Leader-Member Exchange (LMX) in Virtual Teams: Insights on Team Dynamics and Organizational Commitment

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Abstract

Leaders support followers' competency growth. High leader-member exchange (LMX) quality ensures high trust, respect, and loyalty in leader-member relationships. Moreover, followers are assigned more interesting and challenging tasks with additional support and benefits. The need for effective leadership is recognized by the desire to collaborate in this technologically advanced global setting. Leader-member exchange (LMX) is essential for comprehending and improving team dynamics and organizational commitment in virtual workspaces. Beyond conventional encounters, LMX emphasizes the value of effective virtual communication. This study systematically reviews scholarly articles to investigate how LMX influences the dynamics of a virtual team as well as the organizational commitment of the team. Journal articles were synthesized systematically to examine the team dynamics and organizational commitment in the context of LMX within the virtual work context. LMX theory and virtual workplace have been defined, and scholarly articles have been analyzed to determine how LMX influences the employees' group dynamics and organizational commitment in a virtual work setting. This study explored the fact that high LMX stimulates group dynamics and enhances organizational commitment. Strong LMX positively impacts the virtual work environment, where leaders must play the roles of team task management and development. Key themes, such as trust and communication channels, are suggested to provide insights into enhancing LMX in virtual teams and its impact on team dynamics and organizational commitment.

Keywords

Leader-Member Exchange, Team Dynamics, Commitment, Virtual Workplace, Technology

1. Introduction

As the landscape of the modern work environment continues to change, research has shown that individuals working in dispersed teams use digital communications to increase efficiency and organizational effectiveness (Darics & Gatti, 2019; Hill et al., 2014; Wong & Berntzen, 2019). Additionally, after the COVID-19 pandemic, the use of virtual interaction dramatically increased (Bell & Kozlowski, 2002; Johnson et al., 2009; Wilson et al., 2006). Virtual interaction in a team brings numerous benefits, saving time, energy (Maruping & Agarwal, 2004), and money (De Croon et al., 2005), enabling work from home (Bell & Kozlowski, 2002; Brodsky, 2021). However, team virtuality has some negative consequences, like hampering the effective exchange of knowledge and information within the team (Alge et al., 2003; Klitmøller & Lauring, 2013), which can be minimized by team LMX quality (Bernerth & Hirschfeld, 2016; Boies & Howell, 2006; Kim et al., 2022). Traditional notions of leadership and interpersonal dynamics are being challenged as the use and implementation of virtual platforms to conduct business routinely becomes more common (Liao, 2017). Leader-member exchange theory (LMX) can help to understand better the relationships between leaders and their members within burgeoning virtual workplace settings. Moreover, Leader-member exchange (LMX) relationships could replace the bonds among team members (Gajendran & Joshi, 2012; Wang & Hollenbeck, 2019). Understanding how to optimally apply the concepts of LMX in the virtual workplace is essential for leaders and organizations to ensure the effectiveness of their virtual teams and achieve strategic objectives in an increasingly dispersed work setting.

As the use of digital interfaces to foster collaboration across the virtual workforce continues to rise, exploring the application of LMX theory in these virtual workspaces becomes increasingly important. This literature study attempts to investigate the application of LMX theory in virtual situations and the consequences of this leadership strategy for team dynamics and organizational commitment. By examining and assessing previous research, this study aims to better understand the obstacles and potential for establishing high-quality leader-member exchanges for teams in virtual work situations. As technology transforms work, a thorough grasp of LMX in virtual workplaces becomes critical for increasing engagement, motivation, and collaboration among distant team members. This study will provide valuable insight regarding leadership and virtual team management for practitioners.

2. Purpose of the Study

This study aims to synthesize the role of Leader-Member Exchange (LMX) in virtual teams on team dynamics and organizational commitment. It will analyze the current research regarding the impact of LMX on team dynamics and organizational commitment in virtual work settings. To identify important themes, obstacles, and best practices for leader-employee relationships in the face of physical

distance, this literature review summarizes the present research on LMX in virtual workplaces. This study attempts to offer insights that can assist firms in improving team cohesiveness and leadership effectiveness in virtual work environments by examining how LMX affects communication, trust, and employee commitment. The results will also add to the larger conversation on modifying leadership techniques to the changing nature of work in the digital era.

