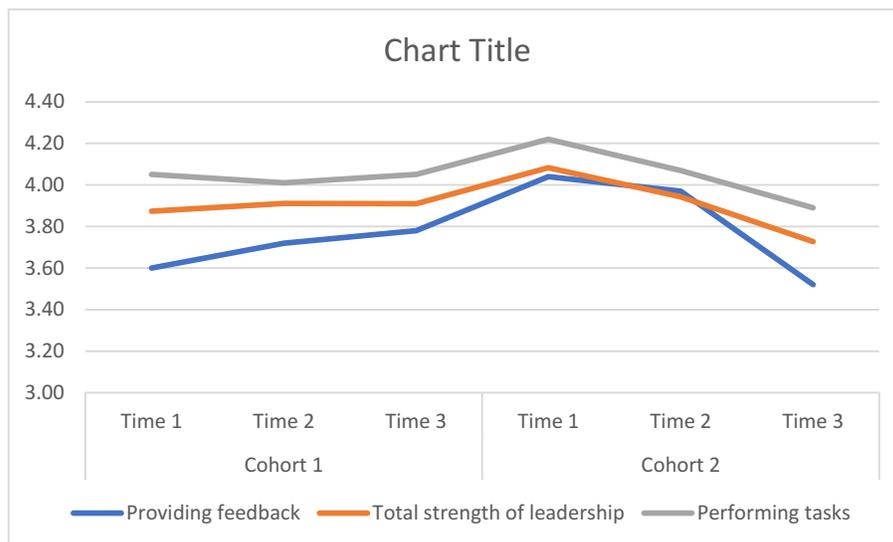

Figure 19

A case level comparison of feedback ratings and the values of overall leadership strength and task performance

The qualitative data analysis also supports this survey data. When asked during the PPRs, a considerable number of the participants reported a tendency to avoid critical feedback due to the fear of conflict. They mentioned the difficulty with formulating constructive feedback as the main reason why they avoided feedback when they noticed that someone else was performing below expectations. Another reason for the avoidance of feedback was the lack of standards that should have been set in the planning stage or a proper code of conduct. When reminded that they had created a code of conduct and a performance rubric, many reported that they had completed them as an assignment for HR and leadership courses and forgot to use them for teamwork. This observation implies that transferring knowledge across domains is difficult and takes time. The social learning theory also suggests that a time gap exists between learning and transferring knowledge to one's behaviours (Black and Earnest, 2009). The "lost in translation" syndrome may be present in the process between the "attention", "retention", "reproduction", and "motivation" phases (Bandura and Walters, 1977; Black and Earnest, 2009).

Feedback as the recognition of achievements was also challenging for many. The participants either thought that recognition had already been granted and that they did not need to mention it or did not know how to do it. One participant supported the effects of the latter situation with her statement; she recalled her lack of examples from childhood experience to explain her feedback score in "recognition of achievements". She said, "recognition is not my thing; I had no examples of such behaviour in the past. I was not recognised for my achievements too often during my childhood".

5.3.4   Team-building

Team building was identified as the fourth challenging area that may have needed intervention. The documentary analysis of the written and oral reflections, especially after the

third-semester projects as the most autonomous level, revealed that the teams still needed team building support and facilitation from the coaches. This need was mentioned on several occasions during the PPRs for the third projects, which were self-organising. Another characteristic of the third-level projects was the integration of the second group of participants (non-cohort) from another degree program. At this stage, the core-cohort participants were mixed with the participants from another study program within the same campus. Teams were formed with members from cohorts from two different leadership cultures. The core unit of the study was focused on a culture of autonomous work and shared leadership, and the other unit focused on a more vertical leadership culture that represented the nature of a specific industry. The timing of this indicates that the external coaches, leaders, and managers should have paid extra attention to team-building in cases of cross-functional teams if the members came from departments or units with varying leadership cultures. These characteristics may also be applicable to other teams that are formed after mergers and acquisitions.

One participant from the core cohort who was used to team-building activities that were facilitated by the instructors in earlier levels said,

> *… it is motivating to work in self-organising teams. However, there should be more emphasis on team-building rather than focusing on idea development for too long. The risk is that no one takes ownership when people are from different cultures, and they don't spend enough time together for team-building.*

Several of the core-cohort participants blamed others for not having initiative or waiting until they were told to do something. On the other hand, the T3 participants from the other degree program complained that no one was taking the lead and telling them what to do, how to do it, or when to do it. Many of them blamed shared leadership for wasting time and the teachers

for not providing clearer structures and directions. For example, one of the non-cohort participants said, "shared leadership is complete BS; it does not work at all. We should have chosen a clear leader for this project! We would have had some clarity at least in who does what". Another non-cohort participant was milder in expressing their opinion: "I never experienced shared leadership before, and I hated it at the beginning because of the confusion it created for me".

The survey results for the second cohort indirectly support this need. The social support and feedback ratings dropped considerably between Time 1 and Time 3 ratings. While social support dropped to 3.62 in Time 3 from 4.07 in Time 1, the feedback followed a similar pattern of gradual negative development from 4.04 to 3.52. Although feedback and social support are two separate functions, forming new team structures that introduced completely new individuals from a different leadership culture required team building intervention.

5.4 Data Integration and Comparison: How does Collective Leadership Capacity in an Organisation Develop Through Self-Managed Team Experience Across Time and Task Settings?

This section focuses on the main research question. As it is a holistic and macro-level question, the response to this question is a sum of answers to the sub-questions addressed in previous sections. Additionally, as is the case with the RQ4 discussed in Section 5.3, this question requires integrating the data analysis conducted using data from various sources and techniques. The integration of data and the comparison of the findings from the analyses demonstrate that self-managed team practices provide excellent developmental opportunities and enhance collective leadership capacity building in organisations in many ways. However, the impact of the practices is more substantial on the acquisition of KSAs than on behaviours. Although organisational members learn and develop interpersonal skills and become aware of

various approaches to leadership in different situations, the overall strength of shared leadership, the participation rates, and the complexity of behaviours tend to deteriorate.

However, the decline in the behavioural outcomes does not weaken the potential of SMT experience for collective capacity building in organisations for two primary reasons. First, the values are relatively high for both cohorts – for example, in comparison to the findings of Bergman et al. (2012). The current study demonstrates that the ratio of individuals who displayed at least one positive behaviour at maximum was 90% and at the lowest 70% and that these individuals performed 3.3 (lowest) to 4.88 (highest) leadership functions on average. Additionally, the results demonstrate that up to 59% (minimum 33%) of the participants engaged in six to seven leadership functions, which exhibits the very high complexity of behaviours. Bergman et al. (2012) found with a larger participant group that 43.9% of the participants engaged in at least one type of leadership behaviour and that they performed 1.5 leadership functions on average. Bergman et al., (2012) also reported that 60.8% of the 43.9% engaged only in one type of leadership and that only 10.2% engaged in three or four types of leadership.

Second, the decline in performance outcomes is not unique to SMT work and shared leadership only. Individual level studies (e.g., DeRue and Wellman, 2009; Day and Sin, 2011) also reveal similar results. Furthermore, the comparison of shared leadership effectiveness values in this study with the leadership effectiveness values of individual studies (e.g., Day and Sin, 2011) also reveals that the self-managed team approach has comparative advantages. Even though both studies demonstrate a decline in effectiveness over time, the supervisor ratings of leadership effectiveness in the study that was conducted by Day and Sin (2011, 551) are significantly lower. The authors measured leadership effectiveness at T0 as 2.33/5, which gradually dropped to 1.98/5 by T3. These comparisons indicate that despite the

tendency of leadership effectiveness to decline in further projects, these relatively high values indicate that shared leadership experiences in self-managed teams provide good leverage for collective leadership development in terms of behaviours and performance. The findings also support previous research about shared leadership being an effective leadership style, especially for knowledge-based work (Nicolaides et al., 2014; Innocenzo et al., 2016; Wu et al., 2020).

The study results also reveal that with timely and appropriate coaching support in the areas identified in Section 5.3, the decline in the behavioural values could be minimised, or even turned to positive. The findings derived from various types of data indicate that despite the need for the autonomous leadership of SMPTs and the development of leadership capacities, coaching support is vital in certain areas and under certain circumstances. The support need is more visible in more advanced and complicated projects.

5.5   Chapter Summary

This chapter concentrates on the findings of the analyses of the data that were collected from multiple sources using multiple techniques. Although the conceptual framework that is presented in Chapter 3 has provided the initial guidance for the development process of collective leadership capacity development, the research question and sub-questions specifically initiated the study and provided the central guidance for developing the conceptual framework. The holistic approach that was derived from multiple theoretical perspectives required an integrated approach to analysing the data that were collected using multiple sources and collection techniques. Therefore, the analysis involved the thematic analysis of the qualitative data to identify learning outcomes, the time series analysis of the peer-rated behavioural data regarding shared leadership development, and the comparison of the two to identify the bottlenecks in the process.

Section 5.1 focuses on acquiring knowledge, skills, and attitudes to answer the first sub-question (RQ2): ***"What do organisational members learn from their diverse leadership experiences?"*** Learning seems to take place mainly in the inter-personal and social dimensions of the collective leadership capacity. Seven major themes were identified during the analysis of the PPR documents, open responses to the questionnaires, and observations: (1) the openness to diversity and working with others, (2) communication and coordination, (3) self-awareness and confidence, (4) problem-solving and decision-making, (5) situational awareness and adaptability, (6) the awareness and acceptance of different leadership styles, and (7) the motivation of others to achieve the learning outcomes, which results in improved collective capacity. All seven themes point to the inter-personal and social dimensions of the collective leadership capacity and share similarities with the findings of one rare constructive study by Hall et al. (2008) at the individual level.

In Section 5.2, the time series analysis is presented, which focused on the development of shared leadership across three different projects that spanned over three academic semesters in 18 months to answer the second sub-question (RQ3): ***"How does shared leadership as an organisational capacity emerge and develop?"*** In terms of shared leadership values, despite some significant differences between the two cohorts a general decline was observed in most values within both cohorts. An exception to the rule is shared leadership strength for Cohort 1, which demonstrated a slight increase from T1 to T2 and stabilised. All the ratings for Cohort 2 displayed a declining pattern for almost all the dimensions. This observation is in line with the findings of Lorinkova and Bartol (2020), Wu and Cormican (2016), and Gupta et al. (2010). Additionally, the findings of this research also support the findings of individual-level studies (e.g., DeRue and Wellman, 2009; Day and Sin, 2011; Rosch, 2015), which also present negative development in leadership across time.

Many researchers have agreed that developments will not be linear (McCall Jr, 2004; Day, 2011b; Hall et al., 2008); they will regress and progress (Posner, 2009, p 553). Although a majority of these studies are limited to a single project within the life-cycle of teams in comparison to multiple projects and team structures within the three semesters that are covered by the current study, the partial similarity in the results is noteworthy. These findings may indicate a diminishing return, which was identified by DeRue and Wellman (2009), and/or individuals becoming more critical after becoming more aware of the multiple facets and dimensions of leadership (Posner, 2009, p553).

Some challenging areas have been identified as bottlenecks in SMPT leadership, which may require extra attention and support to facilitate more effective operation and development. Identifying the bottlenecks in the process and answering the third sub-question (RQ4), ***"What are the challenging areas that need particular focus and intervention?"***, required data integration and the comparison of the findings of the two analysis methods. Thus, Section 5.3 identifies four challenging areas that need attention and additional coaching support for more effective development and performance. These areas are planning and scheduling, monitoring, providing critical feedback, and team building. Although the survey results display a decline in almost all areas and no changes were registered in monitoring behaviours, these areas were emphasised in PPRs. Additionally, monitoring was rated poorly at almost all times by both cohorts. Team-building, on the other hand, was identified through the thematic analysis. Team-building was considered to be a function of the external leadership and therefore was not included in the pre-defined functions that needed to be performed by the team members.

The main research question of the current research also required the integration and comparison of all types of data from all sources within and across the cohorts. The main

question (RQ1) was, *"How does the collective leadership capacity of an organisation develop through self-managed team experience across time and task settings?"* The integration of data and the comparison of the findings from the analyses demonstrate that over time there is a declining positive response to the leadership development opportunities and that there is a more substantial impact on knowledge than on actual behaviour and performance. Although organisational members learn and develop interpersonal skills and become aware of various approaches to leadership in different situations, the overall strength of shared leadership, the participation rates, and the complexity of behaviours tend to deteriorate. The results also reveal that despite the need for the autonomous leadership of SMPTs and the development of leadership capacities, coaching support is vital in certain areas and under certain circumstances. The support need is more visible in more advanced and complicated projects.

Revisiting the conceptual model that is presented in Chapter 3 given the findings that have been presented indicates that the model has provided multiple advantages to the current study. First of all, a unique point and strength of the model is its multi-perspective character. Some scholars have advised that future researchers should embrace the development process fully by capturing experiences, complexity, and temporality dimensions, which is challenging to do with the previous approaches and requires a multi-perspective approach (Yammarino et al., 2012; Eva et al., 2019; Fairhurst et al., 2020).

Collective leadership in this model is conceptualised through the lens of shared leadership. It also incorporates the complexity leadership and social learning perspectives. In this sense, shared leadership development is seen as human cultural capital and social capital that are developed as outcomes of shared work and interactions (Lambert, 2011; DeRue and Myers, 2014; Day and Liu, 2018) within self-managed project teams. Therefore, the model focuses

on both dimensions of leadership capacity: the acquisition of KSAs and the ability to engage in shared leadership behaviours. This kind of holistic approach requires multiple data sources and collection methods. The model also enabled combining multiple sources and types of data (PPRs, participant surveys, and direct observation) to reach an overall understanding of the phenomenon.

