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Transformational Leadership and Innovative Climate:
Examining the congruence of leader and follower perceptions

by

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Abstract

Previous research has overlooked the leader-follower relationship as an essential aspect of how leadership can promote innovation. The purpose of this study is to determine how congruent LMX perceptions must be in order to maximize the effects of transformational leadership on the innovative climate. As a result, two models were tested: the first, a leader-perception model examining the effects of an articulated vision, as a key component of transformational leadership, on the innovative climate and the LMX relationship as perceived by the leader; and the second, a follower-perception model examining the relationships among the same three constructs using LMX perceived by followers. This study included 80 matched leaders-follower respondents from a Norwegian insurance company. The results of examining the corresponding parameters in the two models revealed that a well-articulated vision has a positive influence on the innovative climate as well as the development of stronger leader-member exchange relationships. In addition, the effects of an articulated vision on the LMX relationship were more substantial from the follower's perspective. However, no significant results were found to indicate a mediation effect of LMX on the articulated vision and innovative climate effect. The findings of this study have practical implications for organizational development and leadership training to foster innovative climates in the workplace.

Keywords: Transformational leadership, Articulated vision, Innovative climate, Leader-member exchange, LMX, Leader-follower congruence.

Preface

This master thesis was completed as part of the Strategy and Management major of the Master of Science in Economics and Business Administration degree at the Norwegian School of Economics (NHH). This research was supported by the research project Radical Technology-Driven Change in Established Firms (RaCE).

My ambition to better understand the challenges of leading innovation processes was the driving force behind the creation of this thesis. I have been highly interested in addressing new ways to achieve more efficient leadership since I began my professional career. Conducting such a comprehensive study has provided me with valuable experience, and while it has been challenging at times, it has been more enjoyable and educational than anything else. I am grateful to RaCE for providing me with the opportunity to research such an intriguing topic as part of their program.

From the start, I would like to express my heartfelt gratitude and warm appreciation to my thesis supervisor, Alexander Madsen Sandvik, for his unending encouragement, inspiration, and positive attitude, which have been invaluable to me. Furthermore, his insightful feedback and perspectives have aided in developing my lateral thinking, allowing me to approach concepts from new angles.

Finally, I would like to thank my family and friends, particularly my parents, Ricardo and Elena, and my sister Paula. Which have been a great help from afar throughout the entire process, especially their encouragement and support during times of particular stress, for which I will be eternally grateful. Thank you very much.

Contents

1. Introduction

Innovation is one of the primary sources to improve organizational performance and thrive the organization's survival (de Jong & den Hartog, 2010). It has been widely demonstrated that improving an environment to foster employees' creativity and ability to innovate can improve innovative behaviours in an organization (de Jong & den Hartog, 2010). An innovative climate seeks to comprehend how to foster the development and implementation of new ideas from an organizational perspective (van der Vegt et al., 2005). The most successful firms keep a clear emphasis on developing an innovation climate across all business operations, supporting innovative behaviours, and exploring strategies to sustain innovation momentum (Ikeda & Marshall, 2016), but also putting a great emphasis on how managers act. Multiple studies have found that leadership is one of the most important determinants of employee innovation (Ikeda & Marshall, 2016; Sanders & Shipton, 2012; Tipu et al., 2012). In particular, transformational leadership may foster a climate for innovation (García-Morales et al., 2012).

Most of the literature in transformational leadership has focused on the articulated vision effect due to its significance in inspiring others with its vision of the future and identifying new opportunities for the organization (Anderson & West, 1998; Podsakoff et al., 1990). In this regard, leaders who challenge and articulate visions of the future that embody commitment, promote the emergence of empowerment in teams, and have been found to improve outcomes closely related to adaptive performance such as creativity and organizational innovation (Shin & Zhou, 2003).

Transformational leadership has been extensively investigated in recent years. In particular, it has been found to influence subordinates' task performance and innovative behaviours (Banks et al., 2016; García-Morales et al., 2012), and develop a unique exchange relationship central to Leader-Member Exchange (Deluga, 1992; Krishnan, 2005). However, while transformational leadership focuses on the traits and behaviours of leaders to inspire their followers, leader-member exchange (LMX) concentrates on the direct one-to-one relationship that develops between a leader a follower. Studies have shown that followers are more likely to respond positively to leaders who inspire and motivate them (Judge & Piccol, 2004). This positive reaction may elicit a desire for followers to develop high-quality relationships with their leaders (Maslyn & Uhl-Bien, 2001), resulting in high support for innovative behaviours (Scott & Bruce, 1994a).

However, there is no clear understanding of the relationship between transformational leadership and innovation. The impact of transformational leadership on developing an innovative climate is limited and inconsistent, with research indicating both positive and negative outcomes (Afsar et al., 2014). In general, research has concentrated on the impact of individuals in positions of authority on innovation while ignoring the relational aspect of leadership (Krishnan, 2005). According to research, leader and follower perceptions can differ for several reasons (de Vries et al., 2002; Meindl et al., 1985), leading to either an underestimation or an overestimation of the impact of transformational leadership on any outcome. To date, no research appears to have been conducted on how leaders' and followers' perceptions of their own relationship influence the link between transformational leadership and innovative climate. By failing to understand the leader-follower relationship, research has overlooked an essential aspect of leadership that could provide a better understanding of its influence in innovative climates and even explain the inconsistency in the literature.

In this regard, high-quality leader-member relationships are defined by a high level of mutual trust, respect, and obligation. In contrast, low-quality LMX is defined by low levels of the same components (Graen & Uhl-Bien, 1995). LMX has a solid theoretical basis on the relationship between innovative behaviours (Atwater & Carmeli, 2009; Schermuly et al., 2013) and several relevant organizational outcomes (e.g., Deluga, 1992; Graen & Hl-Bien, 1995; Krishnan, 2005; Muterera et al., 2018). This theoretical contribution is especially true when LMX mediates between transformational leadership and innovative behaviours (Ng, 2017). As a result, the LMX theory has been acknowledged as one of the more intriguing and valuable mediation approaches for examining theorized relations between leadership processes and outcomes (Gerstner & Day, 1997).

This study investigates the impacts of an articulated vision, as a key component of transformational leadership, on innovative climate in the workplace, as mediated by the relationship between supervisors and employees (LMX). Additionally, this research will examine how congruent these LMX perceptions need to be to maximize the effects of transformational leadership on innovative climate. Therefore, this thesis aims to answer the following research question:

RQ*:* *To what extent does an articulated vision influence innovative climates by mediating the leader-member relationship (LMX), which may be perceived differently by leaders and followers?*

1.1 Purpose of the Study

This research contributes both theoretically and practically. From a theoretical standpoint, the current research question seeks to understand better how transformational leadership can positively affect the innovative climate through the mediation of LMX and its congruence on its outcomes between supervisors and employees. In other words, this study will examine whether LMX relationship configurations must be congruent to enhance the effects of transformational leadership on innovative climate or simply the leader's or follower's perception of a favourable exchange associated with positive outcomes. While the literature on innovation climate has focused on the importance of leadership (García-Morales et al., 2012; Ikeda & Marshall, 2016; Sanders & Shipton, 2012; Tipu et al., 2012), little is known about how the relationship between leaders and followers can support and foster an innovative climate.

While in practice, the convergence of leader and follower perspectives on management effectiveness suggests improved communication between supervisors and their employees, which is likely to result in more favourable organizational results (Judge & Piccol, 2004). Moreover, understanding the effects on the leader and follower perceptions differences may provide additional insights into how transformational leadership may contribute to innovation performance, as reflected in the dyadic relationship leader-follower.

Finally, the findings of this research might be utilized as a foundation for future research, which can expand the implications and conclusions by considering various factors, relations and scenarios.

1.2 Research Model

A mediation model is best suited to answering the study's research question. This study examines and compares two models: first, as seen in Figure 1, a leader-perception model that examines the relationships between Articulated Vision (AV), Leader-Member Exchange (LMX), and Innovative Climate (IC) using data on LMX from the leaders' perception (LMX-Leader); and second, as seen in Figure 2, a follower-perception model that examines the same three constructs using LMX estimates from the followers (LMX-Follower). Following this dual-sided model approach, these two models will allow to stack them and test for statistical differences or similarities between the two models' associated parameters (hypotheses).

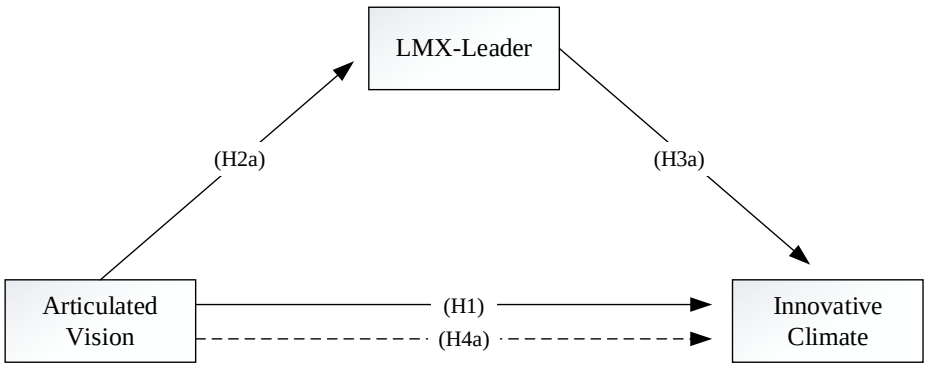

Figure 1. Leader-Perception Model: Proposed conceptual model and hypotheses about relationships, mediated by LMX from the leader's perception.