3. Methods

This study adopts a systematic approach to gather and analyze existing scholarly articles on the impact of Leader-Member Exchange in the virtual workplace. Available academic databases such as Google Scholar, EBSCOhost, and The University of Mississippi Libraries were searched using keywords including "LMX," "leader-member exchange," "team dynamics," "commitment," "virtual workplace," and "technology," and Boolean operators AND, OR, NOT which is commonly used in comprehensive literature review were utilized to refine search results. Specific combinations such as "LMX and virtual teams", "LMX and team dynamics", and "LMX and commitment" have been used. The inclusion criteria for this paper are to focus on leader-member exchange and/or virtual work settings, be published in peer-reviewed journals, be available in English, and be published between 2015 and 2025. Exclusion criteria are that the articles did not focus on LMX or virtual workplace contexts; they were conference abstracts, dissertations, or book chapters; they were not available in English, and were published before 2015. Articles were selected by screening the titles and abstracts. After that, the evaluation of the complete text has been done. Selected scholarly articles were assessed using a thematic method, and topics about the impact of LMX in the virtual workplace were found. Two independent researchers reviewed the selected articles, coded and categorized the data. Disagreements and discrepancies in article selection were handled through discussion and consultation with another researcher. The findings were then combined to provide a full overview and examined to uncover patterns and trends in research. The researchers discussed key themes, implications for theory and practice, and potential limitations of the reviewed studies.

4. Leader-Member Exchange

Leader-member exchange theory (LMX) investigates the dyadic relationships between leaders and their followers, stressing the quality of individual interactions (Martin et al., 2016). According to LMX, leaders build varying quality relationships with individual members of their team. Through engaging in different exchanges, leaders differentiate how they treat each team member (Einola & Alverson, 2021; Martin et al., 2018). According to Northouse (2022), within an LMX relationship, members are placed into two categories: in-group and out-group. In-group members enjoy a high-quality relationship with the leader, receive more

information and influence, and are typically afforded greater autonomy and trust to perform their duties. Conversely, out-group members typically have low-quality relationships with the leader and are afforded less trust, autonomy, and responsibility. In-group members are characterized as going above and beyond their organizational responsibilities. They are viewed as more dependable, while members of the out-group are characterized as doing the minimum required for their role and seldom performing work outside their regular duties. Leaders restrictively provide standard benefits to employees when LMX is low (Graen & Uhl-Bien, 1995). On the other hand, high LMX ensures mutual trust, respect, and loyalty among leader-members (Liden & Maslyn, 1998; Bernerth & Hirschfeld, 2016; Henderson et al., 2009), which makes employees work devotedly for their leader, investing time and energy (Breevaart et al., 2015; Cogliser et al., 2009). Hahn and Semrau (2023) stated that employees feel valued with a high-quality LMX. Leaders can play a crucial role in increasing team participation in the learning process in virtual work settings by healing their deteriorating relationships.

5. Virtual Team

A virtual team is a group of knowledge workers spread out by locations, not permanent but organizationally connected through information and communication technology (Powell et al., 2004). Virtual teams do not necessarily require any organizational affiliation like traditional teams; they are created with an expectation to enable organizations to be more employee-oriented (Townsend et al., 1998). Liao (2017) defines a virtual team as a functioning organizational group comprising individuals who work on tasks with varying degrees of interdependence and mutual accountability to accomplish a common goal while being geographically dispersed and relying on technology to connect and communicate with peer team members. With the advent of new technologies, teams are no longer bound by geographical constraints, which has led to a rise in remote work environments (Darics & Gatti, 2019). Team virtuality allows team members to connect through computer-mediated communication without in-person interaction (Bell & Kozlowski, 2002; Johnson et al., 2009; Wilson et al., 2006). Virtual team members face challenges unique to their local work environment. Virtual leader behaviors directed at individual levels are paramount in shaping employee cognitive, affective, and motivational states and contributing to individual effectiveness (Jackowska & Lauring, 2021; Liao, 2017). Leaders try to build relationships with their followers through virtual work settings. Höddinghaus et al. (2023) noted that leadership will likely become even more significant in virtual work environments due to growing decentralized work patterns, continuing technological advancements, and external pressures like climate change that call for fewer in-person meetings and reduced travel times. Virtual settings increase followers' need for coordination, goal setting, and clear role assignments. However, at the same time, feelings of isolation, disconnectedness, and lack of socio-emotional cues seem to increase