Social learning within the constructivist perspective was relevant for understanding how the participants interpreted their experiences and what they learned from engaging in the shared leadership of self-managed project teams. The social network approach was used to identify the participants who engaged in leadership acts and thus contributed to the leadership of their teams. The use of the behavioural complexity approach, on the other hand, enabled both the exploration of the development's direction in the leadership portfolio and a test of whether more than one team member participated in each team's leadership. Jointly, this combined approach minimised the common method variance and avoided the biases that are associated with peer ratings of emergent leadership (e.g., the most talkative and well-liked members are perceived as leaders) (Jaffee and Lucas, 1969, Riggio, Riggio, Salinas, and Cole, 2003, in Bergman et al., 2012, p 19).

The longitudinal nature model offered some methodological advantages too. Because it includes three waves of data that span 2 academic years (three semesters per cohort precisely), it was possible to examine both the process and the outcomes of leadership development in its complex environment in ways that are not possible with cross-sectional studies. Additionally, three waves of data collection was more suitable for capturing the non-linear nature of leadership development than the linear depiction of two-wave data. The three-wave data collection also provided the opportunity to explore learning and development from multiple team and task contexts and across a longer period.

A substantial majority of past research is limited in its scope to the lifetime of a single task or team. Against the most common episodic approach with a single task, (Day, 2011b; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Lorinkova and Bartol, 2020), this study realises what several scholars have called for: the integration of multiple tasks and a more extended time-lapse. For example, Cullen-Lester and Yammarino (2016, p177) argued that further studies with multilevel and longitudinal designs are needed to enhance the understanding of how collective (shared) leadership emerges and changes over time and across different task conditions. The comparative analysis suggests a circular relationship between learning and shared leadership behaviours and supports the experiential learning model (Kolb and Kolb, 2009; Kolb, 2014). The next chapter focuses on interpreting these results by forming links to the relevant literature that is reviewed in Chapter 2 both with an individualised and collective focus.

6   CONCLUSIONS AND DISCUSSION

This chapter concludes the study with a discussion of the implications of the study and its contributions to various areas. The chapter starts with a discussion on the implications of the findings for research objectives and questions (Section 6.1). Section 6.2 focuses on the contributions of the study to knowledge on collective leadership development in three areas: discussions on learning through interaction (6.2.1), discussions on the developments of shared leadership behaviours (6.2.2), and implications for leadership development research methodology (6.2.3). The discussion leads to conclusions that are suggested as propositions in Section 6.3. After that, the chapter presents the implications of the study for practitioners both in the HE institutions and in other professional organisations (6.4). Limitations of the study and future research recommendations are provided in Sections 6.5 and 6.6 respectively. The chapter closes by providing concluding thoughts and the reflections of the researcher in Section 6.7.

6.1   Implications of the Findings for Research Objectives and Questions

This section elaborates on the study's findings and attempts to evaluate the degree to which the study reached the objectives and answered the questions that initiated and shaped the study. The study addressed the need to focus on developing collective leadership capacity in organisations rather than the individuals in positions.

Leadership development models need to change to address the leadership needs that are arising from multi-organisational and team-based flat structures in response to ever-demanding and complex business environments (Day and Harrison, 2007). Members of these non-traditional organisations need to learn how to work in self-managed teams as members with equal status or, in other words, work in teams of leaders rather than lead teams of followers (Day and Harrison, 2007; Eva et al., 2019).

To adapt, organisations need to develop sustainable and reinforcing leadership development strategies and make them part of their daily operations in the long term rather than investing in individuals in positions by taking a short-term interventionist approach (Day, Gronn and Salas, 2004, 2006; DeRue and Myers, 2014). Shared and other forms of collective leadership development practice have currently stagnated because organisations have long been focusing on individual leadership development practices and methods and applying them to a group of leaders rather than developing new approaches that address the unique challenges of collective leadership (Day and Lance, 2004; Day and Harrison, 2007; Yammarino et al., 2012; Eva et al., 2019).

In response, this PhD project has introduced a multi-perspective framework for developing shared leadership as a collective capacity by aligning some of the previously siloed approaches and has applied it to investigate development through practices of self-managed project teams in a shared leadership environment.

The key assumption of the study was that, despite their drawbacks, shared leadership of SMTs provide excellent opportunities for organisations to enhance their collective capacity for leadership (Day et al., 2004, 2006; Friedrich et al., 2009; Day et al., 2014; Raelin, 2016b, 2018a). To build on leadership development and shared leadership literature, this study integrated multiple perspectives on a conceptual model that is presented in Chapter 3 to study the development process and its outcomes across multiple projects within an extended timeframe.

The primary research question (RQ1) provided a deeper understanding of how collective leadership capacity is enhanced in organisations through self-managed team practice. Based on the key assumption and through the integration of the social learning theory, the study has investigated how participants perceive their experiences and what they learn from them

(RQ2). The shared leadership theory served as a lens to conceptualise collective leadership. The integration of the social network approach and behavioural complexity theories to shared leadership helped to explore the developments in shared leadership across three project tasks that occurred over 18 months (RQ3). The study also provides valuable information on the factors that affect leadership development and the challenges that require additional coaching support or intervention (RQ4).

Findings of the study supports its assumption that shared leadership practices in self-managed project teams provide excellent learning and development opportunities. Answering the primary research question (RQ1), this research demonstrated that SMPT experience has more substantial positive impact knowledge acquisition than on actual leadership behaviours. Organisational members learn a great deal from participating in SMT work, and this learning primarily takes place in the interpersonal and social dimensions of the collective leadership capacity (RQ2). The study's results also suggest a declining positive response to leadership development opportunities over time in more complex task situations (RQ3). However, several leadership areas were identified in which SMT members need coaching support to reverse the declining trend in their behavioural performance (RQ4).

6.2   Contributions to Knowledge on Collective / Shared Leadership Development

The study has implications for the field of practice and knowledge that arise from the context, the theoretical framework, and the methodology. This section focuses on the contributions of the study.

This research contributes to the academic discussion of collective leadership development by providing initial and holistic insights into the understudied topic of how collective leadership capacity is developed through shared leadership practices in self-managed teams. As one of the pioneers of its field, the study provides information: (a) on what people learn from their

versatile SMT experience in multiple tasks environments; (b) on how shared leadership behaviours change over time and across multiple tasks; and (c) on the leadership areas that need additional coaching support and intervention. This study demonstrates that over time there is a declining positive response to leadership development opportunities and that there is a more substantial impact on knowledge than on actual behaviour and performance. The study also demonstrates that coaches can enhance development with timely and appropriate support in planning and feedback functions.

Another key contribution of the study is to the conceptualisation of collective leadership development by integrating shared leadership as a lens and a platform. The current study started with the researcher's intrinsic motivation to explore the usefulness of self-management and shared leadership concepts for developing leadership capacity at the organisational level. By using pragmatism, the researcher aimed to explore the complex inner world of this organisational process to analyse it and act on it to improve research on shared leadership development (Morgan, 2007; Hall, 2013; Kelly and Cordeiro, 2020). The research started with an extensive review of shared leadership literature and leadership development literature. However, the project encountered its first challenge in this early stage. The literature review revealed that contemporary leadership development literature mainly focuses on individual leader development at the expense of understanding and explaining leadership development as a collective learning process (Day, 2000; van Velsor, McCauley and Ruderman, 2010; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018).

Despite the criticism and the calls for studies of collective leadership development (Klein and Ziegert, 2004; Raelin, 2006, 2016a, 2016b, 2018a; Friedrich et al., 2009; Bergman et al., 2012; Day et al., 2014; Day and Liu, 2018) and the calls for the integration of shared leadership into leadership development conceptualisation (Klein and Ziegert, 2004; Raelin,

2006, 2016a, 2016b, 2018a; Friedrich et al., 2009; Bergman et al., 2012), past research has paid considerable attention to the impact of formal training programs and action learning on individuals (Posner, 2009; Day and Sin, 2011; Mason, Griffin and Parker, 2014; Rosch, 2015; Baron, 2016; Miscenko, Guenter and Day, 2017).

Most of these studies either focus only on the individual outcomes (Posner, 2009; Day and Sin, 2011; Baron, 2016; Miscenko, Guenter and Day, 2017) or on the casual effects of individual attributes on leadership development, such as goal orientation (DeRue and Wellman, 2009; Day and Sin, 2011; Mason, Griffin and Parker, 2014), perspective taking (Mason et al., 2014), self-efficacy (Mason et al., 2014), the motivation to lead (Rosch, 2015), and personality (Harms et al., 2011). The findings of previous research conflict with each other. Some of these studies found linear and positive growth in behavioural outcomes (Mason, Griffin and Parker, 2014; Baron, 2016), while others found negative growth for the majority of respondents (DeRue and Wellman, 2009; Day and Sin, 2011; Rosch, 2015; Miscenko, Guenter and Day, 2017).

This study also contributes to leadership development research through its context. The study is contextualised to self-managed project teams that consist of young adults in a higher education institution in Finland. Although convenience appears to be the selection criteria for most insider research such as this study, the BBA unit was an appropriate case because the shared leadership approach and the self-management concept were utilised as a part of the pedagogical approach within the unit.

Scholars have been arguing to move leadership development practices away from classrooms and offices to team-based experiences where learning is acquired from activities, interactions, and opportunities to face the unknown (Day, Gronn and Salas, 2004, 2006; McCall Jr, 2004; Raelin, 2006, 2016b, 2018a; McCall, 2010; Day, 2011b). By highlighting self-managed teams

as an appropriate platform, Raelin (2016b), for example, argued that collective leadership development requires engagement in leadership practices through a group that is working on their tasks:

> *... leadership development will need to return to the very setting where the practices are going on. So, rather than learn best practices, skills, or competencies using case examples other than their own "case", participants would need to learn how to address and solve their own problems in their own settings. Furthermore, they need to confront these problems with those who are directly and mutually engaged.* (Raelin, 2016b, p21)

Raelin (2018a) argued that collective learning is the most crucial outcome of such activities. In this kind of setting, participants commit to listening to each other and reflecting on diverse perspectives that may be different from their own, thus broadening or transforming the practice in question (Raelin, 2018a). According to Raelin (2018a, p63), this is a social learning process that is "associated with second- and third-order learning that seeks to uncover the underlying assumptions and presuppositions guiding current practices".

Thus, the starting point of this PhD project was a research gap in the field. Despite the promising findings, researchers do not know how collective leadership develops through authentic experiences. Except for a few studies in the shared leadership literature that focus on the temporal nature of shared leadership within the life cycle of a single project with a social network approach (Wu and Cormican, 2016; Linlin Wang et al., 2017; Lorinkova and Bartol, 2020), there is a lack of research on collective leadership development. Therefore, researchers have very little knowledge about what individuals and collectives learn from their shared leadership experiences in self-managed project teams and how shared leadership

capacities emerge and develop in following endeavours due to this knowledge (Day and Liu, 2018; Raelin, 2018a).

Furthermore, there was no conceptual framework for studying how collective leadership capacity is developed through multiple experiences in self-managed teams. Some scholars have argued that the predominant focus on individuals was partly caused by the lack of an appropriate theoretical framework that informs collective leadership development with multiple perspectives (Yammarino et al., 2012; DeRue and Myers, 2014; Raelin, 2018a; Eva et al., 2019).

By departing from previous leadership development research that has a predominant individualistic approach that often incorporates cross-sectional designs, the current study focuses on how collective leadership capacity develops via multiple distinctive leadership experiences in self-managed project teams. The study may have several interesting implications for the relevant literature due to its overarching and unique conceptual framework that draws on multiple theoretical perspectives. The first implication of the current study relates to the theorisation of collective leadership development.

This study has realised the calls for the theorisation of collective leadership development within a multiple-perspectives approach (Yammarino et al., 2012; Raelin, 2016a, 2016b, 2018a; Eva et al., 2019). This call has been considered a "superordinate call" (Eva et al., 2019, p11). Research on collective leadership development is still in its infancy. Scholars have argued that integrating multiple theoretical perspectives both inside and outside collective leadership development literature offers opportunities for the field to progress through multiple perspectives rather than a single one (Eva et al., 2019; Yammarino et al., 2012). This call also includes integrating individual leader development and collective leadership development (Day, Gronn and Salas, 2004; Day et al., 2014; Eva et al., 2019).

Thus, this study contributes to the theorisation of collective leadership development in two ways: first, by conceptualising collective leadership through the lens of shared leadership (Day, Gronn and Salas, 2004; Klein and Ziegert, 2004; Hiller, Day and Vance, 2006; Klein et al., 2006; Friedrich et al., 2009; Day, 2011b; Bergman et al., 2012) and integrating multiple theoretical approaches such as the complexity leadership, social learning, and social network approaches to inform shared leadership development (Yammarino et al., 2012; Clarke, 2013; Eva et al., 2019).

This study also contributes to the existing knowledge by contextualising it in self-managed project team experiences in multiple projects, which also realises the calls for such research (Day, Gronn and Salas, 2004, 2006; Raelin, 2006, 2018a; Day et al., 2014; Day and Liu, 2018). Due to its conceptual framework that enabled the integration of three distinct projects across 18 months, the study has exciting and considerable implications for leadership development and shared leadership streams of literature. By departing from traditional individualised LD studies (DeRue and Wellman, 2009; Day and Sin, 2011; DeRue et al., 2012; Baron, 2016; Miscenko, Guenter and Day, 2017) and studying development in isolation from the context and social dynamics, the researcher has contributed to explaining the link between leadership development and shared leadership.

The study realises this by exploring what people learned from their shared leadership practices (SL) in self-managed project teams and how shared leadership developed over time and across distinct project tasks (Day, 2011b; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018). Due to its context and the inclusion of multiple semester projects across three semesters in a prospective cohort design, the study illuminates how leadership development occurs throughout various project tasks and changing contextual factors and across time. Additionally, the differences between the two cohorts is proof of the complexity of leadership

in its contextually bound nature (Day, 2000, 2011b; Lichtenstein et al., 2006; Uhl-Bien, Marion and McKelvey, 2007; McCall, 2010; Contractor et al., 2012; DeRue and Myers, 2014) and the uniqueness of each experience regarding the situation and the people within the situation.