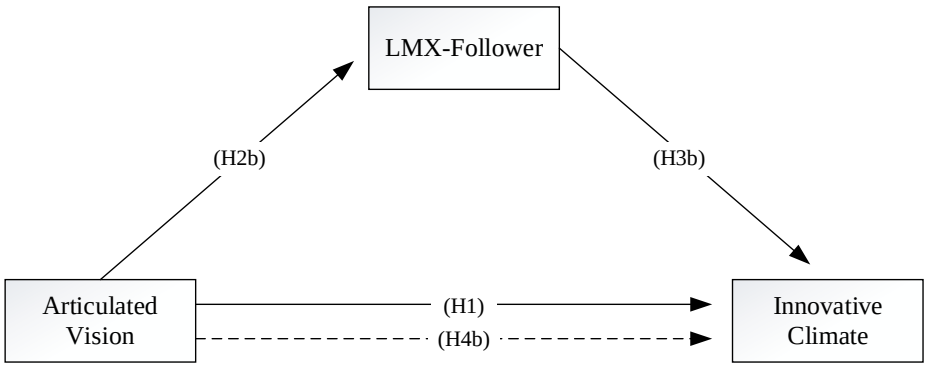

Figure 2. Follower-Perception Model: Proposed conceptual model and hypotheses about relationships, mediated by LMX from the follower's perception.

1.3 Research Structure

The rest of the paper is organized as follows. The following section will review relevant literature to develop the study frameworks and hypotheses to answer the research question. Existing theories on innovative climate, transformational leadership, leadership-member exchange, state-like side, and their respective relationships will be examined. Following that, in the third section, the methodology used in this study will be discussed, providing a background context for this study and data collection and analysis. The results with the main findings will be elaborated on in section four. The discussion will be elaborated on in section five, which will elaborate on these results' theoretical and managerial implications and suggest future research directions. Finally, the sixth section will include the study’s practical implications and concluding remarks.

2. Literature Review

The concepts and relationships provided by the research model will be defined and further explained from a theoretical standpoint in this section, intending to generate hypotheses to answer the research question. First, the concept of innovative climate will be developed, which is the dependent variable in this study. Following that, the concept of transformational leadership and its relationship to innovation will be defined. After that, the Leader-Member Exchange theories will be developed and their relationship to dependent and independent variables.

The research began focusing on the different drivers leading to innovation without considering any particular relationship. The main criteria used were innovative climate, team climate inventory, transformational leadership, leader-member exchange, LMX, leader-follower congruence, cohesion, trust. This literature review was primarily selected through a search in the primary databases: EBSCO, ProQuest, Emerald, ScienceDirect, and JSTOR, from reputable management and psychology journals such as The Journal of Organizational Behaviour, Academy of Management Review, Personnel Psychology, International Journal of Innovation Management. From here, the search was refined to answer the research topic. The theories presented in the following section were chosen to define the main research areas thoroughly and gain insights into the knowledge that has been reached so far.

2.1 Innovative Climate

Innovative climate seeks to comprehend the aspects from the perspective of a team group, which may be described as the common belief that the procedures, behaviours, and norms inside a team foster the development and implementation of new ideas (van der Vegt et al., 2005). This climate underlies how the firm operates daily, reflecting on the organization's underlying priorities. (Pervaiz K., 1998). These strategies include promoting and supporting new ideas, challenging conventional methods, and learning from people both inside and outside the organization. These processes are often the core of change and the primary drivers of organizational innovation and effectiveness (Daellenbach & George, 1999). In this regard, the innovative climate has been identified as one of the driving factors of individual innovative attitudes and behaviours (Schneider et al., 2013), particularly in contexts marked by uncertainty (West, 1990).

In particular, a climate for innovation is founded on behaviours that encourage the exchange of information in a constructive interaction and new ways of doing things by challenging the status quo (Magni et al., 2018). Supporting participation in the decision-making may increase the likelihood that group members will make a higher investment of their efforts in the decision's outcomes and are thus willing to offer new ideas (Ragazzoni et al., 2002). As a result, members of a highly innovative climate team prefer to constructively challenge one another to explore new perspectives and discover new approaches to a particular activity. Moreover, it facilitates members' access to necessary information by encouraging them to think out of the box to find new paths for dealing with the unexpected (Gilson & Shalley, 2004). These beliefs are formed by interaction with immediate team members (Salancik & Pfeffer, 1978), emphasizing the importance of the supervisor and team members.

2.2 Transformational Leadership

Transformational leadership can be defined as how leaders and followers support one another to achieve higher morale and motivation levels (Burns, 1978). In other terms, it refers to a set of behaviours found in leaders that result in greater employee motivation or other psychological processes, increasing the performance of employees (Kuhnert & Lewis, 1987). Transformational leaders often prioritize fulfilling the higher-order intrinsic needs of their followers (Judge & Piccol, 2004), considering charisma (which was later renamed idealized influence), inspirational motivation, intellectual stimulation, and individualized consideration (Bass, 1985). Furthermore, transformational leaders take a personal interest in their employees' personal development and invest time coaching, training, and developing their employees' skills so that they can attain their maximum potential (Banks et al., 2016; Judge & Piccol, 2004). In this regard, the self-concept theory of leadership explains these influences on increased motivational, attitudinal, and psychological aspects, indicating that transformational leadership impacts employees by attempting to change how they feel about themselves rather than directly changing their behaviour (Judge & Piccol, 2004).

Although there is a disagreement about the dimensions of transformational leadership, the five most commonly identified dimensions of this type of leadership include (1) identifying and articulating a vision, (2) providing an appropriate model, (3) fostering the acceptance of group goals, (4) high-performance expectations, (5) providing individualized support, and (6) intellectual stimulation (Podsakoff et al., 1990). The first component (1), *articulating a vision*,

is concerned with defining and articulating a vision that refers to the organization's goals, beliefs, and priorities. Following that is (2) *providing an appropriate model* that reflects the leader's positive and consistent behaviours and provides an example for employees to follow. The third dimension (3), *fostering the acceptance of group goals*, encourages employee cooperation and gets them to work together toward a common goal. The fourth dimension (4) is the *high-performance expectation*, which reflects the leader's expectations for followers' excellence, quality and high performance. The fifth dimension (5) is *providing individualized support*, which involves paying attention to individual workers' feelings, needs, and desires. Finally, (6) *intellectual stimulation* entails providing adequate support for professional development and encouraging employees to take on challenges, experiment, and reapply current knowledge and everyday practice.

Despite these five dimensions, as explained before, the current study focuses solely on articulated vision, which has been identified as one of the essential components of the transformational leadership process by nearly all authors (Podsakoff et al., 1990). Articulated Vision is an essential dimension since it serves as a higher-level goal and source of inspiration at the workplace. Transformational leaders have been shown to have characteristics that motivate followers to look beyond their own interests and commit to organizational goals, allowing them to outperform expectations (Kuhnert & Lewis, 1987). They make employees aware of and believe in the organization's vision, and they believe their work is meaningful and essential to the achievement of the organization's goals (Bass, 1985; Judge & Piccol, 2004; Ng, 2017; Rafferty & Griffin, 2004). Teams' groups with well-defined objectives are more likely to generate new goal-appropriate working methods because their efforts are focused and directed (Anderson & West, 1998). In this sense, visions must be broadly achievable to stimulate innovation. If the goal cannot be realized, it will be demotivating or so abstract that practical steps toward its realization cannot be realistically envisaged (Anderson & West, 1998).

2.2.1 The relationship between Transformational Leadership and Innovation Climate

Transformational leadership is a crucial antecedent of an innovative climate because it creates an environment that empowers its followers and offers adequate support for innovation (Jung et al., 2003). In this regard, given the transformational leaders' motivational and inspirational focus, associating transformational leadership to an innovative climate makes intuitive sense

(Bass, 1985; Muchiri et al., 2020). According to transformational leadership theory, leaders possess the required essentials that are instrumental in creating an innovative work environment and inspiring their followers by motivating them to learn and develop new ways of doing things (Jaiswal & Dhar, 2015). In this regard, the six components of transformational leadership (Podsakoff et al., 1990) favourably influence subordinates' interpretations of the work environment by building on employees perceptions of a supportive, innovative climate (Jung et al., 2003). For example, an articulated vision shapes their followers' innovative behaviours by motivating and inspiring them to find meaning and purpose in their work (Tipu et al., 2012). Moreover, by inspiring them to challenge the status quo and encouraging them to take risks and advocate innovation (Judge & Piccol, 2004). Similarly, through intellectual stimulation, the leader offers required cognitive inputs to subordinates in order for them to produce new ideas and encourages them to test those ideas in order to find better answers to current problems (Bass et al., 2003).