followers' relational-oriented needs.

6. LMX and Team Dynamics

Leader-member exchange emphasizes the quality of the relationship between a leader and individual team members (Einola & Alvesson, 2021; Martin et al., 2018). According to Wang et al. (2024), high LMX directly and quickly influences team members' attitudes and allows them to distribute information and resources across the team quickly. Building high-quality LMX with resource-nuclei leaders can gain useful insights and feedback regarding the team. In the virtual workplace, where face-to-face interactions are limited, LMX can profoundly impact team dynamics as leaders must work intentionally to develop high-quality relationships with individual team members without the benefit of face-to-face interactions. Trust is critical in virtual teams, and high-quality LMX interactions create trust among leaders and team members, resulting in open communication channels (Yang & Lin, 2023). When team members trust their leader and are comfortable voicing issues or ideas, teamwork and problem-solving improve. Furthermore, positive LMX connections can boost team motivation and engagement (Einola & Alvesson, 2021). Individuals who feel respected and encouraged by their leader are more likely to be devoted to the team's goals and perform well, even in a virtual context with less monitoring.

LMX can also affect team cohesion by influencing how team members interact with each other. Strong LMX relationships make team members more likely to collaborate effectively, share information, and support each other, leading to a cohesive team dynamic (Newman & Ford, 2021). This cohesion is essential for virtual teams to overcome the challenges of physical distance and work efficiently together.

Cultivating high-quality LMX in virtual teams significantly enhances team dynamics and organizational commitment. Eubanks et al. (2016) mentioned leadership as a commonly recognized significant factor in team effectiveness. They added that team task management and development are the two fundamental roles leadership in virtual teams must play. Using Leader-Member Exchange (LMX) concepts in a virtual work environment necessitates using technology and techniques to maintain the interactions between team members and leaders. Cakula & Pratt (2021) pointed out some digital communication tools facilitating the transfer and perception of information to managers, including written text, video, shared screen, audio, voice sharing, text sharing, voting/polling functions, and text messages (chat). They also suggested conducting surveys and regular communication with employees to observe the level of motivation and satisfaction of the company's employees. Leaders must apply those technological supports appropriately to operate in a virtual workplace. A virtual workforce with people dispersed geographically across borders is connected through technology to operate on business projects. Although it is crucial to maintain employee engagement to improve performance, the dynamics of a virtual work environment differ significantly from those

of a traditional workplace. Managers or team leaders must create employee engagement strategies that are practically implementable and powerful enough to boost team performance (Majumder & Kunte, 2022). According to Wang et al. (2024), sometimes, leaders cannot develop high-LMX with all team members due to resource limitations. Then, the members who are out of these relationships feel unfairly treated, which can result in adverse teamwork and interpersonal interactions. Leaders are advised to develop relationships strategically and purposefully with team members to avoid the issue. To build trustworthy relationships in virtual teams, leaders should ensure organizational support for employees at first (Ford et al., 2017). Jansson and Kangas (2025) stated that both LMX relationships and the feedback environment are dyadic conceptions that emphasize the disparity between leaders and subordinates in their attempts to sustain communication and engagement in remote work. In the context of remote employment, leaders are more accountable. However, the subordinates must take the initiative; feedback interactions could help them develop their LMX connection more actively.