Thus, the study also contributes to the contextualisation of leadership development in self-managed teams and supports the argument that interpretation of experiences and interplay with contextual factors play a critical role in defining what and how much is learned, given that learning from experience is primarily informal (Yamazaki and Kayes, 2004; Kolb and Kolb, 2009; DeRue and Myers, 2014; Kolb, 2014). For example, McCall (2004) identified challenging assignments or projects that feature a substantial scale of responsibility, the exposure to other difficult people, hardships, and making mistakes as experience-based learning and development sources.

Furthermore, the current study also contributes to discussions on self-managed team (SMT) leadership and the role of external coaching in SMTs by identifying the bottlenecks in the process. McCall (2010, p17) stated that

> *It is clear that learning from experience is not automatic. . . but it is not as clear what the obstacles are to learning from different kinds of experiences or, on the flip side, what might enhance it. Until more is known about these aspects of learning from experience, efforts to intervene effectively to enhance learning will continue to be hit or miss.*

This research highlights challenging leadership areas for self-managed project teams to help team members and researchers increase their awareness of them. These areas include team-building, structuring and planning, monitoring, and providing constructive feedback. The results indicate that the most challenging areas fall into the initiation stage and the forming

phase of the team process (Marks, Mathieu and Zaccaro, 2001), which indicates that teams, especially new ones, need intensive support during the initial stages. A closer look at the initial transition stage is beneficial to understanding the vitality of the stage both for performance and development. This stage involves many of the activities and processes of team functioning (Ilgen et al., 2005; Schaffer, Lei and Reyes Paulino, 2008). It is the stage in which teams start to form and function: during this stage, members engage in bonding, trust-building, peer feedback, and leadership and project planning tasks such as structuring and coordination (Ilgen et al., 2005).

However, the transition stage encompasses three aspects of early team development: trusting, planning, and structuring (Marks, Mathieu and Zaccaro, 2001; Ilgen et al., 2005). Trust building is heavily influenced by collective efficacy perceptions, which are often associated with knowledge-sharing behaviours that affect learning and development (Tasa, Taggar and Seijts, 2007). The analysis of the PPR documents revealed that feedback depends on trust. The participants reported that they did not dare to provide feedback as constructive criticism (Item 13 in the questionnaire) for two reasons: (a) the fear of not being able to do it constructively and (b) the fear that their peers could not take criticism. Planning determines team success. It includes such behaviours as information gathering and sharing (communication) and setting goals and strategies, which are important aspects of diverse self-managed project teams. Structuring refers to "the development and maintenance of norms, roles, and interaction patterns in teams" (Ilgen et al., 2005, p525).

These findings support the findings of Erkutlu (2012), who found that organisational culture affects shared leadership emergence. Additionally, team diversity and member maturity have also been found to influence shared leadership (Wu et al., 2020). For example, Cox, Pearce, and Sims (2003) presented diversity, size, proximity, and maturity as the contextual

determinants of shared leadership. Cox et al. also reported that greater levels of diversity hinder shared leadership. Changes in member structures would have especially required team building intervention from the coaches. Perry et al. (1999, p 43) argued that "In addition to allowing a diverse team time to work out the 'bumps', teamwork training may decrease the potential negative effects of diversity". This training may also increase trust and improve collective behaviours; these two functions would have been improved because trust and collectivist behaviours are also among the antecedents of shared leadership (Wu et al., 2020, D'Innocenzo et al., 2016).

An implication of this discussion for managers and the external team leaders as coaches is that they would need to closely monitor team processes at the initial stage to spot challenges and provide timely support (Bolton, 1999; Wageman, 2001; Hackman and Wageman, 2005). The researcher's personal experience and observations revealed that it is often too late when teams start to ask for support. This strategy may enhance team performance and shared leadership to a great extent. The implications of the study for practitioners in higher education institutions and other professional organisations are discussed in Section 6.3 in detail.

This study has also contributed to knowledge and discussions on other areas that have arisen from the conceptual model that integrate multiple approaches. The contributions to these areas are discussed in the following sub-sections. Subsection 6.1.1 discusses the contributions related to constructivism and social learning, whereas Subsection 6.1.2 focuses on the contributions to shared leadership and its development. The section closes in Subsection 6.1.3with a discussion of the methodological implications of the study.

6.2.1   *Contributions to the Discussion on Learning through Interaction*

This study contributes to discussions on the impact of shared leadership experience in SMPTs on organisational learning (Day, 2000, 2011; Day et al., 2004; Klein and Ziegert, 2004; Klein

et al., 2006; Raelin, 2006, 2016, 2018; Bergman et al., 2012; Clark, 2013; Day and Liu, 2018) and "shared leadership as a self-feeding practice" (Friedrich et al., 2009) by focusing on learning from shared leadership through a constructive approach. This study provides evidence that despite the adverse developments measured in shared leadership values, shared leadership positively impacts the development of shared leadership capacities, especially the social capacities (Zaccaro et al., 2018), of individuals and collectives through informal learning. The overall findings support earlier arguments that have been made about the value of authentic experiences in the natural settings of self-managed teams regarding collective leadership development (Day, Gronn and Salas, 2004; DeRue and Myers, 2014; Raelin, 2016b, 2018a; Day and Liu, 2018).

Through the integration of the social learning theory, the findings of the study demonstrate that shared leadership as a learning process in a collaborative setting offers learning opportunities to team members through different types of experiences (Day, Gronn and Salas, 2004; Klein et al., 2006; Friedrich et al., 2009; Day, 2011b, 2011a; Bergman et al., 2012). Learning and development occur through active participation in leadership, observation, and acceptance and denial feedback loops (DeRue and Wellman, 2009; Groves et al., 2015). As a result, individuals gain KSAs through openness to diversity and working with others, communication and coordination, confidence, problem-solving and decision-making, situational awareness and adaptability, the awareness and acceptance of different leadership styles, and the motivation of others. Diversity, conflicts, and feedback are seen as important sources of learning and development, as is proposed in the complexity leadership development model (Clarke, 2013).

The majority of the themes identified and presented in Section 5.1 fall into the social capacity that is part of the various dimensions of leadership capacities (Zaccaro et al., 2018). Although

problem-solving refers to cognitive capacity, a closer look at the data verifies that the participants mainly referred to conflicts and communication challenges that were caused by diversity. According to Zaccaro et al. (2018), cognitive capacities refer to such cognitive skills as problem-solving, critical thinking, cognitive flexibility, and creativity. In contrast, social capacity refers to such skills as communication, negotiation, persuasion, emotional intelligence, and behavioural flexibility.

These findings support the arguments that experience enhances interpersonal skills (Day, 2000; Day et al., 2014; Raelin, 2018) and highlight similarities with the findings of earlier constructive studies (e.g., Hall et al., 2008). For example, Hall, Scott, and Borsz (2008) found in their constructive study that focused on a school setting that leadership experiences in campus recreational sports led to developments in the following areas: organising, planning, and delegating; balancing academic, personal, and professional roles; acting as a mentor or role model and motivating others; problem-solving and decision-making; communication skills; working with others and accepting diversity; and giving and receiving feedback.

Furthermore, the study also demonstrates that people learn different things from different experiences (McCall Jr, 2004; Raelin, 2006, 2016b, 2018a; McCall, 2010) and justifies the arguments for the integration of multiple tasks and team situations for rich learning outcomes (Day, Gronn and Salas, 2004; Day et al., 2014; DeRue and Myers, 2014). Working in self-managed project teams on different projects allows participants take on different roles (Hiller et al., 2006; Mehra et al., 2006; Bergman et al., 2012), which provides valuable direct and indirect learning opportunities. The participants of this study reflected on these opportunities clearly in their statements.

The findings of the study by Hal et al. (2008) provide additional support for the justification of the integration and the essential role of a constructive approach to achieve an overall

understanding of collective leadership development. The qualitative analysis also demonstrates that, besides direct learning from one's behaviours, interactions with other people and the behaviours of others shape participant behaviours to a significant degree, which supports the social learning theory and providing reasoning for its integration. The impact of interactions and the behaviours of others in a social environment supports the SLT's proposition that a person's behaviour is affected by their thought process and their exposure to social experiences (Black and Earnest, 2009, p185). The theory also argues that these experiences and observations create the foundation for establishing new patterns and behaviours that often go beyond the observed levels.

The study also demonstrates that shared leadership development is unique to participants and their environments (McCall Jr, 2004; Lichtenstein et al., 2006; McCall, 2010; Day, 2011b; Day et al., 2014). People learn different things from different experiences; therefore, integrating multiple tasks and team variations is essential for developing a holistic understanding of learning and development through experience. As explained in the previous chapter, the additional content analysis has demonstrated that themes in reflections change over time and across various tasks. A good example of this concerns the awareness of leadership (Section 5.1.6). The leadership subject appeared to be the most frequently discussed subject during the third and final project, although it was not mentioned during previous discussions.

The study also contributes to knowledge through its context by investigating leadership development through self-managed project team experiences. Various scholars have argued that leadership development should be moved to its natural environment where it is practised (Day, 2011b; DeRue and Myers, 2014; Raelin, 2016b, 2018a; Day and Liu, 2018). This study has demonstrated that self-managed project teams provide an appropriate context for studying

leadership development with a shared leadership approach, even within the educational institution context. Participants practise shared leadership (Druskat and Wheeler, 2004; Carson, Tesluk and Marrone, 2007; Solansky, 2008), and as a self-feeding practice, it further enhances their collective capacity to lead (Friedrich et al., 2009).

In summary, this study provides evidence that practising shared leadership in SMPTs offers multiple opportunities for learning and development. Engaging in learning and development is a social process (Raelin, 2018a), and takes place through active participation in leadership, observation, and acceptance and denial feedback loops (Raelin, 2006, 2016b, 2018a; DeRue and Wellman, 2009; Liu et al., 2014; Groves et al., 2015). Prior studies on shared leadership (Mehra et al., 2006, Hiller et al., 2006, Bergman et al., 2012, Yoo and Alavi, 2004, Zafft et al., 2009) have found that not all team members have active leadership roles simultaneously at all times. Instead, they take active roles at different times to complete different functions. This finding is in line with the findings of prior research (Mehra et al., 2006, Hiller et al., 2006, Bergman et al., 2012, Yoo and Alavi, 2004, Zafft et al., 2009). The results also imply that challenges that are provided by "others" (McCall, 2010) are as significant as (if not more important than) challenging tasks, which past studies have provided evidence for.

6.2.2   *Contributions to Discussions on Shared Leadership Development*

This study contributes to Shared Leadership Theory through its integrated approach to the assessment. Shared leadership has been often assessed either with perceived behaviours or leadership perceptions within the social network approach and at the team level rather than at the organisational level (Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Wu and Cormican, 2016; Lan Wang et al., 2017; Lorinkova and Bartol, 2020). Although the SNA can provide information about the number of participants in team leadership, it leaves out what participants do and to what level of complexity they do certain tasks when they participate in

leadership (Bergman et al., 2012). The SNA also leaves out what participants learn while practising leadership or observing others practising it (Day, Gronn and Salas, 2006; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Raelin, 2018a).

These studies are also limited to the life-cycle of teams in a single task, which disregards the impact of contextual factors in leadership emergence and development. Cullen-Lester and Yammarino (2016, p177) suggested that further studies that incorporate multilevel and longitudinal designs are needed to enhance the understanding of how collective (shared) leadership emerges and changes over time and across different task conditions. Against the most common episodic approach with a single task, several other scholars have also argued for the integration of multiple tasks and a more extended time-lapse (Day, 2011b; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Lorinkova and Bartol, 2020). Scholars have called for future researchers to embrace the development process fully by capturing experiences, complexity, and temporality dimensions, which is challenging to do with the previous approaches and require multi-perspective approaches (Yammarino et al., 2012; Eva et al., 2019; Fairhurst et al., 2020).

Through its integrated approach and deviating from the previous studies limited to the life-cycle of teams in a single task, this study also contributes to discussions on how shared leadership develops across various task situations and through time in multiple ways. First, the inter-cohort comparison of the shared leadership values demonstrates that shared leadership development is as unique to participants and their environments (McCall, 2010; Day et al., 2014; Raelin 2018a) as it is regarding how shared leadership is operationalised (Innocenzo et al., 2016). However, despite the evidence that shared leadership strength experienced marginal growth for Cohort 1, a closer look at the other values indicates the general deterioration in shared leadership values for both cohorts.

This study demonstrated that when assessed with the number of individuals who participate in leadership with a network approach, the Cohort 1 results depict a pattern that is shaped like an inverted "U", which supports the findings of Lorinkova and Bartol (2020), due to an increase from Time 1 to Time 2 and a decrease from Time 2 to Time 3 (Figure 10). The Cohort 2 results, on the other hand, demonstrate a relatively high start at Time 1, which stabilised at the same level at Time 2 and then significantly decreased by Time 3. Besides sharing similarities with study results within shared leadership at the team level, these results also share similarities with the findings of individual-level studies (DeRue and Wellman, 2009; Day and Sin, 2011; Miscenko, Guenter and Day, 2017) that found diminishing returns for leadership development in later stages.

Studies that focus on leadership development at the collective level are few, and they primarily focus on the temporal nature of shared leadership in teams that use a network approach (Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Wu and Cormican, 2016; Lan Wang et al., 2017; Lorinkova and Bartol, 2020). Similar to studies at the individual level, these studies highlight conflicting results between linear and positive development (e.g., Small and Rentsch, 2011) and inverted U-shaped development, which indicates a decrease after a certain point in time (Wu and Cormican, 2016; Linlin Wang et al., 2017; Lorinkova and Bartol, 2020).

Researchers in the field have agreed that leadership developments are typically not linear (Day, David V., 2011b, McCall Jr, 2004, Hall et al., 2008); they naturally regress and progress (Posner, 2009, p 553). However, despite their similarities, a noteworthy distinction between the past studies and the current one is the integration of multiple project tasks in an extended timeframe (18 months) and the use of a prospective cohort design. Most current studies,

especially shared leadership studies, have been limited to a single task and the life-cycles of teams.