While empirically, research has found that transformational leadership is positively related to innovation climate (Jaiswal & Dhar, 2015), while also play a key role in encouraging employees to engage in innovative work behaviour (Afsar et al., 2014; Muchiri et al., 2020; Scott & Bruce, 1994a). According to research in a Chinese IT firm, transformational leadership boosted employee creativity and innovation (Zhang & Bartol, 2010). While in a similar study in a research and development (R&D) found that transformational leadership influenced followers' creativity in an R&D setting (Eisenbeiß & Boerner, 2013). These findings suggest that leaders must encourage and inspire followers to develop innovative ideas to encourage employee innovation, making creativity a crucial precondition for innovation (Chaubey et al., 2019). An articulated vision, for example, is frequently emphasized as critical to employee innovation performance. When leaders define such a vision around innovation, it motivates people to develop and implement new ideas (Sehgal et al., 2021). However, some studies have found negative impacts between transformational leadership and employee innovation (Basu & Green, 1997). These antecedents bring the first hypothesis:

H1: *Articulated Vision has a direct and positive effect on Innovation Climate.*

2.3 Leader-Member Exchange (LMX)

Even though Leader-Member Exchange (LMX) was founded on role theory, it has been developed widely on the social exchange theory, focusing on the dyadic relationship between supervisors (leaders) and employees (followers) (Liao et al., 2010). The core concept of LMX theory is that leaders vary how they treat their followers through various exchanges (Dansereau et al., 1975). Instead, leaders built different types of connections with their followers (Liden & Graen, 1980), resulting in different quality relationships with each of their followers. LMX theory claims that high-quality interpersonal relationships between supervisor and follower are critical for positive outcomes at an individual level for leaders, followers, work groups and even to an organizational performance level (Graen & Uhl-Bien, 1995; Liden & Maslyn, 1998).

According to Liden and Maslyn (1998), leader-member relationships are characterized by (1) *affect, (2) contribution, (3) loyalty,* and *(4) professional respect*. (1) *Affect* refers to the interpersonal relationships that connect members of dyads, whereas (2) *contribution* refers to the implicit and explicit effort put in by the dyad's leaders and followers. (3) *Loyalty* refers to the followers' dedication and public commitment to the leader's vision and ideals. In contrast, (4) *professional respect* refers to the degree of respect shown by members of the dyad to one another.

Essentially, high-LMX interactions are distinguished not only by reciprocal exchange, which leads to the increased practical attachment between leaders and followers (Ferris et al., 2009), but also by respect, honesty, conscientious followers, and mutually fulfilled commitments between leaders and followers (Graen & Uhl-Bien, 1995). Subordinates benefit from their leaders' trust, autonomy, favourable job assignments, and access to their leaders for support (Graen & Uhl-Bien, 1995). In low-quality LMX relationships, on the other hand, leaders practice formal authority, and followers receive standard and ordinary organizational benefits (Graen & Uhl-Bien, 1995). An economic exchange based on explicitly agreed-upon, immediate, and balanced reciprocation of physical assets, such as pay-for-performance employment contracts, distinguishes these relationships (Blau, 1964).

According to meta-analysis research, there are overall positive relationships between LMX and task and citizenship performance and negative effects with counterproductive performance (Martin et al., 2016). However, Liden et al. (2006) discovered that low-quality LMX

relationships are more positively related to individual performance than high-quality LMX relationships by studying the effects of within-group variability in LMX quality on individual and group performance.

A crucial feature of LMX theory is the emphasis on dyadic linkages. LMX is a dynamic role-playing process in which leaders and followers make offers and provide inducements that shift the de facto relationship away from a contractually specified one (Cogliser et al., 2009). If the offer is accepted and the result is satisfactory, the process continues, resulting in long-term, high-quality connections (Sparrowe & Liden, 1997). When offers are not made or accepted by a dyad member, the chance to strengthen this relationship is reduced. The development of LMX is dependent on both parties agreeing to enhanced social exchange; the highest levels of LMX occur when both parties work hard to improve the relationship (Maslyn & Uhl-Bien, 2001). If neither the leader nor the follower provides incentives for increasing social interaction and both view the relationship in economic terms, behaviours are defined by formal job roles. When both parties regard the connection in this way, it is less probable that favourable results will emerge for followers (Graen & Uhl-Bien, 1995). On the other hand, positive outcomes were associated when both parties viewed the relationship in terms of mutual, beneficial, and social exchange (Sparrowe & Liden, 1997).

2.3.1 The relation between Transformational Leadership and LMX

According to Burns (1978), the underlying differences between leadership styles may be traced back to certain behaviours and qualities. As a result, he identified two opposed and mutually conflicting approaches to leadership: transformational leadership and transactional leadership (Burns, 1978). On the one side, transformational leadership can alter employees' attitudes and values, influencing their aspirations. In this way, a transformational leader becomes a virtuous model who aspires to benefit the team (Burns, 1978). On the other hand, transactional leadership does not appear to be capable of causing a cultural transformation in the firm since it is typically founded in the maintenance of the status quo (Burns, 1978). Indeed, transactional leaders are primarily concerned about outcomes and how people execute their tasks, and they maintain influence over them through the conventional system of reward and punishment.

In this regard, LMX is theoretically represented as an exchange process, giving the impression that it is a transactional leadership model, despite being rarely analyzed in this way. In-group members are not told what is expected of them in exchange for the benefits of a high-quality

trade. Since leaders do not place precise demands on followers in the form of increased effort in exchange for these incentives, the relationship may be described as transformational (Krishnan, 2005). In this manner, Gerstner and Day (1997) argued that transformational leadership is conceptually similar to the process of developing a unique exchange relationship, which is at the heart of LMX theory. At the same time, Graen & Uhl-Bien (1995) argue that LMX is both transactional and transformational depending on the leader's approach. Its dyadic social exchange process, which begins with relatively limited social transactions, results in transformational leadership for those who can build the most effective LMX connections. While in further studies, LMX is positively related to transformational leadership (Deluga, 1992; Krishnan, 2005). Transformational leaders develop organizational contexts that enable high-quality leader-member relationships due to their articulated vision. This articulated vision can foster a mutual leader-follower professional respect, loyalty, understanding, mutual trust, and support in high-quality LMX (Graen & Uhl-Bien, 1995), thus likely influencing LMX. Therefore, it is proposed on hypothesis 2 to understand better the relation between an articulated vision and LMX:

> ***H2a:*** *Articulated Vision has a direct and positive effect on LMX from the leader's perspective.*
>
> ***H2b:*** *Articulated Vision has a direct and positive effect on LMX from the follower's perspective.*

2.3.2 The relation between Leader-Member Exchange and Innovation Climate

Leader-Member Exchange (LMX) theory has solid theoretical foundations about the relationship between LMX and innovative behaviours (Atwater & Carmeli, 2009; Schermuly et al., 2013). Even LMX is a mediator between transformational leadership and innovative behaviours (Ng, 2017).

The precise mediating processes between LMX and the innovation climate are unknown. However, in two independent studies, LMX and innovative climate were found to have some relationship, which became much more substantial when charisma was added to the equation (Basu & Green, 1997; Scott & Bruce, 1994a). Moreover, subordinates who worked well with their superiors also supported innovation (Scott & Bruce, 1994). These theories differ in their explanations of how LMX leads to performance and thus to innovative results. The current

study provides a much-needed opportunity to examine some underlying mechanisms explaining how LMX influences innovation by investigating LMX as a mediator of Transformational Leadership and Innovative Climate. As a result, the following hypotheses are stated:

> ***H3a****: LMX from the leader perspective has a direct and positive effect on Innovative Climate.*
>
> ***H3b****: LMX from the follower perspective has a direct and positive effect on Innovative Climate.*

Furthermore, the rater between leaders and followers has also been identified as a potential moderator. Cogliser et al. (2009) found that compared to LMX relationships high-rated from leader's and follower's perspective, low-rated paired LMX relationships were associated with lower levels of follower job performance, organizational commitment, and job satisfaction. In comparison, incongruent pairings produced intermediate levels of follower results. Furthermore, a meta-analysis by Martin et al. (2016) found that the correlation between LMX and all performance measures was weaker when LMX was measured by the follower than the leader. In another meta-analytic study, Gerstner and Day (1997) looked into the problem of leader-member congruence, reporting a mean sample-weighted correlation of .29, considering 24 different samples with usable effects (with a total sample size of 3,460 dyads). Moreover, further studies found that the perception of a leader's organizational support attenuated the relation between LMX and followers' job performance, resulting in a relationship that was only positive when supervisors had high LMX (Erdogan & Enders, 2007). As a result, the following hypotheses are stated:

> ***H4a:*** *Articulated Vision has an indirect and positive effect on Innovative Climate, mediated by LMX from the leader perspective.*
>
> ***H4b:*** *Articulated Vision has an indirect and positive effect on Innovative Climate, mediated by LMX from the follower perspective.*
>
> ***H4c:*** *There will be disparities in the indirect effects of Articulated Vision on Innovative Climate due to different leader-follower perceptions, with leaders' perception having a more substantial effect than the followers' one.*

3. Methodology

Throughout this section, the methodology used in this research will be described. Section 3.1 will describe the organization where the survey was performed. This context analysis will serve as the basis for the analysis—explaining why it appears to be the right setting for this study based on the presentation of its specific strategy, core values, leadership development, and focus on innovation. Following that, the study's research design will be discussed in section 3.2 to outline the approaches and strategies used in the research. Next, sections 3.3 and 3.4 will describe the data collection techniques and measures, respectively. Furthermore, in section 3.5, issues regarding data analysis will be elaborated. Furthermore, in section 3.6, the research design's quality, focusing on reliability and validity issues.