The contrast between the strong learning outcomes and adverse development in shared leadership bears partial resemblance to the meta-study findings on the effectiveness of managerial leadership development programs that were discovered by Collins and Holton (Collins and Holton III, 2004). The authors conducted a meta-analysis of the studies from 1982 to 2001. They noted that although formal leadership development programs positively impact participants' knowledge acquisition, behavioural changes, and performance, the impact is more substantial on knowledge acquisition than behavioural and performance outcomes (Collins and Holton III, 2004). Therefore, it may be possible to argue that, similar to the impact of LDPs, the impact of shared leadership is stronger on acquiring knowledge than on behavioural change.

Changes in behavioural complexity (Subsection 5.2.3) also support the findings of the thematic analysis of the PPR documents, project documentation, and open responses to the questionnaires, which implies that social capacities have more significant elasticity than cognitive capacities. In other words, social capacities and behaviours such as social support, feedback, and affective problem-solving are more context-sensitive than cognitive capacities and task-related behaviours. As presented in Subsection 5.2.3, more significant changes are registered in the "problem-solving", "providing feedback", and "social support" functions that represent the social aspects of leadership capacity. These changes were slightly positive for Cohort 1 and considerably negative for Cohort 2.

Despite the differences between the two cohorts, the time series analysis also revealed that the social aspects of the collective leadership capacity and inter-personal skills have greater elasticity and are prone to change in comparison to task-related behaviours and skills. Past

researchers have also presented evidence that suggests that experience has different impacts on different skills. DeRue and Wellman (2009), for example, found that the pattern of diminishing returns was more apparent for interpersonal and business leadership skills than for cognitive or strategic leadership skills. However, the current study reveals that these changes can occur in any direction.

Regardless of the modest positive developments that were registered regarding the total strength of the shared leadership of Cohort 1, at the unit level, it is possible to observe a general decline in shared leadership levels, especially for the second cohort. This observation is in line with the findings of Lorinkova and Bartol (2020), Wu and Cormican (2016), and Gupta et al. (2010). Additionally, the findings also support the findings of individual-level studies (e.g., DeRue and Wellman, 2009; Day and Sin, 2011; Rosch, 2015), which have also found negative development in leadership over time. Furthermore, the findings support the argument that "participants learn to engage in concurrent reflective dialogue, during which they become more critical about their leadership practices while enhancing their self-awareness and sociopolitical consciousness" (Raelin, 2018a, p64).

A relevant question is whether these signs should be seen as adverse developments or signs of learning and development (and thus favourable). They may even be random behaviours that are affected by contextual factors (both positively and negatively) and not the results of meaningful developments (DeRue and Myers, 2014). Should educators and trainers be worried, or should they be happy to see these signs? The predisposition of this researcher is cautious in approaching these developments in the peer-assessed measures, regardless of whichever direction they occur in. With the help of the combined qualitative and quantitative data results, the researcher calls for caution in interpreting decreasing ratings.

Enabled by the multi-perspective approach, this study joins the discussions on explaining the adverse developments in shared leadership and why the experience has a more significant impact on the acquisition of KSAs than on positive changes in leadership behaviours. Considering the complexity of leadership, there may be multiple explanations for the declining shared leadership values despite the relatively high level of emergence. The social learning theory may provide some explanations:

1. Adaptive behaviours and time gaps.

2. The incorporation of participants from another degree program who lack prior experience with SMPT work.

3. Becoming more critical in assessing due to better awareness of leadership.

4. The possible impact of "performance-cue bias".

6.2.2.1   Possible Explanations for Negative Shared Leadership Development

One possible theoretical explanation for the gradual decline in shared leadership capacity emergence relates to social learning in shared leadership. The social learning theory recognises that there may be a time gap between learning and translating that learning into behaviours. The theory proposes that the behaviour of a person is affected by their own thought process and their exposure to social experiences. As Black and Earnest argued, "a person can learn a behavior but may wait until a later time to display that behavior" (Black and Earnest, 2009, p185). Participants may be in the middle of the experimenting phase of their learning process (Mezirow, 1997; Illeris, 2014).

The adaptive leadership theory (DeRue, 2011) also supports this time gap, which was also supported by the participants' reflections during the PPR sessions, which suggests that the

leadership process is dynamic and shaped by reciprocal leading-following interactions. DeRue (2011) suggested that confidence-building is a multilevel process and takes time to occur through collective endorsements at the group level, relational recognition at the relational level, and internalisation at the individual level. Both theories highlight the long internalisation process of learning and the time gap that is mentioned by the social learning theory.

The second possible explanation concerns slightly larger teams and new participants who are not familiar with autonomous working methods. Increased autonomy and the chaos that comes with it and increases the difficulty of a given task are some of the factors that can explain the low ratings in the final projects for both cohorts. Non-cohort individuals from the other degree program reported during the PPRs that they were used to working with more directive teams. The selected project managers had the primary responsibility and acted as leaders. They reported that they might have waited too long to be given directions by others instead of taking the initiative themselves.

The significant decline in shared leadership measures, expressly in Cohort 2, coincides with the joint project between the participants who were members of two different units. These two programs had two different leadership cultures and approaches. The sudden introduction to the self-management concept may have affected their shared leadership due to a chaotic internal environment and the lack of collective objectives and working cultures. Daspit et al. (2013) and Serban and Roberts (2016) reported that a positive internal team environment (which consists of team members who have a similar understanding of objectives, who provide emotional and psychological support to each other, and who actively participate in decision-making) is essential to the development of shared leadership.

As evidenced by the data from the PPRs, mixing the groups at this stage may have created developmental opportunities for all but especially for the more experienced members. However, the participants' leadership performances may have suffered due to the issues with intra-team trust and confusion that was created by the introduction of less mature members. It takes time for individuals to develop trust and the willingness to attempt to influence others and the willingness to accept others' influence. Working in self-managed teams and exercising shared leadership are linked tightly together (Edmondson, 1999; Liu et al., 2014) due to the collective process and equal status that members have in the process (Carson, Tesluk and Marrone, 2007).

Prior researchers have found that shared leadership fosters psychological safety between team members, which affects learning and behaviours by affecting information sharing and risk-taking (Edmondson, 1999; Liu et al., 2014). The addition of new, inexperienced members may disturb the existing trust and psychological safety of a team. Therefore, participants may be more reluctant to take active roles in leadership due to the fear of criticism, negative feedback, or rejection (Raelin, 2006; DeRue, 2011). Thus, an alternative explanation may come from the collective efficacy perceptions of these teams, which resembled cross-functional teams. Distrust in the teams' abilities to reach the objectives may have negatively affected motivation. For example, Tasa, Taggar, and Seijts (2007) proposed a model that depicts the cyclical relationship between collective efficacy and leadership behaviours. The authors argued that early performance feedback shapes individual perceptions of the collective efficacy of a teams and that collective efficacy then motivates or demotivates individual member behaviours.

Team diversity and maturity have also been found to influence shared leadership (Wu et al., 2020). For example, Cox et al. (2003) presented diversity, size, proximity, and maturity as the

contextual determinants of shared leadership. Cox et al. also reported that greater levels of diversity hinder shared leadership. One of the critical characteristics of leadership development is that it is individual; thus, the starting point is not same for everyone (Day, David V., 2011b, McCall Jr, 2004, 2010, McCauley et al., 2013). A general assumption is that more mature teams are more likely to engage in shared leadership behaviours than less mature teams (Avolio et al., 1996; Sivasubramaniam et al., 2002; Small and Rentsch, 2011). The analysis of the qualitative data within the current study supports the arguments about the impact of member maturity, especially on perceptions.

The timing of the mixing may have also been a factor that affected the results. The third project took place during the more advanced semester in comparison to the earlier projects (5th for Cohort 1 and 4th for Cohort 2). Therefore, this work was the most autonomous and challenging. The participants needed to develop a new service or develop a solution to an existing challenge in business processes and then acquire a client (or clients) to sell or implement it. This approach required more initiative from the teams and advanced sales skills. The clients' roles were more passive since they were no more than task owners. In this sense, the task difficulty was the highest for this project. Other researchers have demonstrated that well-balanced task difficulty is essential for more effective leadership development (Day, David V. and Sin, 2011, Rosch, 2015, DeRue and Wellman, 2009). For example, DeRue and Wellman (2009) also found a link that related to diminishing returns on investment between task challenges and leadership development.

A third potential explanation for these results involves the participants' levels of knowledge at the time of the project. The third project coincided with the leadership course that taught students about different leadership theories and concepts. Being aware of the multiple facets of leadership and what effective leadership can achieve may have made the participants more

expectant and critical in their ratings (Posner, 2009). The content analysis of the qualitative data that were derived from open responses to the surveys provides evidence of this awareness. Sub-themes such as the shared leadership of a team, the importance of having a clear leader to maintain the clarity of roles, and the availability of various leadership styles that were not visible during T1 and T2 appeared during T3. For example, the weight of "leadership" and "leader" were 0.87 and 0.63 respectively in the word cloud for T3, although they were not visible in the top 10 keywords for T1 and T2.

The final potential explanation concerns the potential influence of performance feedback on shared leadership ratings (Tasa, Taggar, and Seijts, 2007). The researcher compared the direct observations and the leadership ratings of project teams that could not reach their project goals. The ratings were even lower for the last and potentially more demanding projects as most of the teams failed to reach all their set goals. Although the latter case may imply goal setting and planning as an area of concern, it also raises concerns regarding how the participants may have rated themselves and their peers in a biased manner (Tasa, Taggar, and Seijts, 2007). More often than once, the researcher of this study was told by the participants during the review sessions that the questionnaire results would have been better if they came after the latest results. Sometimes, the confirmation of some sales deals or the qualification of leads comes later than the project deadline. Therefore, the reviews in the PPRs were much more positive than what the questionnaire results indicated.

Indeed, former researchers have found that evaluative feedback biases in individuals' ratings of group processes are common and have defined these biases as "performance-cue biases" (Tasa, Taggar and Seijts, 2007, p24). There is little reason to doubt that satisfaction from team performance and goal achievement affect the perceptions of individual and team leadership performances, as does self-efficacy (Bandura, 1997). However, it is crucial to recognise that

the current study does not solely rely on the peer ratings of individuals to evaluate leadership development. The researcher also investigated the qualitative learning outcomes as part of the collective leadership capacity (DeRue and Myers, 2014; Liu et al., 2020). However, further studies are needed to test and verify the mentioned arguments and understand the true impact of factors such as performance cue feedback and member maturity on behavioural ratings. Additionally, further studies that expand the study to four to five projects over an extended period may be needed to determine whether the declining trend turns upward, much like the team development model that was created by Bruce Tuckman (1965).

6.2.3   *Methodological Contributions*

This study contributes to the methodological discussions of collective leadership development and specifically to the discussions of shared leadership development. First, the unique qualitatively driven case study approach in the current study allowed the researcher to study the complex and contextual-bound leadership development process within its natural environment (Yin, 2013). The qualitatively driven mixed-methods approach also provided the researcher with opportunities to utilise the "enormous potential for generating new ways of understanding the complexities and contexts of social experience and enhancing our capacities for social explanation" (Mason, 2006, p10).

Such an approach not only drew on but also extended some of the best principles of qualitative research (Mason, 2006) by utilising multiple data sources and collection methods. For example, utilising qualitative and quantitative data collection techniques demonstrated that self-managed project team experience has consequences for the acquisition of knowledge, skills, and individual dispositions towards leadership and shared leadership behaviours. However, the positive impact of these experiences is more significant on learning than on behaviours.

Furthermore, this design facilitated a different interpretation of the changes in the shared leadership behaviours and other values besides the current negative development or diminishing returns of experience-based development interpretations (DeRue and Wellman, 2009; Day and Sin, 2011). Day et al. (2014) argued that the primary intervention focus that is associated with leadership behaviours tends to be based on training rather than on longer-term development initiatives: "… the challenges facing contemporary leaders tend to be too complex and ill-defined to be addressed successfully through such relatively short-term training interventions" (p 64). Various scholars have argued that multiple tasks and longer time lapses should be integrated to study the actual dimensions of leadership development across contexts (Day, 2011b; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Lorinkova and Bartol, 2020).

The design and methodology of the current research may also have interesting implications for future research designs. The prospective two-cohort design of the study is also unique. This design, coupled with insider researcher advantages, enabled the researcher to follow the cohorts and assess their leadership development over time and across multiple tasks by simply following their practices and collecting real-time data. The qualitatively driven mixed-methods approach within the prospective cohort design also facilitated the incorporation of multiple and distinct team-and-task conditions to examine how learning and development occur across various contexts and over time. Through three waves of data that spanned three academic semesters (18 months), it was possible to examine both the learning and the behavioural outcomes of leadership development in its complex environment in ways that are not possible when conducting a cross-sectional study.

Additionally, three-wave data collection is more suitable to capturing the non-linear nature of leadership development than the linear depiction of two-wave data (Day, 2011b; DeRue et al.,

2012). Second, the comparison of the results from two cohorts enabled the testing of the internal validity of the study despite the relatively small sample. Third, the mixed-methods approach enabled the investigation of both more observable and thus quantifiable behavioural outcomes and less observable and not quantifiable contextual factors that simultaneously affected interpretations, beliefs, and meaning-making. Thus, the study demonstrated that learning and development are not only personal but that changing from one person to the next is also contextual, as theorised by several researchers (Bandura and Walters, 1977; Kim, 2002; Lichtenstein et al., 2006; McCall, 2010; DeRue and Myers, 2014; Raelin, 2018a). The content analysis of the open comments that were provided in the structured survey questionnaires demonstrates how people make meaning of their experiences and how what they learn from these experiences differs in different contexts

The study also contributes to methodological discussions through integrating the social network and behavioural complexity approaches to shared leadership. A substantial majority of the prior leadership development studies have approached development with a single approach. At the individual level, development is measured as changes in behaviours (Miscenko et al., 2017, Baron, 2016, Mason et al., 2014, Day, David V. and Sin, 2011, Posner, 2009), which is done either through cross-sectional designs or based on the retrospective memories of individuals. However, shared leadership development is assessed primarily at the team level and with the social network approach (Gupta, Huang and Niranjan, 2010; Small and Rentsch, 2011; Wu and Cormican, 2016; Lan Wang et al., 2017; Lorinkova and Bartol, 2020).

 Although the SNA provides information about the number of participants in team leadership, it leaves out what participants do and to what extent when they participate in leadership (Bergman et al., 2012). It also leaves out what participants learn while practising leadership

or observing others practising leadership (Day, Gronn and Salas, 2006; Day et al., 2014; DeRue and Myers, 2014; Day and Liu, 2018; Raelin, 2018a). Furthermore, this approach minimises the common method variance and avoids the biases that are associated with peer ratings of emergent leadership (e.g., the most talkative and well-liked members are perceived as leaders) (Jaffee and Lucas, 1969; Riggio et al., 2003 in Bergman et al., 2012, p19).

Additionally, the mentioned studies are also limited to the life-cycles of teams that focused on a single task, which disregards the impact of contextual factors on leadership emergence. According to Day et al. (2014), cross-sectional designs such as sequential cohorts (e.g., Posner, 2009, Baron, 2016) are incomplete and probably inappropriate for leadership development. This puts a burden on researchers, given the difficulties that are associated with conducting longitudinal research (Day et al., 2014, p79). In the retrospective cohort design, on the other hand, the researcher relies on self-declared answers to illuminate a process that has already been completed (e.g., Posner, 2009). In comparison to the intra-cohort analysis that is used in single cohort approaches, the second cohort provided additional advantages through inter-cohort comparison and testing of the reliability and internal validity of the data. Single cohort designs allow only intra-cohort comparisons.

6.3   Propositions to Advance Studies on Collective Leadership Development

The findings of this study have limited generalisability for the reasons discussed in Section 6.5. Therefore, the study derives propositions to advance future studies on collective leadership in various contexts. This section introduces and discusses these propositions.

This study reveals that shared leadership in self-managed teams offers an alternative approach to the individualised approach to leadership development by demonstrating how multiple individuals can practice leadership and further develop their leadership capacities (Day et al., 2004, 2006; Friedrich et al., 2009; Day et al., 2014; Raelin, 2016b, 2018a).

Thus, the study furthers the leadership development literature by doing the following: (a) theorising it within an integrative approach and informing it with multiple perspectives (Yammarino et al., 2012; Eva et al., 2019), (b) demonstrating the link between shared leadership and leadership development (Day, Gronn and Salas, 2004; Klein and Ziegert, 2004; Klein et al., 2006; Raelin, 2006, 2016b, 2018a; Friedrich et al., 2009; Day, 2011b; Bergman et al., 2012; Day et al., 2014; Day and Liu, 2018), (c) incorporating various contextual factors through the integration of multiple projects across a longer duration of time (18 months) (DeRue and Wellman, 2009; Day and Sin, 2011; DeRue and Myers, 2014; Lorinkova and Bartol, 2020), and (d) combining multiple data sources and collection methods to explore both the process of learning and the behavioural outcomes of development rather than focusing on the relationship between isolated variables in a poor quantitative design (Yammarino et al., 2012; Day et al., 2014; Raelin, 2016d, 2018a, 2019; Eva et al., 2019).

Based on this discussion and guided by the research question, theorising based on the findings of this two-cohort single case study that focuses on the self-managed project team practices within a BBA program leads to the following propositions and conclusions. Future researchers may further address these propositions as hypotheses and test them on a larger sample.

- Shared leadership experiences in self-managed project teams offer great potential for building the collective leadership capacities of organisations.

- Learning from shared leadership practices in SMPTs is more significant regarding the social aspects of leadership capacity and acquiring inter-personal awareness and skills.

- The impact of shared leadership experiences on self-managed project teams is more significant to acquiring knowledge than behavioural change.

- Coaching support and intervention in certain areas are vital to complex work situations and projects.

Proposition 1: Shared leadership experiences in self-managed project teams offer great potential for building the collective leadership capacities of organisations.

The first proposition results from the evidence that shared leadership experiences in self-managed project teams offer great potential for building the collective leadership capacities of organisations. Scholars have long been pointing out the value of authentic experiences that take place in authentic environments rather than formal training as they facilitate more effective leadership development (Day, Gronn and Salas, 2004, 2006; Raelin, 2016b, 2018a). Raelin (2016b, p21–22), for example, argued that leadership development requires engagement in leadership practices in a group working on their own tasks.

This study has demonstrated that shared leadership practices in self-managed project teams have significant potential for developing collective leadership capacities (Day and Lance, 2004; Day, Gronn and Salas, 2004; Klein and Ziegert, 2004; Friedrich et al., 2009; Bergman et al., 2012; Clarke, 2013; Day et al., 2014; Raelin, 2016d, 2016b, 2018a; Day and Liu, 2018). The study has also demonstrated that individual and collective learning are the most significant outcomes of the complex and dynamic activities of SMPTs (Lichtenstein et al., 2006; Clarke, 2013; Raelin, 2016d, 2018a). To function smoothly in a setting where all members have equal status, members of SMPTs must commit to listening to each other, reflecting on diverse perspectives that may be different from their own, and thus broadening or transforming the practice in question (Raelin, 2018a). In such settings, the potential for learning and development is enhanced because this social learning process is "associated with

second- and third-order learning that seeks to uncover the underlying assumptions and presuppositions guiding current practices" (Raelin, 2018a, p63).

Proposition 2: The learning outcomes of shared leadership practice in SMPTs are more significant regarding the social aspects of leadership capacity and acquiring inter-personal awareness and skills.

The second proposition relates to the impact of learning from interactions and other shared leadership experiences in SMPTs. The themes that are presented in Table 6 in Chapter 5 and the findings from earlier studies that incorporated a constructive approach (e.g., Hall et al., 2008) demonstrate that the impact of learning from interactions and other shared leadership experiences in SMPTs is more significant for enhancing the social aspects of leadership capacity and acquiring inter-personal skills. Future researchers can study outcomes in different contexts and teams from different organisations to verify this proposition. Although the current study has incorporated three different project tasks into its investigation, learning has been contextualised in the case of self-managed project teams that consist of BBA students in a higher education institution. More experienced teams in professional organisations may also learn other things and acquire cognitive skills alongside interpersonal ones.

This research has integrated three different projects that included both cohorts and provided contextual factors such as task structure and demands, team structure, participant maturity, and leadership culture. The study results have evidenced that all contextual changes uniquely affect learning and development due to the unique challenges that they provide. In this sense, the results provide support for the arguments made by McCall (2004; 2010). Therefore, it is essential to go beyond various tasks to incorporate multiple contextual factors in choosing a research design or selecting a case. Comparing the content within the open comment sections

of the surveys provided evidence that the nature and scope of challenges change when contextual factors change. Although these changes may be interpreted as development, the role of the contextual factors cannot be ignored in these developments.

Proposition 3: The impact of shared leadership experience on self-managed project teams is more significant to acquiring knowledge than behavioural change.

The third proposition results from the differences that were observed regarding the effects of shared leadership experiences in SMPTs on various outcomes. Shared leadership and its development are complex processes and requires time. Leadership behaviours are dynamic and are affected by multiple factors. Behaviours are unique to not only each individual but also to each context. This study has demonstrated that self-managed team experiences foster collective leadership development despite the tendency to decline in more demanding projects and over time. However, this decline is not specific to collective (shared) leadership. Individual studies also feature similar findings. There may be multiple explanations for the diminishing performance. In addition to learning from previous experiences, situational factors in the collective environment and how these factors are interpreted influence behaviours (Zaccaro et al., 2018). These interpretations may be different in different contexts and at different times due to the impact of interactions at that moment. As a collective process, shared leadership requires the negotiation of roles, resources, time and space, and even the definitions of reality (Raelin, 2018a). Raelin (2018) argued that the interaction is "often an in-the-moment intra-action" rather than an exchange or interaction between individuals. According to the author, this dynamic "intra-action" may reorient the flow of practice through some form of leadership agency (Raelin, 2018a, p61).

The current study demonstrates that the change in leadership behaviours can be explained using interactions between team members, tasks, and situations (Morgeson et al., 2010) as

much as thought processes, changes in perceptions, and developments in the participants' confidence in their leadership abilities. Therefore, the negative changes in behaviours do not automatically mean that negative development was taking place (e.g., Day, David V. and Sin, 2011, Rosch, 2015). These changes may have resulted from adaptive behaviours and are part of effective leading-following interactions (DeRue, 2011, DeRue and Myers, 2014, Day, D. and Liu, 2018). After all, peers depend on their memories and perceptions of what they have observed without any causal analysis. For example, to satisfy a team need, an individual may focus on a different function that other team members have neglected (Morgeson et al., 2010) instead of focusing on a function within their own capacity that has already been taken by another member. These changes may appear as negative developments due to their negative impact on average peer ratings if development is only measured quantitatively.

Additionally, there may be time gaps involved, as maintained by the social learning theory. The learning that occurs through the shared leadership of self-managed project teams and the translation of knowledge into behaviours is not straightforward. Behaviours are affected by individual thought processes and individuals' exposure to social experiences. Therefore, there may be gaps between learning and turning learning into behaviours (Black and Earnest, 2009). Further studies are needed to explore and test different scenarios in different settings. Additionally, further studies that expand this study over four to five projects during an extended period may be needed to see if the declining trend turns upward, which is supported by the team development model that was created by Bruce Tuckman (1965).

Proposition 4: Coaching support and intervention in certain areas are vital in complex work situations and projects.

The present study demonstrates that organisations could develop shared leadership processes that enhance team members' capabilities to collectively engage in leadership roles and

processes (Day, 2000, 582) by providing appropriate and increasing levels of autonomy with timely and adaptive support (Hackman and Wageman, 2005). However, the study also demonstrates that participants may negatively experience self-management and shared leadership in certain situations, specifically if team structures are too versatile in terms of member maturity and work culture.

Although autonomy that is provided by empowering leadership has been found to have a positive influence on shared leadership (e.g., Hackman and Wageman, 2005; Fausing et al., 2015; Rapp et al., 2016) and leadership development (Raelin, 2006, 2018a; Marquardt, 2011; Volz-Peacock, Carson and Marquardt, 2016), the current study reveals that the maturity of project team members is a strong determining factor in deciding the appropriate levels of leadership autonomy. This observation may have implications for cross-functional and inter-organisational teams, as well as teams that are formed after mergers, fusions, and acquisitions have happened. Individuals coming from different organisational cultures and experiences (Erkutlu, 2012) may need different levels of autonomy, at least in the beginning. Member maturity and social environments are important predictors of the emergence of shared leadership. Coaching is vital to self-managing teams (Morgeson, 2005, Hackman and Wageman, 2005, Wageman, 2001), and multiple other studies have provided evidence of this (Fausing et al., 2015, Rapp et al., 2016, Carson et al., 2007). Future researchers can compare shared leadership emergence in different teams such as cross-functional teams, post-merger/acquisition teams, and mature self-managed teams.

6.4   Implications for Practitioners

The need for effectiveness popularised self-management and turned it into a megatrend. Organisation have flattened their structures and organised themselves into team based autonomous structures known as self-managing teams (Solansky, 2008; Yang and Guy, 2011;

Magpili and Pazos, 2018). Only with the collective capacity to lead and proper external support available, these teams may fulfil their expectations from them. Organisations need to have developmental plans and strategies in place to benefit from such flattened structures successfully.

However, despite the considerable recognition that leadership development is a temporal and cyclical process, there is a scarcity of research on "how developmental experiences should be arranged over time and how these experiences can reinforce each other" (DeRue and Myers, 2014, p 850). The findings of the current study have several noteworthy implications for the design and practice of leadership development strategies in work organisations and higher education institutions.

The current study significantly highlights the potential payoff of leadership development efforts that are undertaken by organisations. This research demonstrates that by encouraging self-managed teamwork and supporting shared leadership, organisations can enhance the effective use of resources and take an important strategic step towards achieving effective leadership development. This implies that by enhancing self-managed ways of working and self-managed team-based structures, organisations can develop sustainable leadership development strategies and simultaneously make them part of their daily operations in the long term rather than investing in individuals in positions by taking a short-term interventionist approach (Day, Gronn and Salas, 2004, 2006; DeRue and Myers, 2014). Thus, they can better use resources by creating symbiosis, enhancing effectiveness through sustained self-management, utilising on-the-job experiences, and turning self-managed team experiences into leadership development strategies to develop collective leadership capacities (Hanson, 2013; DeRue and Myers, 2014). The active development of leadership would also

be a source of sustainable competitive advantages for organisations in the long run (DeRue et al., 2012, Volz-Peacock et al., 2016).

The tendency of behavioural values of shared leadership to decline may raise some concerns for practitioners regarding the effectiveness of the SMT model. However, the current study argues that previous individual-level longitudinal studies have also revealed similar findings and have found negative development in later stages of training (DeRue and Wellman, 2009; Day and Sin, 2011). Furthermore, despite the tendency to decline during further projects, the behavioural values of shared leadership are still comparatively high (i.e., see Bergman et al. 2012). These relatively high values indicate that shared leadership experiences in self-managed teams provide good leverage for collective leadership development regarding behaviours and performance. The findings also support previous research about shared leadership being an effective leadership style, especially for knowledge-based work (Nicolaides et al., 2014; Innocenzo et al., 2016; Wu et al., 2020).

Additionally, the tendency of leadership behaviours to decline during more advanced projects may be explained by factors other than the effectiveness of shared leadership on collective leadership development. As previously mentioned in Subsection 6.1.2, delays in the internalisation of learning and the time gap (Mezirow, 1997; Black and Earnest, 2009; Illeris, 2014) and peers becoming more critical in their assessments due to their improved awareness of leadership (Posner, 2009) could provide at least a partial explanation for this trend.

The study also demonstrates that some areas of collective leadership are more challenging than others and that additional coaching support in these areas may increase the effectiveness of SMPT experiences that focus on collective leadership development and improve the performance of organisational members. The autonomy that is provided by empowering leadership has been found to have a positive influence on shared leadership (e.g., Hackman

and Wageman, 2005; Fausing et al., 2015; Rapp et al., 2016) and leadership development

(Raelin, 2006, 2018a; Marquardt, 2011; Volz-Peacock, Carson and Marquardt, 2016).