3.1 Organizational Context

In order to acquire a deeper understanding of the leadership and innovative climate of the organization, this description will develop on the firm's background while also leadership and innovative approaches. First, a description of the company's background will be provided, focusing on its mission and core values, the most important driving forces for employee development. Following that, a description of the firm's leadership and innovation context will be provided. The following data is based on publicly available press releases, articles and annual reports.

The primary aim of this research was to investigate the link between leadership drivers that encourage employees to engage in innovative behaviours and performance in the workplace. This company has been undergoing significant leadership programs to foster new ways to innovate and improve its overall performance, thereby creating an ideal environment for research into such dynamics.

3.1.1 Background

Although the company's origins trace to 1816 as a fire mutual, it was formed in 1976 due to a strategic alliance by the region's two most prominent insurance providers. Over the previous few decades, the company has been expanding and diversifying its product offering to include all types of insurance for retail customers, agricultural, and businesses, obtaining a 25% market share in the Norwegian insurance sector. It also provides retail banking, pensions, and savings

products. The firm strikes a balance between customer orientation and efficient operations based on an analytical approach to ensure long-term value creation. In this regard, their business model is founded on critical success factors such as their strong brand, technology, and infrastructure, along with relevant expertise and organizational culture.

From a strategic standpoint, the firm is focused on efficiency in the short term, development in the medium term, and long-term value creation. This strategy is based on the development of core values throughout the organization based on; *(1) promoting a psychological safety environment*, which means leaving room for error, creating spaces for trust and openness, and listening to, seeing, and supporting one another; *(2) enhancing innovative behaviours*, which entails being inquisitive and willing to do things better, no matter how small; and finally, (3) *demonstrating determination* and courage to face the future. These core values clearly show their ongoing efforts to develop quality customer experiences and stimulate innovation and willingness to take action.

3.1.2 Leadership & Innovation Development

For more than 200 years, the organization has demonstrated a willingness and ability to change. In their own words, to thrive in the future, diversity, inclusion, and trust must support enhanced flexibility and the ability to respond to changes even faster than before. This goal involves managers who can strike a balance between efficient operations and smooth innovation and the capacity to attract, develop, and retain necessary skills at all times and maintain a flat organizational structure and quick decision-making processes.

Leadership and organizational development are critical for attracting and retaining skilled employees. Every year, they make significant efforts to highlight their company as an attractive employer, using digital channels and activities at relevant educational institutions. In their efforts to increase innovation, the company has established an interdisciplinary innovation council to strengthen its innovation culture and a dedicated innovation lab at the headquarters. Furthermore, in order to maintain a high international level of product and customer service at all times, they have formed key strategic collaborations with several research institutions on innovation in areas relating to the processing of large data volumes (big data), such as risk pricing, forecast and trend analyses, and insurance fraud.

3.2 Research Design

Due to the abundant literature on leadership and innovation and its antecedents, this study aims to investigate a specific research model that entails the relationship between articulated vision and innovative climate, mediated by LMX. Articulated vision, considered the independent variable, and innovative climate, considered the dependent variable, while mediated by the leader-member exchange theory. As a result, the current study has an explanatory purpose, employs a deductive approach, and investigates the research question using quantitative cross-sectional survey data.

Explanatory research is preferred when the starting point already has deep layers of prior knowledge on the issues being studied to build on rich existing knowledge to generate an accurate profile of the characters or constructions (Saunders et al., 2019). The goal is to put theory-based assumptions to the test; therefore, the explanatory purpose is appropriate. Furthermore, when it comes to theory creation, a deductive method is taken, which involves evaluating theories with facts (Saunders et al., 2019). Since theories in transformational leadership, leadership-member exchange (LMX), and innovative climate will be the foundation for the research, the research approach will be deductive. As a result, the qualitative data analysis will evaluate the hypotheses based on a review of the literature (Saunders et al., 2019). Before testing the hypothesis, a research model was developed based on the current theoretical assumptions.

The research was performed using quantitative data collected through a survey to describe the relationships between the various responses (Saunders et al., 2019). A survey is commonly considered to be simple to comprehend and explain. This strategy facilitates the collection of a large amount of data cost-effectively. Because the data is standardized, it also allows for easy comparison of the responses provided by individuals in the sample. In this regard, considering a large set of survey data allows for benchmarking of findings from the sample, as long as the sample size is large enough to draw generalizable conclusions for the entire population (Saunders et al., 2019). However, it is unlikely to obtain highly sensitive and comprehensive data because it is standardized. The limited number of questions makes it difficult to dig deeper into the problems at stake (Saunders et al., 2016). In any case, this method is appropriate and highly recommended for an explanatory deductive approach, especially given their ability to take a snapshot of the phenomenon and the relationship between factors given the cross-sectional approach (Saunders et al., 2019).

3.3 Data Collection

3.3.1 Preparation of the Survey

Several steps were followed during the survey's preparation to ensure the best possible outcome. Firstly, the existing literature and studies were examined to apply some of the methodologies and questions developed by other researchers to similar studies. Much of the questionnaire is based on constructs developed by other authors and validated scales. This method makes comparing the results of different studies much easier and more efficient (Saunders et al., 2019). Section 3.4 will go over this in greater depth. Minor adjustments were made, however, in order to improve the final survey's accuracy. Simultaneously, to avoid common method bias, the wording of some questions was reversed from the original source (Podsakoff et al., 2003a)

Respondents at multiple levels in their organizations were asked to rate different items during the survey: those in leadership were asked to rate their subordinates and the organization as a whole, while those in the middle and lower levels were asked to rate the perceptions about themselves, their team, their supervisor, and the whole organization. A strategy like this makes data collection more robust and compelling by reducing potential standard method bias (Podsakoff et al., 2003). Since the company operates in Norway, the survey was translated from its original English constructs to the Norwegian language to be prepared and delivered to respondents. The various questionaries were then back-translated to English separately and eventually benchmarked among themselves, intending to preserve the primary substance (Brislin, 1970)

3.3.2 Distribution of the Survey

All company employees were invited to participate in this study using their work emails. These emails explained the purpose of the survey, which methods would be used to collect data, what type of data would be collected, how the data would be elaborated, and how the results would be used. This information was provided to participants to raise awareness of the benefits and consequences of their participation in the research, complying with the Norwegian Center for Research Data. This email also included a personal link to the survey. It was emphasized that the survey would be kept anonymous in order to reassure employees that the information will not be used against them and, as a result, to encourage them to respond accurately and honestly (Saunders et al., 2019).

3.3.3 Sampling process

A sampling procedure was unnecessary for the current study's objective and research question (Doane et al., 2020; Saunders et al., 2019). Hence, the survey was distributed to 424 employees and 71 supervisors, making the entire population of the data collection 495 individuals. However, 288 employees decided to complete the survey, making the response rate 58%, considering 66 teams: 66 supervisors (leaders) and 222 employees (followers). The sample considers four hierarchy levels in the organization, then some supervisors also answered as team members in a higher hierarchy. After thoroughly evaluating them, it was determined that 251 of the collected questionnaires were valid. However, only the responses with both an employee and a supervisory rating were considered. Meaning that the employee's responses would not be considered if its supervisor chose not to complete the questionnaire. With this strong constraint, the sample retained a total of 80 matched leader-follower valid responses: 27 leaders and 80 followers.

Table 1: Profile of respondents: Followers and Leaders.

	Followers		Leaders	
Variables	N	%	N	%
Gender				
Male	48	60%	18	67%
Female	31	39%	9	33%
Other	1	1%	0	0%
Age				
18-30	8	10%	0	0%
31-40	16	20%	2	7%
41-50	22	28%	11	41%
51-60	25	31%	13	48%
61-70	9	11%	1	4%
Tenure				
5 years and below	24	30%	5	19%
6-10 years	18	23%	5	19%
11-15 years	13	16%	4	15%
16-20 years	7	9%	6	22%
More than 20 years	18	23%	7	26%
Education Level				
High School	19	24%	2	7%
Bachelor	28	35%	9	33%
Master	32	40%	16	59%
PhD	1	1%	0	0%
Total	**80**		**27**	

Notes: N = Number of respondents

As shown in Table 1, the majority of the respondents were male for both followers (n=48, 60%) and leaders (n=18, 67%) and were in the age range of 51-60 for both followers (n=25, 31%) and leaders (n=13, 48%). In contrast, most followers' tenure was less than five years (n=24, 30%), whereas for leaders was more than 20 years (n=7, 26%). The majority of both followers (n=32, 40%) and leaders (n=16, 59%) held a master's degree.

3.4 Measures

Each variable, its items, and its reliability will be presented in detail in the following section. Each of the three variables proposed by the research question, namely Articulated Vision, Leader-Member Exchange, and Innovative Climate, were evaluated for internal consistency using Cronbach's Alpha, the most commonly used for these purposes (Saunders et al., 2019).

The items in the survey questionnaire were evaluated using a seven-point Likert scale (from 1 = Strongly Disagree to 7 = Strongly Agree) in this study. The items representing and measuring each of the three latent variables in this study are shown in **Appendix A** for followers and **Appendix B** for leaders.

3.4.1 Articulated Vision (IC)

Employees (Followers) rated the perceived articulated vision from their supervisors (Leaders) in items such as: demonstrating a clear understanding of where the team is going, seeking new opportunities for the organization, inspiration to follow their plans, among others. The five items were adapted from Podsakof et al. (1990). The Cronbach's alpha coefficient for this variable was 0.93, indicating that the items had a satisfactory level of internal consistency reliability.

3.4.2 Leader-Member Exchange (LMX)

Employees (followers) rated their relationship with their supervisor based on factors such as; satisfaction with the work done, understanding of the employee's challenges and problems, support from superiors, whereas supervisors (leaders) rated the relationship with each of their subordinates in the same items. These eight items were adapted from Graen and Uhl-Bien (1995). The Cronbach's alpha coefficient for this variable was 0.89 for followers and 0.88 for leaders, indicating that the items had a satisfactory level of internal consistency reliability.

3.4.3 Innovative Climate (IC)

Employees (followers) rated their perception of innovative climate in their respective teams based on continuous development, openness and responsiveness to change, and cooperation in applying new ideas. These eight items were adapted from Anderson and West (1998). The Cronbach's alpha coefficient for this variable was 0.93, indicating that the items had a satisfactory level of internal consistency reliability.

3.4.4 Control Variables

Throughout the current investigation, three control factors were explored as control variables because they could confound the results. Individual differences among followers include age (in years), gender (masculine, feminine, or other), and tenure in the organization (expressed in months). These were chosen as controls because the traits of followers are projected to influence the interaction between supervisor and subordinate, hence influencing the LMX developmental process (Dienesch & Liden, 1986). Tenure in the organization has also been proven to influence work performance and innovative behaviours (Tsui et al., 1997) and self-other rating agreement (Atwater & Carmeli, 2009).

3.5 Data Analysis

Prior to testing the stated hypotheses of this study, preliminary data analysis and data preparation was performed using IBM SPSS Statistics 28.0 software. First, Cronbach Alpha coefficients were calculated to ensure that all measurements were internally consistent. Second, to confirm the scale's dimensionality, a Principal Factor Analysis (PFA) was used to examine all three latent variable measurement models. Third, since the data was assembled at the individual level, it had to be aggregated to the team level. Finally, hierarchical lineal models were used to test the model and the proposed hypotheses, along with using the PROCESS, an SPSS macro developed by Hayes (2013), to measure the model's mediation effect.

3.5.1 Data Preparation

First, to put the proposed model to the test, multiple regression analyses were run in the statistical program SPSS. Since multiple regressions are based on many assumptions, the data used in this research needed to be examined to determine if it met those criteria to ensure that the method used was appropriate. Moreover, the assumptions of normally distributed errors, linearity, multicollinearity, homoscedasticity, and autocorrelation, were scrutinized, as well as looking for outliers (Molina-Azorín et al., 2019).

Second, before further analyses, the data were examined for potential outliers. Outliers are values that deviate significantly from other observations and might potentially cause statistical problems (Molina-Azorín et al., 2019; Saunders et al., 2019). The removal of observations with missing values was required for the current study regarding the Johnson-Neyman technique and indexes relating to justifying data aggregation. The Mahalanobis distance, Leverage values, and Cook's distribution were used to identify them. It was able to identify only a few outliers in this manner. Following regressions were done, considering and excluding them from seeing if they significantly influenced the model. In the end, no significant difference between the two scenarios was discovered. As a result, even when some teams only had one person, none of these observations were removed. They had no significant impact on the results and avoided future erroneous manipulations of the observations.

3.5.2 Cronbach's Alpha

Cronbach's Alpha is the most commonly used index for internal consistency since it quantifies the internal reliability of the items that comprise a construct (Saunders et al., 2019). It measures the degree to which the item responses correlate (Bonett & Wright, 2015; Mitchell, 1996). Even though Cronbach's Alpha can range from 0 to 1, only values greater than 0.7 ensure that the aggregated questions measure the same construct (Nunnally & Bernstein, 1994). In any case, the higher the Cronbach's Alpha value, the greater the measure's internal consistency. As a result, it was also determined whether removing some items would improve the Cronbach's Alpha index, which was not the case for any of the constructs.

3.5.3 Factor Analysis

Even when conducting quantitative studies, using Cronbach's Alpha is almost mandatory; this is not an indicator of unidimensionality (Nunnally & Bernstein, 1994). In order to establish unidimensionality, it was conducted an exploratory factor analysis performed through the Principal Component Analysis (PCA) utilizing the VARIMAX rotation on SPSS.

Firstly, it is recommended to run Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) measure of sample adequacy to determine whether the data are suitable for factor analysis. When Bartlett's sphericity test is significant ($p < .05$) and the KMO index is higher than 0.6, proceeding with factor analysis is considered suitable (Denis, 2018)

It is critical to analyze their Eigenvalues to determine the number of elements included in the subsequent assessment. The model must include all factors with an Eigenvalue greater than 1. The cumulative proportion of variation extracted by the components can also determine the number of factors. The factors should explain at least 80% of the variance in the model (Denis, 2018).

The identified factors were subjected to a VARIMAX rotation. As a result, each original variable was associated with a specific component, and each component represented only a small number of item variables. It was able to identify the number of factors included in the study and establish the relationship between these factors in subsequent analysis in this manner.

3.5.4 Regression Analysis

In order to test the proposed model and hypotheses, different linear regression analyses were conducted using SPSS and model 4 in PROCESS, an SPSS-macro developed by Hayes (2013), to test the mediation model and proposed hypotheses. Regression analysis is considered the most accurate method for testing the relationships between independent and dependent variables in the context of this model (Denis, 2018; Doane et al., 2020; Hayes, 2013). Furthermore, this analysis allows for the detection of significant effects between input and output and the strength of the effect generated on the dependent variable by various independent variables.

In order to test the proposed hypothesis, the multiple regression model consists of the following equation:

(1) $$IC_i = \beta_0 + \beta_1 AV_i + \beta_2 LMX_i + +\beta_3 Age_i + \beta_4 Gender_i + \beta_5 Tenure_i + u_i$$

Equation 1 predicts the effect of the independent variable, Articulated Vision (AV), on the dependent variable, Innovative Climate (IC), mediated the perceptions of Leader-Member Exchange; from the Leader (SLMX) or Follower (LMX), depending on each model. While β_0 is the constant; β_1 and β_2 are the coefficients for independent variables; β_3, β_4, β_5, are the coefficients for the control variables: Age, Gender, Tenure; and finally, u_i represents the random error term.

3.6 Validity & Reliability

Reliability and validity are key concepts to consider when evaluating research quality. In this regard, the following section will elaborate on the main steps taken to ensure the study's validity and reliability.

3.6.1 Validity

Validity refers to the relevance of the research, considering whether the findings are consistent with what is measured. A valid survey will provide accurate data that measures the concepts to be collected (Saunders et al., 2019). In this regard, both the internal and external validity of a survey must be assessed to determine its validity. Internal validity refers to whether a study's measures accurately measure what they were designed to measure. In contrast, external validity refers to whether the study's research findings are generalizable to other relevant groups of settings (Saunders et al., 2019).

Internal Validity

Factor analysis in SPSS was used to assess construct validity, which is the amount to which the question set assesses the presence of the concept it is meant to evaluate (Saunders et al., 2019). The Confirmatory Factor Analysis (CFA) revealed how representative the survey's questions are and the potential successful implementation of the words employed in the study. The recommended threshold of 0.5 was followed, indicating strong convergent validity. Furthermore, three of the measures, Articulated Vision, LMX, and Innovative Climate were derived from existing literature and empirically validated.

On the other hand, confounding variables are a regular danger to internal validity. These effects are difficult to quantify and see, but they can invalidate conclusions about the relationship and causation between the independent and dependent variables (Saunders et al., 2019). However, earlier studies had previously shown these relationships, and the problem was avoided by taking into account control variables such as team size and gender.

External Validity

The current study gathered data from employees in a single organization, making it impossible to generalize the empirical findings to a wider variety of firms. However, given the significant response rate of around 58% (Saunders et al., 2019), the results are representative of equivalent businesses in the Norwegian insurance market.

3.6.2 Reliability

The extent to which data collection methodologies will deliver consistent results, in terms of replicability and consistency of a study, is referred to as reliability (Saunders et al., 2019). In this sense, the research's internal and external reliability must be assessed to establish its consistency. Internal reliability attempts to achieve high consistency concerning a specific research topic. In contrast, external reliability concerns the procedures employed for data collection and analysis and whether other individuals might repeat them and provide consistent findings (Saunders et al., 2019).