However, the declining behavioural and performance-related results in the more advanced

and complex projects within the current research also call for caution in implementing this

strategy. Regardless of the various possible explanations, the research results suggest that

over time and across multiple projects, the positive response to leadership development

opportunities declines and that there is a more substantial impact on knowledge acquisition

than on behaviours and performance. This finding raises another important question for

practitioners:

- How can organisational members move from knowledge acquisition to improved
  performance during more complicated and demanding projects?

Answering such intriguing questions on a general level is challenging due to the limited

generalisability of the results for other organisations and contexts. Therefore, more research is

needed in the field that features a similar scope to the current study's to expand the current

research to include multiple projects across more extended periods in different contexts.

However, regardless of the generalisability limitations, it is safe to argue that coaching

support in the identified areas may be critical to the more effective use of SMPTs and the

stability of behavioural performances during more advanced projects.

This study has identified four significant areas where additional support is essential: planning

and organising, monitoring, providing and receiving feedback, and team building. By

providing timely coaching support in these areas, practitioners can enhance the effectiveness

of collective leadership and its development. This support may help move organisational

members from learning to performance. During the initial stage, planning and organising are

vital to the rest of the project life-cycle and other areas, such as monitoring and feedback,

regardless of the context and experience level (Marks, Mathieu and Zaccaro, 2001; Zaccaro and Klimoski, 2002; Zaccaro, Rittman and Marks, 2002). This theme constantly appeared during all rounds of the data collection. This study has demonstrated that planning and organising directly impact all outcomes and indirectly impact motivation. Besides the apparent direct impact of planning and organising, the qualitative data analysis revealed that when planning is inadequate for defining midterm goals and key performance indicators (KPIs), it negatively affects monitoring behaviours and thus feedback.

The researcher's personal observations also revealed that identifying KPIs and mid-term goals and monitoring them impacts motivation significantly. Monitoring allows the verification of small but significant achievements, and these small achievements enhance satisfaction, internal trust, motivation, and collective efficacy. Collective efficacy (Tasa, Taggar and Seijts, 2007; Stajkovic, Lee and Nyberg, 2009), internal team trust (Avolio et al., 1996; Drescher et al., 2014), and motivation (Kark and Dijk, 2007; Trpanier, Fernet and Austin, 2012; Waldman, Galvin and Walumbwa, 2013) are essential factors that can determine both leadership and task performances in a collective.

Monitoring behaviours also leads to feedback that can be used to provide the desired results. Feedback was also found to be one of the most common challenging areas in the collective leadership of project teams, regardless of their formation and member characteristics. The lack of feedback from peers may have some explanatory power regarding declining behavioural values in later projects. Feedback availability was found to positively relate to leadership development (DeRue and Wellman, 2009). DeRue and Wellman (2009) also found that the relationship between developmental challenges and leadership skill development displays a pattern of diminishing returns. However, individuals with better access to feedback did not experience the same diminishing returns (p 867).

Feedback has been associated with learning, performance, and behavioural change (Prins, Sluijsmans and Kirschner, 2006; Gielen, Peetersand Struyven, 2010; Boud and Molloy, 2013; Groves, Mitchell and Nulty, 2015; Steffens, Fonseca, Ryan, Rink, Stoker and Pieterse, 2018). It influences behaviours either directly or indirectly. Therefore, feedback and multisource feedback are among the most commonly used interventions for leadership development (Day, 2000; Conger and Toegel, 2002; Raelin, 2006; Marquardt, 2011; Day et al., 2014; Volz-Peacock, Carson and Marquardt, 2016). However, many scholars think that feedback is often poorly deployed (Day, 2000). Therefore, the current study argues that coaching support and the facilitation of feedback sessions may foster collective leadership development to a great extent. Feedback support is vital to most teams, especially new ones, that want to achieve more effective collective leadership development regarding behaviours and performance.

The current research demonstrates that recognition as feedback is avoided because it is taken for granted by many. Most individuals are not aware of the impact that feedback can have on others as positive reinforcement. Past researchers have demonstrated that feedback also positively influences others. Critical feedback, on the other hand, is avoided due to perceived conflict risks. Many individuals avoid providing critical feedback because they do not know how to formulate it constructively and fear that they may cause conflict. Facilitating feedback sessions throughout the teamwork process in connection with planning and monitoring sessions could significantly help move organisational members from learning to performing.

Although planning, monitoring, and feedback have implications for almost all teams regarding all tasks, team building has a more critical impact on teams that are formed by individuals from different organisational cultures. The current study demonstrates that the maturity of project team members is a determining factor in deciding the appropriate levels of autonomy. This may have implications for the shared leadership of cross-functional and inter-

organisations teams, as well as teams that are formed after mergers, fusions, and acquisitions have happened. Individuals from different organisational cultures and experiences (Erkutlu, 2012) may need different levels of autonomy, at least initially. Organisational managers and external team leaders may need to monitor these teams' functioning closely. Facilitating team-building activities, especially during the early stages of the team formation process, may minimise the risks that are related to such teams.

In summary, despite the considerable recognition that leadership development is a temporal and cyclical process, there is a scarcity of research on "how developmental experiences should be arranged over time and how these experiences can reinforce each other" (DeRue and Myers, 2014, p 850). The present study argues that organisations could develop shared leadership processes that enhance team members' capabilities to "engage effectively in leadership roles and processes" (Day, 2000, 582) by providing appropriate and increasing levels of autonomy and timely and adaptive support (Hackman and Wageman, 2005).

To help organisational leaders and other practitioners that work with self-managed teams in collective leadership organisations, this researcher has developed a 5+2 step (five facilitation sessions and two consultation sessions) developmental coaching framework. The framework was developed based on the researcher's personal observations that he made throughout the research process, the identified challenging areas that are presented in Section 5.3, and the help of continuous literature reviews. The framework focuses on providing timely interventions and support throughout the transition, action, and reflection phases of teamwork processes (Marks et al., 2001).

As illustrated in Figure 20, this framework pays special attention to the transition phase, in which planning and organising take place, and to team resource analysis and performance management rubric creation as activities during this phase. Coaches could facilitate sessions

to support the process and encourage teams to include a team resource analysis and performance management rubric in the Human Resource Management (HRM) part of their project plan. Another essential form of support that is needed during the planning phase of the project is setting mid-term goals and evaluation sessions where feedback can be provided on performances. Observations that the researcher has made throughout the years demonstrate that these are often neglected and affect both the performance and development of young adults.

The emphasis during the action phase is on task-related and effective problem-solving. During the final phase, the focus is on reflection and the identification of significant learning points. Although reflections are done mainly at the team level, the facilitation of joint sessions to share the team's results with a larger audience is important for organisational learning. Complexity leadership development emphasises the importance of shared leadership and sharedness to organisational learning (Clarke, 2013; Kjellström, Stålne and Törnblom, 2020).

Figure 20

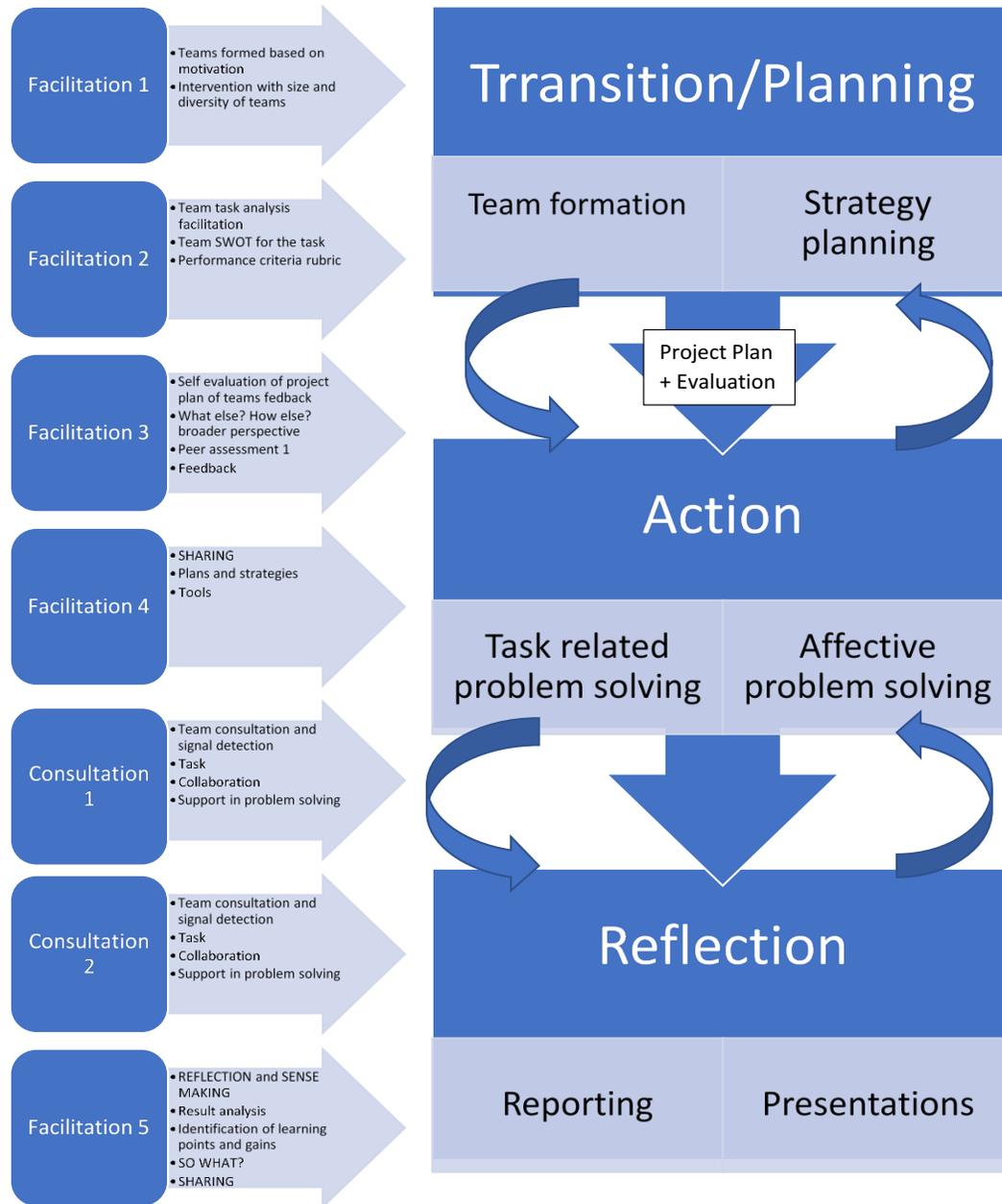*Figure 21: 5+2 framework for SMPT coaching: a right-on-time developmental approach*

Facilitation 1	• Teams formed based on motivation • Intervention with size and diversity of teams
Facilitation 2	• Team task analysis facilitation • Team SWOT for the task • Performance criteria rubric
Facilitation 3	• Self evaluation of project plan of teams fedback • What else? How else? broader perspective • Peer assessment 1 • Feedback
Facilitation 4	• SHARING • Plans and strategies • Tools
Consultation 1	• Team consultation and signal detection • Task • Collaboration • Support in problem solving
Consultation 2	• Team consultation and signal detection • Task • Collaboration • Support in problem solving
Facilitation 5	• REFLECTION and SENSE MAKING • Result analysis • Identification of learning points and gains • SO WHAT? • SHARING

Trransition/Planning — Team formation | Strategy planning

Project Plan + Evaluation

Action — Task related problem solving | Affective problem solving

Reflection — Reporting | Presentations

Figure: Development oriented and functional team coaching action plan and framework

6.4.1   Further Implications for Practitioners in Higher Education

This study also has noteworthy implications for the case organisation and other higher education institutions. As previously mentioned, the study was initiated by the researcher's intrinsic motivation to gain a deeper understanding of collective leadership capacity development and the bottlenecks that affect the process. The overall objective was to help tutors, teachers, and managers evaluate and determine (a) the appropriate levels of autonomy for project teams and (b) the timing and context of interventions that are needed for effective development and performance. Thus, besides the other spill-over effects of the best practices, this practice-based research provides a more definite direction for all the other units across the larger institution and encourages the use of intentional strategies and more effective developmental approaches to the leadership of the team projects.

This explorative study demonstrates that using the self-managed concept and encouraging shared leadership is the right strategy. Integrating development into the inquiry learning pedagogies provides an appropriate platform for learning and development despite the possible obstacles that are related to leadership performance. However, coaching support in the mentioned areas becomes essential to facilitating more effective development when the level of the task challenge increases during the completion of the more advanced semester projects. For example, support and additional training in such areas as "team building", "planning and structuring", and "providing and receiving feedback" may help students achieve better performances and enhance their shared leadership capacity (DeRue and Wellman, 2009). Additionally, it may be more advisable to integrate different programs for a joint project during the earlier stages of this program rather than during the most advanced stage, which is when teams have full autonomy and work as self-organised teams. Mixing creates challenges, especially if there are significant differences in terms of work cultures

between programs. The autonomous way of working also requires certain maturity levels, collective efficacy, and trust among members (Avolio et al., 1996; Tasa et al., 2007; Stajkovic et al., 2009; Drescher et al., 2014).

6.5   Limitations of the Study and Generalisability of the Results

This study has several potential limitations that warrant consideration. The first limitation relates to the educational context of the study and the student participants. Leadership research with student participants is not uncommon. Additionally, prior studies that incorporated student participants were often conducted to assess the impact of a classroom type of intervention (Posner, 2009, Day, David V. and Sin, 2011, Baron, 2016, Miscenko et al., 2017, Mason et al., 2014), which often takes place in classrooms or laboratories through tasks such as role-plays, simulations, or case studies (Lorinkova and Bartol, 2020, DeRue et al., 2012) or through short task durations that last from a few weeks to a few months (i.e., 7 weeks) [Miscenko et al., 2017], 13 weeks [Day, David V. and Sin, 2011], 9 months [DeRue et al., 2012], and 12 months [Mason et al., 2014]). In the context of the current study, the participants of the research worked on authentic projects that featured actual tasks in vague and complex environments that required them to interact with multiple stakeholders and take risky actions to satisfy them all. These actions aligned with the previous descriptions of experience-based leadership development and the action learning principles and provided a comparative advantage in generalising the results for professional work environments.

The second limitation concerns the potential influence of performance feedback on shared leadership ratings. The results demonstrate that the peer ratings of leadership in project teams that could not reach their project goals declined. The ratings were also much lower for teams that had to complete more advanced and potentially more demanding projects as most failed to reach all the set goals. This finding raises concerns as the individuals may have rated

themselves and their peers in a biased manner. Indeed, evaluative feedback biases in ratings of individuals who are part of group processes are not uncommon and are defined as "performance-cue biases" (Tasa, Taggar and Seijts, 2007, p24). There is little reason to doubt that satisfaction with team performance and goal achievement affects the perceptions of individual and team leadership performances, as does self-efficacy (Bandura, 1997). However, it is essential to note that the researcher did not solely rely on the quantitative ratings of individuals to evaluate the leadership development; instead, he triangulated the behavioural outcomes with the qualitative learning outcomes as cognitive indicators (Bandura, 2001).

The third limitation concerns generalising the results of a context-specific phenomenon for other domains and teams. The dynamic, interactive, and emergent nature of leadership combined with the complex structure and formation of teams and their varying objectives may act as a boundary condition for teamwork studies (Marks et al., 2001), which makes the research context-specific and limits the generalisability of its results. This study is no exception to the rule. Although the study was conducted as a field study with authentic tasks that were completed in collaboration with authentic stakeholders from the community of practice, the current study has limitations regarding the generalisability of its results for other contexts and domains due to the contextual restrictions that were caused by the student participants.

The researcher carefully considered this by choosing a specific degree program and choosing two cohorts instead of a single cohort to enhance the study's internal validity and consistency (Yin, 2013). The results of this study are valid only in the context of this research, and there is no guarantee that the results can be replicated, even with the same stakeholders and tasks. Comparing the two cohorts within a carefully selected case demonstrated that different people

react to the same things differently. Even the same people may react differently to the same thing in different settings and at different times.

The current study provides valuable and much-needed information about collective leadership development in an organisational unit of young adults who are students and potential leaders (Day, David V. et al., 2014). The results for organisations with more advanced and experienced professionals may differ. Although these projects make the work genuine and remarkably close to the environment of the work teams, the consequences are different, and the student participants were not paid for their work. The participants being students may have impacted how seriously they took their team responsibilities. However, it is also critical to state that this study has an authentic nature as it focuses on student project teams working on real-life problems or the needs of industry partners in collaboration with them, which makes these teams closer to organisational teams. The study also does not aim to generalise its findings to other teams and contexts.

The focus on a single unit in a single organisation may be seen as a limitation in comparison to multiple case studies that focus on multiple organisations. However, repeating the study with a second cohort allowed the researcher to utilise some of the advantages of multiple case studies. As explained in Sections 4.3 and 4.5, two embedded cohorts within the unit enabled the researcher to explore the case through intra-and inter-cohort analyses over time (Yin, 1994).

Another potential limitation of the generalisability of the current study's results is the relatively small sample size ($N = 45$). However, a small sample size is not uncommon in leadership studies (e.g., $N = 63$ and $N = 60$, respectively, in Yoo and Alavi, 2004, Ziek and Smulowitz, 2014) or leadership development studies (e.g., $N = 56$ and $N = 64$, respectively, in Mason et al., 2014 and in DeRue and Wellman, 2009). Furthermore, the current study is

qualitatively oriented and had no ambitions to provide causal links between variables, nor does it include hypothesis testing. Additionally, the case unit is a small unit in a large organisation, which provided the perfect conditions and environment for studying leadership development within self-managed project teams. The heterogeneity of leadership practices in other unit programs was a limiting factor for selecting a larger population for the study. Therefore, this embedded case study focuses more on internal and external validity than on generalisability for other organisations or contexts (Zainal, 2007, Yin, 1994, 2011, 2013).

The internal validity was achieved in two phases; piloting and data collection. After testing the tool in a pilot study as a peer assessment form, the internal validity was also tested through the three-wave data collection from both cohorts after each project, which took a cyclical form. The balanced cohort approach helped achieve the optimum homogeneity of the conditions in the working environment (DeRue et al., 2012, Baron, 2016). Although the natures of the tasks and the project goals changes during the subsequent semesters, the tasks that were part of the corresponding semesters were the same for both cohorts, which made them comparable and provided the opportunity to test and validate the results. The generalisability of results from case studies stems from theory rather than from populations, and several replications that can be linked to a theory before conclusive results are generalised improve the method's level of robustness (Zainal, 2007).

Another contextual restriction regarding the generalisability relates to the diversity of the participants' backgrounds. The culturally diverse nature of the participants may have also restricted the generalisability of the results for more homogeneous teams. Members of both cohorts were culturally diverse (i.e., 15 and 10 different ethnic backgrounds, respectively). Culturally diverse teams may have different leadership processes than culturally homogeneous teams. Members of culturally diverse teams may need additional skills and

characteristics, such as cultural intelligence, global identity, and the openness to cultural diversity, which can affect their participation in leadership acts (Lisak and Erez, 2015). Therefore, the results of this study may have limited generalisability for monoculture teams.

The study may also be affected by limitations that were caused by the explorative nature of the multi-level study and its limited power to isolate some variables and demonstrate causal links (Yoo and Alavi, 2004; Mitchell and Bommer, 2018). The case study method was chosen to avoid this limitation and investigate a complex and dynamic leadership phenomenon in its natural setting (Yin, 1994, 2011, 2013, 2017; Zainal, 2007).

In addition to the risk of "performance-cue bias" that was mentioned, the study may have further limitations related to the behavioural data collection tool. Incorporating self and peer assessments can lead to bias because of grade concerns. The researcher paid utmost attention to causing minimum intrusion into the natural process of the participants' project work and utilised the data that naturally occurred from the existing activities to avoid causing fatigue. This risk was also addressed using a practice-oriented approach (Raelin, 2019) and focus on the development rather than single performance outcomes. The respondent fatigue was addressed by limiting the number of items in the survey to a minimum optimal level and using a survey design that facilitated the simultaneous assessment of multiple members.

The researcher bias and participant bias limitations were also addressed via reflexive and practice-oriented approaches to the opportunities that were created using the mixed-methods approach to data collection. Being humble, acting as a participant, and asking for multiple interpretations of the results were some of the practices that were in line with the practice-oriented approach. Raelin (2019, p3) argued that in the leadership-as-practice approach, "… the role of the researcher would not so much be to inquire from outside the activity but to provide tools to encourage the observed to become inquirers themselves".

According to this approach, the relationship between the researcher and the participants is based on mutual support. The researcher should walk alongside the participants as a fellow learner and co-respondent; they may act as a coach to encourage the participants to engage in self-reflection (Raelin, 2019). Alternatively, the participants can also serve as coaches to encourage more refined observation and understanding on the part of the researcher (Raelin, 2016b, 2016d, 2019). Hibbert et al. (Hibbert et al., 2014) suggested that researchers should make themselves vulnerable by questioning their own biases, acknowledging the limits of their knowledge, and embracing the situated nature of their relationships with their participants.

The importance of working with a diverse range of individuals in project teams has been promoted and encouraged. Additionally, changing teams and tasks across time and project experiences can minimise the same-source bias (DeRue et al., 2012). However, in the context of the current study, the small sizes of the cohorts limited the possibility that individuals could work with completely new members in their teams. Often, project teams at the second and third data collection points for Times 2 and 3 consisted of two or three individuals who worked well together during the previous semester. Although this may have slightly increased the risk of same-source bias, allowing this was important for the creation of safety among the participants and the practice-oriented approach of the study.

Despite the preceding discussion, it is important to state that in comparison to positivist methods, practice-oriented methods are less reliant on theory validation to evaluate research contributions (Raelin, 2019). Raelin argued that evaluation criteria in praxis-oriented research should be considered when using some non-traditional standards, such as credibility, dependability, and coherence (p 7). According to the author, credibility is achieved by using diverse data sources, extensive documentation, sufficient description, and triangulation.

6.6 Future Research Recommendations

Past research on leadership development has primarily focused on the impact of formal training programs on individuals and has left research on collective leadership development in its infancy. A few studies on shared leadership are limited to the life-cycles of teams that had to complete a single task. Additionally, these studies only focus on the team level of analysis and the network approach rather than going beyond the networks in teams to the organisational level. Due to their association with shared leadership, self-managed project teams or other forms of autonomous groups offer great opportunities to develop organisational capacities for leadership and to investigate leadership development with an outcome view and a process view (Day, 2000; Day, Gronn and Salas, 2004, 2006; Raelin, 2006, 2016b, 2018a; Day and Liu, 2018).

The current study has joined the two streams of discussion to combine them. The first discussion claims that experience is the most effective resource for leadership development (McCall Jr, 2004; McCall, 2010; van Velsor, McCauley and Ruderman, 2010; Kolb, 2014). The second maintains that shared leadership is a constructive learning process that further fosters leadership capacity development (Klein and Ziegert, 2004; Raelin, 2006, 2018a; Friedrich et al., 2009; Lambert, 2011; Day and Liu, 2018). This study has explored the process of meaning-making (the acquisition of knowledge, skills, and attitudes [learning]) and the behavioural outcomes (shared leadership) of collective leadership capacity with an integrative approach. The key assumption was that practising shared leadership in SMPTs further enhances collective leadership capacity through learning from interactions and intra-actions (Klein et al., 2006; Friedrich et al., 2009; Bergman et al., 2012; Raelin, 2016b, 2018a).

As discussed in the contributions section, the findings have revealed that SMPT experiences have an impact on collective leadership capacity that resembles the impact of formal training programs on individuals (Collins and Holton III, 2004): the overall impact is more significant for acquiring knowledge and awareness than behaviours. Additionally, comparing the results from all the data sources has demonstrated that the social aspects of the leadership capacity and inter-personal skills have greater elasticity and are more prone to change than the cognitive ones (DeRue and Wellman, 2009). Further studies are needed to test the generalisability of the results for different settings and contexts. These studies can take a similar approach and utilise the framework that is presented in Figure 4.

One specific suggestion would be to conduct a comparative study between multiple organisations to highlight whether the findings also hold for professional organisations with non-student participants. Although the projects in the current study context were authentic and involved multiple stakeholders from the community of practice, the participants of the study were undergraduate students who may have had different perceptions and behavioural patterns than work-life professionals. Moreover, it would be interesting to study shared leadership practices and their developmental outcomes by comparing cross-functional and post-merger/acquisition teams with self-managed teams that comprise mature members.

Further studies with more stable participant diversity in relation to maturity and self-managed team experiences may also be valuable. The current study was conducted with two cohorts in which the participant structures and diversity significantly changed, especially during the T3 projects. The addition of participants with no prior experience with working in self-managed teams and shared leadership was observed to be influential on the emergence of shared leadership. Team diversity and maturity have been found to influence shared leadership (Wu, Cormican and Chen, 2020). For example, Cox et al. (Cox, Pearce and Sims Jr, 2003) reported

that greater levels of diversity hinder shared leadership. Although this is acceptable for a practice-based inquiry within case studies that investigate a complex phenomenon in its natural environment, a more stable and homogeneous sample may have provided different results. Future researchers can explore this link with more stable and homogenous samples in a controlled environment. Alternatively, future researchers can also compare the leadership learning and development of cross-functional and homogeneous teams. The current study has identified great leadership learning outcomes despite the significant adverse changes in leadership behaviours within such teams.

Moreover, this study has investigated the process of development within an 18-month period. Transferring learning may require a more extended period. Future researchers can investigate this process over a longer period to understand the developments better. Additionally, this study can be repeated with a larger sample by conducting a statistical analysis. A statistical analysis was neither within the objectives nor meaningfully possible due to the small number of participants in both cohorts.

6.7   Concluding Thoughts and Personal Reflections

This last section includes my reflections on my doctoral studies and the process of the thesis work. Looking back, I can see that the subject of this thesis was futuristic and ambitious in its objectives and design, which made it challenging to complete with rigor as a full-time instructor who was working within the case unit where the study was undertaken. Although I was passionate about the subject both as an individual and a professional, there were moments when I felt that I should have chosen a simpler approach to conducting the research. Nevertheless, the topic was interesting to me as a person and as a teacher of the subject. The institution had chosen inquiry-based learning with a focus on competence development through collaborative learning projects as the pedagogical strategy. I and the other members

of the teacher team of the case BBA program strongly believed in the ability of the shared leadership approach and the gradual autonomy of project teamwork to facilitate the effective development of competencies in multiple disciplines. We jointly provided coaching support to the teams and individuals within our disciplines. As the leadership development teacher, I was naturally interested in understanding how good we were at what we did and how the students developed their leadership capacities through their experiences with completing multiple projects throughout their education. Although I was constantly conducting ad hoc micro-inquiries, I wanted to do them systematically and earn a PhD degree as an outcome.

However, I can see that the topic of shared leadership development is even trendier now than it was in 2016 due to the ever-increasing pressures that are being placed on organisations to flatten their structures and become lean. I am grateful for the support I had to keep going regardless of the challenges and the loss of motivation that arose from the changes in the organisational structures and the stress of daily work in various positions that I had to fill at the institution. My intrinsic motivation and researching work as an insider researcher, although they had their challenges, were also rewarding in many ways. First, I had access to valuable data sources that an outsider researcher would not have. I was able to overcome some of the concerns that related to bias and subjectivity with the help of the practice-based approach to research and the help of my colleagues and participants in the process as co-researchers and stakeholders.

The process was rich in learning in many ways. First, I have learned so much about leadership in SMTs, their effectiveness, and their value for developing collective leadership capacities for organisations. My experience with these teams enhanced my trust in their value for leadership development despite their potential challenges and drawbacks in various situations. I have had the opportunity to test a coaching framework for SMT leadership and

develop it further. I have also put my knowledge into practice to form and develop a self-managing teacher team as a supervisor in my organisation. I have shared the framework and experiences with my colleagues on various occasions.