Internal Reliability

Cronbach's Alphas values for the constructs were consistently considerably above the required level of 0.70 (Nunnally & Bernstein, 1994), confirming the constructs' high reliability. In addition, the questionnaires for the survey were drawn from existing literature, which already tested their reliability in practice. It was thus possible to ensure internal reliability during data collection by considering various feasible perspectives.

External Reliability

Given the standardization and transparency of the measures, the questionnaires for the survey were drawn from existing literature, resulting in high external reliability. Furthermore, because the questions were translated into the respondents' native language (Norwegian), the overall accuracy of the answers was improved.

However, the research has some limitations that are typical of its type. First, there is the risk of participant bias, which occurs when respondents tailor their responses to what they believe to be the correct option rather than answering honestly (Saunders et al., 2019). This risk was mitigated by making the survey utterly anonymous so that no one could track down their responses and stating that only the researchers would have access to the data. Second, there is the risk of participant error. The process influences respondents because they are aware that they are being evaluated (Saunders et al., 2019). In this regard, participants received the same information in their working emails: a message with instructions and a link to the survey, demonstrating a standard process for the whole organization.

4. Results

4.1 Descriptive Statistics

The results presented in Table 2 show the descriptive statistics (means and standard deviation) and correlations among the various factors included in the current study. The factors included are Leader-Member Exchange from the follower (LMX) and leader perspective (SLMX), Articulated Vision (AV), Innovation Climate (IC), and control variables (Age, Gender, Tenure) for Followers and Leaders, respectively.

Table 2: Descriptive Statistics and Correlations for Followers and Leaders.

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10
Followers												
1. Age (F)	47.1	10.8	1									
2. Gender (F)	0.4	0.5	-.01	1								
3. Tenure (F)	139.8	119.8	.57**	.13	1							
4. Articulated Vision	5.1	1.3	-.12	.08	-.13	1						
5. LMX - Follower	4.0	0.7	-.14	.09	-.12	.74**	1					
6. Innovative Climate	4.7	1.2	-.06	.05	-.09	.51**	.48**	1				
Leaders												
7. Age (L)	52.0	5.7	.09	-.07	.01	.05	.15	.04	1			
8. Gender (L)	0.3	0.5	-.09	-.07	-.19	.28*	.26*	.22	.08	1		
9. Tenure (L)	191.9	127.0	.08	.15	.26*	.00	.17	-.05	.52**	.10	1	
10. SLMX – Leader	4.4	0.6	.17	.19	.22*	.24*	.44**	-.01	-.11	-.02	.11	1

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 2, the mean for Articulated Vision was 5.1, with a relevantly high standard deviation of 1.3. In contrast, the means for LMX and SLMX were 4.0 and 4.4, respectively, with a low standard deviation (0.7 and 0.6, respectively). Given the same 7-liker scale, it is possible to conclude that the follower perception of articulated vision is stronger than the relationship leader-member perception, but with a greater variety of responses due to the higher standard deviation of the results. Furthermore, the leader's perceptions of LMX (mean = 4.4, sd = 0.6) are more substantial than the follower's (mean = 4.0, sd = 0.7), indicating an incongruence in their perceptions of their relationships.

Furthermore, Table 2 denotes some interesting correlations between the variables of followers and leaders. Significant ($p \leq .01$) and positive correlations exist between followers' Age and Tenure (.57), Articulated Vision and follower-LMX (.72), and Innovative Climate with Articulated Vision (.51) and follower-LMX (.48). On the leader side, there are significant ($p \leq .01$) and positive correlations between leaders' Age and Tenure (.52) and Articulated Vision and leader-SLMX (.44), but also less significant positive correlations ($p \leq .05$) between the leader-Gender with Articulated Vision (.28) and follower-LMX (.26), follower-Tenure and leader-Tenure (.26), and leader-SLMX with follower-Tenure (.22) and Articulated Vision (.24). Unfortunately, there is no significant correlation between leader-SLMX and Innovative Climate.

4.2 Construct Reliability

Table 3 shows the Cronbach's Alpha coefficients for Articulated Vision, Leader-Member Exchange, and Innovative Climate constructs. All the measures demonstrate high internal consistency since each measure has a Cronbach Alpha more significant than 0.7 (Nunnally & Bernstein, 1994). This analysis demonstrates that each response correlates highly with others, explaining the same construct (Bonett & Wright, 2015; Mitchell, 1996). As expected, none of the items in each construct had to be deleted, following the findings of Podsakof et al. (1990), Graen & Uhl-Bien (1995), and Anderson & West (1998).

Table 3: Cronbach's Alphas

	Cronbach's Alpha (number of items)	
Variables	Followers	Leaders
Leader-Member Exchange	.89 (7)	.88 (7)
Articulated Vision	.93 (5)	-
Innovation Climate	.93 (8)	-

4.3 Factor Analysis

Factor analysis was performed on the 20 items from the three observable constructs: Articulated Vision (5 items), Leader-Member Exchange (7 items), and Innovative Climate (8 items). First, preliminary tests must be carried out: the Kaiser-Meyer-Olkin index (KMO) and Bartlett's Sphericity test. In this case, the KMO index revealed a value of 0.912, which is greater than the threshold value of 0.6 (Denis, 2018), while Bartlett's Sphericity test indicated that the results were significant ($p < 0.001$). These preliminary findings suggested that the factor analysis could be performed.

Table 4: Factor Analysis Results

	Initial Eigenvalues			**Extraction Sums of Squared Loadings**		
Component	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	9.80	49.02	49.02	9.80	49.02	49.02
2	2.91	14.54	63.56	2.91	14.54	63.56
3	1.27	6.34	69.91	1.27	6.34	69.91
4	0.88	4.38	74.29			
5	0.73	3.67	77.96			
6	0.64	3.18	81.13			
7	0.56	2.80	83.94			
8	0.50	2.52	86.45			
9	0.45	2.24	88.70			
10	0.37	1.85	90.54			
11	0.33	1.64	92.18			
12	0.28	1.39	93.57			
13	0.24	1.20	94.77			
14	0.22	1.11	95.88			
15	0.20	0.99	96.87			
16	0.15	0.76	97.63			
17	0.15	0.73	98.36			
18	0.13	0.64	99.00			
19	0.12	0.60	99.60			
20	0.08	0.40	100.00			

Extraction Method: Principal Component Analysis.

According to the factor analysis results shown in Table 4, three components within the considered data, which correspond to the characteristics of the investigated variables, account for more than 69.91 percent of the total variance.

Then, as shown in Table 5, through the exploration of the relative VARIMAX rotated matrix, it can be noticed that the items precisely refer to their constructs without overlapping on other dimensions. This analysis demonstrates that each of the three variables is unidimensional to their component. The first three components have Eigenvalues greater than one. These findings support the hypothesis that the sample contains three components, and they are compatible with the features of the variables employed in the study. Furthermore, because the

three components account for 69.91 percent of the total variance, it is acceptable to believe that they are unidimensional. Similarly, as shown in Table 5, the VARIMAX rotated matrix supports the interpretation that the items do not overlap with any other concepts because all variables have values less than 0.40. As a result of the factor analysis, the assumptions that there are only three components in the study and that these components each measure one variable are confirmed, approving the continuation of this research.

Table 5: VARIMAX Rotated Component Matrix

		Component		
Item		1	2	3
AV1	Has a clear understanding of where we are going.			0.60
AV2	It paints an interesting picture of the future for our group.			0.75
AV3	Is always seeking new opportunities for the organization.			0.85
AV4	Inspires others with his/her plans for the future.			0.85
AV5	Is able to get others committed to his/her dream.			0.78
LMX1	Do you usually know how satisfied your leader is with what you do?		0.64	
LMX2	How well does your leader understand your job problems and needs?		0.79	
LMX3	How well does your leader recognize your potential?		0.81	
LMX4	Regardless of how much formal authority he/she has built into his/her position, what are the chances that your leader would use his/her power to help you solve problems in your work?		0.69	
LMX5	Again, regardless of the amount of formal authority your leader has, what are the chances that he/she would bail you out, at his/her expense?		0.67	
LMX6	I have enough confidence in my leader that I would defend and justify his/her decision if he/she were not present to do so?		0.65	
LMX7	How would you characterize your working relationship with your leader?		0.71	
IC1	This team is always moving toward the development of new answers.	0.76		
IC2	Assistance in developing new ideas is readily available.	0.74		
IC3	This team is open and responsive to change.	0.84		
IC4	People in this team are always searching for fresh, new ways of looking at problems.	0.87		
IC5	In this team we take the time needed to develop new ideas.	0.57		
IC6	People in the team cooperate in order to help develop and apply new ideas.	0.87		
IC7	Members of the team provide and share resources to help in the application of new ideas.	0.81		
IC8	Team members provide practical support for new ideas and their application.	0.84		

Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

4.4 Regression Analysis

To test the research hypotheses, hierarchical linear regressions were used to forecast the independent and dependent variables' varied effects. This type of model is excellent for evaluating quantitative data since it allows for testing correlations between independent and dependent variables (Hayes, 2013). Furthermore, the SPSS-macro PROCESS model 4 was utilized with a 95% confidence interval and 1000 iterations to examine the significance of the indirect effect of the mediation of both models, which yielded the same results.