I have also gained competencies in terms of undertaking scientific research that combined the qualitative and quantitative methods. I learned about the ethical considerations of a research project, presented the project to academic audiences, and plan to publish my work. Combining two data collection techniques, although challenging and time-consuming, enabled me to use the integrated approach to shared leadership development through self-managed project teams and respond well to the long-standing calls for it. I have also become aware of the advantages and shortcomings of different research methods and the grave importance of conducting a thorough literature review and planning before starting to collect data. The lean approach is useful for learning and improving while working.

However, despite my confidence in my professional skills, I must admit that the process of this PhD project as an academic project has been more challenging than I anticipated. It required me to step out of my comfort zone and face my shortcomings during an extensive and challenging journey. The academic writing and reporting on the literature review have proven to be particularly challenging and have also proven to be the major pitfalls of the project. These pitfalls were mostly related to the wide scope of the research and the challenging theoretical foundation, which were due to my ambition to take an integrative approach that is typically required for a more holistic view of the subject. Since the start of this journey in 2016, I have become acquainted with multiple leadership studies and browsed journal articles that assured that I was on the right path, but I found no framework that corresponded to the scope of this thesis. Due to the existence of multiple perspectives and combination of several fields (e.g., leadership development, shared leadership, and

complexity leadership) and streams of literature meant that there was no academic community to join and no framework or methodology to replicate for the context. This resulted in a lonesome and proud journey. I noticed that I had been influenced to a great extent by the predominant positivist approach that is used in both leadership development and shared leadership studies, although I had always seen myself within the pragmatist epistemology. This created an additional burden as I had to correct my reporting with the right terminology and language of the community that I wanted to address with my work.

Despite all the pitfalls, challenges, and the occasional loss of motivation, I knew from the beginning that I had undertaken a difficult but rewarding journey. I also knew that incorporating multiple approaches and methods in a longitudinal study that encompasses three academic semesters and two sequential cohorts would become even more challenging. Therefore, it was clear from the beginning that dropping the project was out of the question and that I would continue for as long as it would take to complete the process and earn the degree. For that, I am thankful to have full time employment at the Haaga-Helia University of Applied Sciences, which made this journey possible by organising and financing my studies. I am also grateful to have been able to do this as an insider research and to have utilised the learning outcomes to further improve my work and workplace.

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APPENDICES

Appendix A: Post-Project Review Structure and Questions

How would you evaluate your team's performance?

What factors affected it?

What were your team strengths and challenges?

How did the team members contribute to the team performance in the project?

What factors affected the individual performances?

How was your motivation throughout the project timeline?

(Each team member was asked to draw their motivational curve and explain why and how of levels and changes)

What has worked in your plans and what didn't?

What might have happened with a different approach?

What did you learn?

What would you do differently if you were to redo everything?

Sample motivational curves:
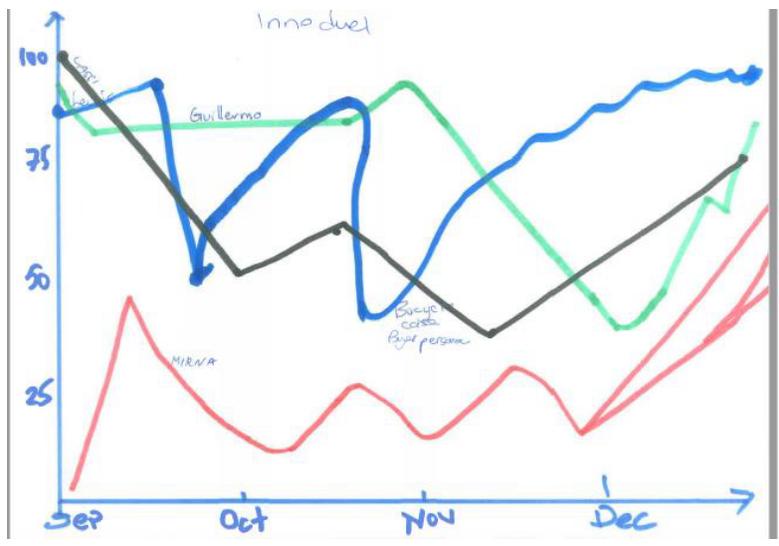
Appendix B: Survey items

I5-item leadership functions covered in the survey (adapted from Morgeson, DeRue and Karam, 2010)

Leadership Functions	Items
1. Structuring and planning (1, 12) 2. Providing feedback (5, 13) 3. Monitoring the team and tasks (7) 4. Performing tasks (2, 14) 5. Problem-solving (4, 8) 6. Coordinating (3, 6, 11) 7. Supporting the social climate (9, 10, 15)	1. My team member X is actively involved in and share responsibility for establishing the goals for the team and planning (1). 2. My team member X takes on a fair share of the work that needs to be accomplished (4). 3. My team member X links their own work and harmonise it with the work of others (6). 4. My team member X seeks a broad range of perspectives and alternative methods when solving problems (5). 5. My team member X recognises the achievements of others and encourage them to do better (2) 6. My team member X collaborates with one another to make decisions that affect this team (6). 7. My team member X monitors our team's process and inform others about our progress (3). 8. My team member X helps to identify, diagnose, and resolve the problems, issues, and conflicts that face this team (5). 9. My team member X steps in and help others (even if it is outside an area of their personal responsibility) to ensure the team succeeds at its task (7). 10. My team member X has an equal voice, and their opinion counts when they share their perceptions regarding a situation that affects the team (7). 11. My team member X openly shares information with others on the team so that all members can work more effectively (6). 12. My team member X works together to decide what individual performance goals should be (1).

	13. When my work is not up to the team's expectations, my team member X points it out to me in a constructive way (2). 14. My team member X takes on a variety of roles depending on the situation that the team is facing (4). 15. My team member X expresses optimism and positivity about other team members and the project task to motivate one another (7).

Appendix C: Participant information and consent form

PARTICIPAT INFORMATION and CONSENT FORM

Research Project:

LEADERSHIP DEVELOPMENT ON THE GO: A MULTI-PERSPECTIVE TWO-COHORT CASE STUDY APPROACH TO EXPLORE COLLECTIVE LEADERSHIP DEVELOPMENT

Researcher(s):   Yucel Ger

Supervisor: Dr Lisa Matthewman, University of Westminster, London

          Dr Steven Cranfield, University of Westminster, London

You are being invited to be part of a research, which studies the different leadership sources in a teamwork of student projects. Project aims to develop a framework for team leadership that leads to effective teamwork and development of leadership competencies. The developed framework will tested and improved in several cycles with different teams and tasks. The research is being undertaken as a part of Yucel Ger's PhD studies at the

University of Westminster London. The research data are utilised in dissertation, journal articles and presentations. The data are gathered through peer ratings, surveys, written narratives, interviews, discussions, observation and documents.

All documents generated during project work e.g., meeting minutes and other audio/video as well as peer ratings will be used as part of data collection. At the end of the semester you will be provided a survey to evaluate the process and the impact of it on the performances and the teamwork process to be followed by group interviews. The data collected through observations, consultations and reports will also be used and analysed.

The duration of cycles is the period of project work and does not require much outside normal study routines. Survey will be combined with the peer evaluation questionnaire with addition of some extra questions about guidance and support you received and your satisfaction with the results. Your commissioners' satisfaction will be asked from the commissioners. You will spend about 90 minutes of your personal time for the survey and narratives/interviews at the end. Survey about 20-30 minutes and interview/written narrative about 40-60 minutes.

If the study proves successful you will have a better teamwork experience, learning and development as well as feeling of achievement. In case of no direct benefits, the study may help us understand whether or not authenticity, empowerment and autonomy support has positive impact on motivation, participation and performance of students in the context of real-life student project teams. You will also help us to see how to further improve the effectiveness of teamwork and student experiences in teamwork as well as learning and development

Please note:

- Your participation in the surveys and interview is entirely voluntary.
- You have the right to withdraw at any time without giving a reason.
- Wherever practicable, withdrawal from the research will not affect your grades or credits given the fact that you completed the learning tasks
- You have the right to ask for your data to be withdrawn as long as this is practical, and for personal information to be destroyed.
- You do not have to answer particular questions if you do not wish to do so.

- Your responses will be made anonymous

- No individuals should be identifiable from any collated data, written report of the research, or any publications arising from it.

- All computer data files will be encrypted and password protected. The researcher will keep files in a secure place and will comply with the requirements of the Data Protection Act.

- All hard copy documents, e.g. consent forms, completed questionnaires, etc. will be kept securely and in a locked cupboard, wherever possible on University premises. Documents may be scanned and stored electronically. This may be done to enable secure transmission of data to the university's secure computer systems.

If you have questions about the study, contact**:**

Yucel Ger yucel.ger@haaga-helia.fi

Mobile: +358 40 488 7221

If you have a complaint about this research project you can contact the supervising Dr Lisa

Matthewman L.J.Matthewman@westminster.ac.uk

PARTICIPANT CONSENT FORM

Title of Study:

Enhancing leadership competencies in student project teams through shared leadership

Lead researcher: Yucel Ger

I have been given the Participation Information Sheet and/or had its contents explained to me.	Yes ☐	No ☐
I have had an opportunity to ask any questions about the intentions of the study and I am satisfied with the answers given.	Yes ☐	No ☐
I understand I have a right to withdraw from the research at any time and I do not have to provide a reason.	Yes ☐	No ☐
I understand that if I withdraw from the research any data included in the results will be removed if that is practicable (I understand that once	Yes ☐	No ☐

anonymised data has been collated into other datasets it may not be

possible to remove that data).

I would like to receive information relating to the results from this study. Yes   No ❐

      ❐

I wish to receive a copy of this Consent form. Yes   No ❐

      ❐

I confirm I am willing to be a participant in the above research study. Yes   No ❐

      ❐

I note the data collected, (which will be fully anonymised) may be Yes   No ❐

retained in an archive and I am happy for my data to be reused as part of ❐

future research activities.

Participant's Name: _____

Signature: _____ **Date:** _____

This consent form will be stored separately from any data you provide so that your responses

remain anonymous.

_____

I confirm I have provided a copy of the Participant Information Sheet approved by the Research

Ethics Committee to the participant and fully explained its contents. I have given the participant an

opportunity to ask questions, which have been answered.

Researcher's Name: Yucel Ger

Signature: _____ **Date:** _____

Appendix D: Research permit

APPLICATION TO CONDUCT RESEARCH

Research project / Thesis

Haaga-Helia Universlty of Applled Sciences

1	Name of Research Project / Thesis
	Peer assessment as a collaborative and authentic learning process to foster student engagement in teamwork: An integrated approach to assessment
2	The name(s) of person(s) who conduct research
	Yucel Ger
	Degree Programme and campus
	Senior Lecturer, International Sales and Marketing / Potvoo
3	Supervisor of reseanh
	Dr. Lisa Matthewman, Director of Studies
	Registered Practitioner Psychologist
	Principal Lecturr in Leadership & Professional Development
	Leader of the Special Interest Group in Coaching and Mentoring
	Member of the Research Network Steering Group
	L.J.Matthewman@westminster.ac.uk
	Tel 0203 506 6736
	Westminster Business School University of Westminster 35 Marylebone Rd.
	London, UK
	Dr Steven Cranfield 2nd Supervisor
	Senior Lecturer Pedagogic Research in Higher Education
	Course Leader MA in Higher Education
	Tel +44 (0)20 7915 5443	Email s.cranfield@westminster.ac.uk

4	Summary of research plan
	1. Literature review on the peer assessment, Self Determination Theory and, teamwork engagement and research methodologies
	2. Designing/developing an intervention model and defining the process of peer assessment deductlvely based on the theories viewed
	Cycle 1
	3. Testing the model by using it as the peer assessment model
	4. Analysing and evaluating the results
	5. Specifying the learning and revising the model cycle 2
	6. Testing the revised model
	7. Analysing and evaluating the results
	8. Repotting
5	Client/sponsor Haaga-He1ia UAS
6	Target group of research and sample size International Sales and Marketing Degree Programme students
7	Timetable of research

Literature review on the peer assessment, team work engagement, Self-Determination Theory for the intervention model +	OCTOBER 2016-JULY 2017
Designing/developing an intervention model and defining the process of peer assessment deductively based on the theories viewed	APRIL 2017-JULY 2017
Piloting and testing the model by using it as the peer assessment model	AUTUMN 2017 AND SPRING 2018
Analysing and evaluating the results	AUTUMN 2017 AND SPRING 2018
Specifying the learning and revising the model	AUTUMN 2017 AND SPRING 2018
Cycle 2	
Re-testing the revised model	AUTUMN 2018 AND SPRING 2019

	Analysing and evaluating the results	2019-2020	
	Reporting	2020-2021	

8	Description of research method
	Research is a longitudinal experiment designed as multiple case study within Paticipative Action Research design.
	The developed peer assessment design will be experimented integrated to semester projects of the students.
9	Date, signature and address of the applicant / student Date: 8.6.2017 Name : - - - - - Yucel Ger Signature Phone: 0404887221 E-mail yucel.ger@haaga-helia.fi Address Taidetehtaankatu 1, 06100 Porvoo
10	Date and signature of the supervisor Date: 8.6.2017 Name Lisa Matthewman Signature

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11	Return the application to the following address by email: pekka.lahti@haaqa-hella.fi or by mail: HAAGA-HELIA University of Applied Sciences Pekka Lahti Ratapihantie 13

	00520 Helsinki
12	Decision Permission for research is given Permission for research is denied _8 . 6 2017_ Application approved by (signature) _Kaija Lindroth_ _Kaija Lindroth, Programme Director_ Name in block letters mme

Staff approving the application:

█ Surveys to studene: Jatca Jussila-Suokas

█ Surveys Haaga-Helia staff: Teemu Kokko

█ Surveys to alumni: Eeva Loippo-Sännälä