Table 6: Results of hierarchical regression analysis on Leader-Member Exchange from Follower (LMX) and Leader (SLMX) perspectives.

	LMX - Leader (SLMX)		**LMX - Follower (LMX)**	
Variables	Model 1 β	Model 2 β	Model 1 β	Model 2 β
Constant	3.99***	3.33***	4.26***	2.24***
Control variables				
Gender	.17	.14	.10	.03
Age	.08	.09	-.10	-.07
Tenure	.16	.19	-.07	.02
Independent variables				
Articulated Vision (AV)		.26*		.73***
R^2	**.08**	**.15**	**.03**	**.55**
ΔR^2	.08	.07	.03	.52
F	**2.20**	**3.20***	**.80**	**22.44*****
ΔF	2.20	5.80	.80	84.73

*** ≤ .001, ** ≤ .01, * ≤ .05

Standardized betas are presented.

As shown in Table 6, the direct effect of articulated vision was positive and significant on LMX-leader (β = 0.26, p < 0.05; Model 2) and LMX-follower (β = 0.73, p < 0.001; Model 2) and, supporting hypotheses H2a and H2b. The effect of control variables yielded no significant results (p < 0.05) in any of the models.

Table 7: Results of hierarchical regression analysis on Innovative Climate.

	Innovative Climate (IC)			
	Model 1	Model 2	Model 3	Model 4
Variables	β	β	β	β
Constant	4.77***	2.24**	3.38**	1.49
Control variables				
Gender (F)	.06	.01	.03	.01
Age (F)	.01	.02	.04	.04
Tenure (F)	-.09	-.04	-.01	-.04
Independent variables				
Articulated Vision (AV)		.51***	.55***	.35*
Mediators				
LMX - Leader (SLMX)			-.15	
LMX - Follower (LMX)				.22
R^2	**.01**	**.26**	**.28**	**.24**
ΔR^2	.01	.25	.02	.02
F	**.27**	**6.71*** **	**5.80*** **	**5.99*** **
ΔF	.27	25.73	1.87	2.23

*** ≤ .001, ** ≤ .01, * ≤ .05

Standardized betas are presented.

As shown in Table 7, the direct effect of articulated vision upon innovative climate was positive and significant (β = 0.51, p < 0.001; Model 2). These findings suggest that hypothesis H1 was supported. Furthermore, the direct effect of LMX-Leader was negative and non-significant (β = -0.26, p > 0.05; Model 3), refuting hypothesis H3a. The direct effect of LMX-Follower, on the other side, was positive but non-significant (β = 0.22, p > 0.05; Model 4), not supporting hypothesis H3b. In any of the models, the effect of control variables yielded no significant results (p > 0.05).

Table 8 provides evidence for refuting the mediation effect of LMX in both followers' and leaders' perspectives on the relation Articulated Vision on Innovative Climate. Even when the indirect effects are positive for LMX-Follower, it is not significant since the respective confidence interval include the zero value (Effect = .1576; Lower 95% C.I. = -.0621; Upper 95% C.I. = .3947) (Baron & Kenny, 1986; Denis, 2018; Hayes, 2013). Furthermore, as the mediation effect for both models was non-significant, it is impossible to compare the effects of each perspective. As a result, these claims refute hypotheses H4a, H4b and H4c.

Table 8: Summary of the models' total, direct and indirect effects.

Structural relationships			Leaders (N = 32)	Followers (N = 80)	Difference of Standardized Effects (L-F)
Direct effect of X on Y					
H1	AV to IC	**Effect**	**.4629*** **	**.3206***	**0.14**
		Lower 95% C.I.	.288	.0647	
		Upper 95% C.I.	.6378	.5765	
Indirect effects of X on Y					
H2	AV to LMX	**Effect**	**.2377***	**.7350*** **	**-0.50**
		Lower 95% C.I.	.0086	.2947	
		Upper 95% C.I.	.2089	.4495	
H3	LMX to IC	**Effect**	**-.1344**	**.2144**	**-0.35**
		Lower 95% C.I.	-.657	-.1229	
		Upper 95% C.I.	.1263	.8881	
H4	AV to LMX to IC	**Effect**	**-.0319**	**.1576**	**-0.19**
		Lower 95% C.I.	-.1055	-.0621	
		Upper 95% C.I.	.0114	.3947	
Total effect X on Y		**Effect**	**.4629*** **	**.4629*** **	**0.00**
		Lower 95% C.I.	.288	.288	
		Upper 95% C.I.	.6378	.6378	

*** ≤ .001, ** ≤ .01, * ≤ .05
Standardized betas are presented.

5. Discussion

5.1 Summary of Findings

The ultimate goal of this study was to gain a better understanding of how transformational leadership and leader-member exchange influence the innovative climate. Furthermore, the overarching goal of this study was to demonstrate that inspiring employees with shared visions and goals and a solid congruent relationship between employees and supervisors lead to more innovative workplace environments. With this goal in mind, this study investigated two models; first, a leader-perception model that examines the relationships between Articulated Vision (AV), Leader-Member Exchange (LMX), and Innovative Climate (IC) using data on LMX from the leaders' perception. While second, a follower-perception model examines the same three constructs using LMX estimates from the followers. Estimating two independent models allows one to stack the models and test for statistical differences between all the associated parameters (hypotheses) on both models.

The study's findings indicate that these expectations are only partially confirmed, as only four out of nine hypotheses were confirmed. Regarding the first hypothesis, this study discovered that articulated vision has a significant and positive relationship with innovative climate in both leader and follower perception models. Similarly, in line with the second hypotheses, this research reveals that articulated vision has a significant and positive relationship with LMX in both the leader- and follower-perception models. In this regard, as shown in Table 8, the effect magnitude of articulated vision on LMX from the follower's perspective was stronger and more significant (effect =.735, $p < .001$) than from the leader's LMX perspective (effect =.2377, $p < .05$). This difference shows that when articulating a vision of shared goals, the follower's perspective on LMX is more critical to be considered. However, none of the models found significant results to demonstrate the third hypotheses, that LMX has a relationship with the innovative climate. Similarly, none of the models show enough significance to demonstrate an indirect mediation effect between articulated vision and innovative climate across the LMX perceptions of leaders and followers, so the fourth hypotheses were also rejected.

5.2 Implications for Theory

The findings developed on this research reveal several significant theoretical contributions to the current understanding of innovative climate, transformational leadership and LMX theory. First and foremost, this research found a positive and significant relationship between articulated vision and innovative climate. These results follow the insights from previous literature that linked articulated vision to the ability to inspire people to take risks and challenge the status quo (Judge & Piccol, 2004; Tipu et al., 2012). While also following empirical studies that linked transformational leadership to employee creativity and innovation (Chaubey et al., 2019; Eisenbeiß & Boerner, 2013). Indeed, transformational leaders can inspire their followers to go beyond what has been done (Chaubey et al., 2019) and trigger specific values in employees' brainpower, ultimately leading to the development of new and beneficial operations (Bass, 1985). In conclusion, the transformational leadership factor: articulating a vision can significantly predict an innovative climate in the workplace.

Second, this research found that articulated vision positively affects followers' and leaders' self-rated LMX. In general, the latter has been considered in terms of its dimension because transformational leadership is conceptually similar to the process of developing a unique exchange relationship, which is central to LMX theory (Gerstner & Day, 1997). A well-articulated vision creates organizational contexts that allow for high-quality leader-member relationships, fostering mutual leader-follower professional respect, loyalty, understanding, mutual trust, and support (Graen & Uhl-Bien, 1995). LMX has been found to positively relate to transformational leadership in additional empirical studies (Deluga, 1992; Krishnan, 2005). As a result, an articulated vision approach in leadership can strengthen and consolidate followers' relationships with their leaders, implying that articulated vision can be defined as an essential antecedent of LMX.

Third, this study contended that the leader-member exchange relationship positively impacted an innovative climate. Unfortunately, the results were not significant to demonstrate this claim. Prior research demonstrated the relationship between LMX and innovative behaviours in this sense (Atwater & Carmeli, 2009; Schermuly et al., 2013), even as a mediator (Ng, 2017). However, no research has been done previously to link these two constructs. Furthermore, subordinates who had a positive relationship with their superiors supported innovation (Scott & Bruce, 1994). This result contradicted my expectations and the majority of the literature on LMX, which found that LMX was positively related to various performance outcomes,

including innovative behaviours (Cogliser et al., 2009; Martin et al., 2016; Sparrowe & Liden, 1997).

Fourth, LMX has been used as a mediator in similar approaches (Ng, 2017; Atwater & Carmeli, 2009; Basu & Green, 1997; Schermuly et al., 2013; Scott & Bruce, 1994); however, no prior literature examined this specific relation. Therefore, this statement was directly outlined from the previous reasoning. The current study contributes to the existing literature on innovative climate by utilizing various models and methodologies to measure the relationship of variables that have never been studied before. The investigated mediation model has not yet been considered; therefore, this research better understands the mechanism by which transformational leaders can influence and foster an innovative climate in the workplace. Indeed, Cogliser et al. (2009) proposed future research to examine the interactive effects of LMX on organizational culture. Prior literature has studied the LMX mediation effects on transformational leadership and innovative behaviours (Ng, 2017). While also LMX has been acknowledged as one of the more intriguing and valuable approaches for examining theorized relations between leadership processes and outcomes (Gerstner & Day, 1997). Unfortunately, this study does not demonstrate LMX mediation by either the leader or follower perspectives towards an innovative climate.

Finally, few studies have been found that focus on the congruence of LMX in the perspectives of leaders and followers and its effects on organizational outcomes—as a result, comparing the leader and follower perspectives as the mediation variable may represent an additional potential theoretical contribution to the theory. Furthermore, as previously examined by scholars, these findings indicate a contrast in the relationship of LMX on innovation, depending on which perspective is examined (Basu & Green, 1997; Scott & Bruce, 1994a). As a result of the deriving outcomes, the current LMX theory grows due to new insights, supporting the claims of Cogliser et al. (2009) regarding the need for further analysis on the LMX congruence to produce truly confident and significant results.

5.3 Implications for Practice

The findings of transformational leadership, LMX and innovative climate have significant practical consequences for every organization. As stated in the introduction, one of the primary sources to improve organizational performance and thrive the operation of the business is innovation (de Jong & den Hartog, 2010), and nurturing an innovative climate plays a vital role in this respect. It has been widely demonstrated that enhancing an organization's environment to support employees' creativity and ability to create can boost innovative behaviours (de Jong & den Hartog, 2010).

Businesses are looking for new ways to boost their innovativeness to produce new products and services. In this regard, the current study provided valuable insights into how businesses can foster innovative climates in their workplaces. These research results suggest that an articulated vision is crucial for developing an innovative climate. For instance, a leader who articulates a compelling vision for the future, emphasizes a collective sense of mission, inspires their team to a common goal, and goes beyond self-interest for the organization's good, for example, is likely to improve the organization's innovative climate.

On the other hand, this study’s results suggest that transformational leaders’ effectiveness significantly impacts their relationships with subordinates. Moreover, a leader who spends time coaching to develop their strengths and stands out for their subordinates is likely to influence their followers to perceive to a higher degree their leadership skills. Encouraging transformational leadership's articulated vision and strengthening relationships between leaders and subordinates are key antecedents for an innovative climate in the workplace. Companies must implement actions on an organizational level to promote transformational leadership among managers and strengthen the relationship between managers and their teams as a key strategy to foster an innovative organization.

These strategies must be transversal in the organization, considering these traits across the different stages of professional development: from early recruitment processes to senior managers through training and development. In this regard, organizations must address a continuous-learning approach in leadership skills. These skills can be addressed in an integral approach, considering the leader-subordinate relationship as a cornerstone for the development of teams. While also creating spaces to share the firm’s best leadership practices among their managers.

5.4 Limitations of the Study

The current study included several limitations that could be addressed in future research. First and foremost, even when the amount of the data was appropriate for statistical analysis, the sample was much decreased from the original sample due to dyad match limits. A more considerable number of participants or organizations would increase the significance of the results. Furthermore, the data collection was limited to a single organization in a single industry, implying a common organizational culture and similar backgrounds, indicating a latent risk of homogeneity. Indeed, as previously stated, the current analysis has constrained context influences its findings and conclusions, reducing the chance of generalizing the results to diverse industries. Similarly, the Norwegian culture is characterized by low power distance and high individualism (Hofstede, 2011), influencing how leaders engage with their teams. Despite concerns about common sources, I believe the implications of the findings are intriguing and warrant more investigation.

Second, another potential limitation is that the leader perspective of LMX (SLMX) measure assesses the supervisor's viewpoint of the relationship with each follower, rather than asking leaders to measure what each subordinate delivers in terms of LMX. While Graen and Uhl-Bien (1995) advocated for the use of the SLMX measure in this study, other academics argue that asking leaders to rate subordinate contributions better captures the nature of the leader-follower exchange (Coglisere et al., 2009) and may also introduce biases such as social desirability (Maslyn & Uhl-Bien, 2001). Future research could evaluate agreement using alternative measurement perspectives to see whether other ways provide more robust or weaker evidence for the ideas investigated in this study.

Finally, since this research was cross-sectional, the discussion was limited to relationships between variables rather than addressing causal implications. Furthermore, there may be effects that a longitudinal design might capture differently. While these limits must be acknowledged, I believe there is value in investigating these correlations as a first step toward understanding the role that transformational leadership and LMX balance play in analyzing the effects on innovative climate.

5.5 Future Research

Possible future study directions can be given based on the primary rationale. Firstly, future research might study the interactive impacts of LMX congruence on several organizational culture dimensions by following the recommendations of Cogliser et al. (2009). Furthermore, a study on the various LMX matches between leaders and followers could lead to a deeper understanding of how the LMX perspective affects the mediation or moderation of a specific model. LMX theory has been identified as one of the more intriguing and relevant mediation methodologies for investigating theoretical relationships between leadership processes and outcomes (Gerstner & Day, 1997). However, little research has been conducted using this approach. Besides, future researchers could further investigate the treated relationships by employing various mediators or moderators to understand better the different drivers that foster an innovative climate in the workplace, such as Job Satisfaction, Commitment, or Team Trust.

Furthermore, given the limitations of this study, future research could focus on improving the research sample by sampling across multiple industries and geographical locations, which could lead to a variety of outcomes, particularly in the case of the LMX nature, which is heavily based on cultural traits (Rockstuhl et al., 2012). Also, given the cross-sectional design of this study, it would be interesting to consider a longitudinal study to avoid interference from daily disputes or appraisals that affect the LMX relationship in the short term and consider a long-term LMX relationship.

6. Conclusion

This research has improved understanding while also revealing some of the complexities in investigating the effects of transformational leadership on organizations. The ultimate goal of this thesis was to thoroughly investigate the impact that transformational leadership can have on an innovative climate. Overall, the findings of this study show that transformational leaders are an essential input for fostering innovative workplace climates, with articulating vision being a significant predictor of innovative workplace climates. Leaders who articulate a compelling vision for the future can inspire their followers to go above and beyond what has already been done, thereby improving the organization's innovative climate.

On the other hand, a well-articulated vision fosters organizational contexts that enable the development of high-quality relationships between leaders and subordinates, which can foster mutual respect, understanding, and support. A leadership approach based on articulated vision can strengthen and consolidate subordinate relationships with their leaders, implying that articulated vision can be defined as a necessary prerequisite for leader-member exchange. Overall, this study expanded the existing literature on innovative climates by demonstrating that a well-articulated vision can positively influence them. Furthermore, the resulting implications for practice may be helpful for modern firms seeking to foster innovation.

Appendix A: Follower Questionnaire

Table A: Latent variables and their respective measurement items for followers.

Latent Variables	**Measurement Items**
Articulated Vision	1. My leader has a clear understanding of where we are going.
	2. My leader paints an interesting picture of the future for our group.
	3. My leader is always seeking new opportunities for the organization.
	4. My leader inspires others with his/her plans for the future.
	5. My leader is able to get others committed to his/her dream.
Leader-Member Exchange	1. Do you know where you stand in relation to your leader?
	2. How well does your supervisor understand your job problems and needs?
	3. How well does your supervisor recognize your potential?
	4. Regardless of how much formal authority your supervisor has built into his/her position, what are the chances that your supervisor would use his/her power to help you solve problems at your own work?
	5. Again, regardless of your supervisor's formal authority, what are the chances that he/she will bail you out at his/her own expense?
	6. I have enough confidence in my supervisor that I would defend and justify his/her decision, even if he/she was not present?
	7. How would you characterize your working relationship with your supervisor?
Innovation Climate	1. This team is always moving toward the development of new answers.
	2. Assistance in developing new ideas is readily available.
	3. This team is open and responsive to change.
	4. People in this team are always searching for fresh, new ways of looking at problems.
	5. In this team we take the time needed to develop new ideas.
	6. People in the team co-operate in order to help develop and apply new ideas.
	7. Members of the team provide and share resources to help in the application of new ideas.
	8. Team members provide practical support for new ideas and their application.

Appendix B: Leader Questionnaire

Table B. Latent variables and their respective measurement items for leaders.

Latent Variables	**Measurement Items**
Leader-Member Exchange	1. Do you know where you stand in relation to your leader?
	2. How well does your supervisor understand your job problems and needs?
	3. How well does your supervisor recognize your potential?
	4. Regardless of how much formal authority your supervisor has built into his/her position, what are the chances that your supervisor would use his/her power to help you solve problems at your own work?
	5. Again, regardless of your supervisor's formal authority, what are the chances that he/she will bail you out at his/her own expense?
	6. I have enough confidence in my supervisor that I would defend and justify his/her decision, even if he/she was not present?
	7. How would you characterize your working relationship with your supervisor?

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