7. LMX and Organizational Commitment

Organizational commitment is the degree to which an employee identifies with a specific organization and its goals and wishes to maintain the relationship with that organization. If workers are sufficiently committed, they will make sacrifices even if they are not delighted with their work (Robbins & Judge, 2017). Hirnawati and Pradana (2023) discussed three aspects of organizational commitment: affective commitment, continuance, and normative commitment. They mentioned that affective commitment is the most eligible one to work with LMX because it considers an employee's preference to remain in an organization due to factors such as good salary, better supervisors, position, and status. They explored that LMX significantly and favorably impacts organizational commitment. Higher organizational commitment is one of the benefits of the company's high-quality LMX. Moreover, a strong correlation exists between organizational commitment and labor-management exchange quality, confirming that the supervisor's relationship with the employees was established before their organizational commitment. They added LMX with virtual work moderates a positive impact on organizational commitment.

High-quality LMX fosters trust between leaders and team members, even in virtual settings (Yang & Lin, 2023). When employees feel supported, valued, and respected by their leaders, they are more likely to develop a sense of loyalty toward the organization. This loyalty stems from the belief that the organization cares about their well-being and professional growth (Yang & Lin, 2023). LMX influences how employees identify with the organization. When leaders establish positive relationships with their team members, they create a sense of belonging and attachment to the organization's values, goals, and culture. Virtual employees who feel connected to their leaders are more likely to align themselves with the organ-

ization's mission and vision. Positive LMX relationships encourage employees to engage in organizational citizenship behaviors such as helping colleagues, volunteering for additional tasks, and promoting the organization's interests (Darics & Gatti, 2019). Virtual employees who perceive their leaders positively are likelier to go above and beyond their formal job duties, contributing to the organization's success. Leaders must increase their relationships with followers to work towards organizational commitment in a virtual work setting. Liao (2017) identified trust as a significant element that can remove barriers to virtual team success. Face-to-face communication channels like videoconferencing and real-time web-based collaboration tools help virtual teams develop trust. Additionally, if leaders establish clear standards and objectives, engage in frequent social interactions, and enhance transparency, it will foster trust in virtual teams. Therefore, establishing trust can increase the effectiveness of the leader-member relationship, increasing the employees' organizational commitment. Varma et al. (2022) emphasized trust building to make a high-quality leader-member relationship at remote work, where employees will have greater alertness and adaptability with little adjustment to their personal commitments for work-related reasons. They added that the behaviors of subordinates will serve to uphold the commitment, respect, and likeability that characterizes successful long-term partnerships. However, working virtually may be less rewarding and fulfilling for subordinates with poor-quality LMX relationships since they might feel less autonomy and control over their job than members of the in-group do. The poor degree of trust engendered by the substandard LMX relationship negatively affects the member's willingness to commit to the organization and its goals. Moreover, low-quality LMX will undermine organizational commitment and work happiness, lowering output and performance levels. Oh et al. (2016) investigated how uniform leader-member exchange (ULMX) and differential leader-member exchange (DLMX) impact member participation in online collaborative work communities (OCWC). They found that environmental conditions greatly influence the success of leadership styles in OCWCs. Regardless of network size or structure, DLMX is more effective at maintaining commitment in high environmental unpredictability. They suggested that leaders flexibly adjust their governance approaches between DLMX and ULMX during an OCWC's life cycle to optimize member retention and performance benefits. Committed employees are willing to perform better towards organizational goals and increase team cohesion. LMX theory emphasizes the relationship between the leader and members, which can be applied to the virtual workplace to manage the team remotely.

8. Discussion

When conducting work within virtual environments, it is imperative that leaders understand their role in promoting effective work outcomes and are adequately prepared with the right skills to foster high-quality relationships with their members (Hill et al., 2014). Stephens (2016) found that personal connections must be

built, nurtured, and developed to enhance virtual team dynamics. Developing a personal relationship with team members is significant, and LMX rises when the leader comes across as reliable and friendly to others. Jansson and Kangas (2025) found that systematized communication between leaders and subordinates created the appearance of better communication while reinforcing the leader-member ties that always existed in the absence of physical presence. Moreover, a communication strategy that outlines the modes and frequency of communication could be developed through the leader-member dyads. When reviewing the relevant literature, themes of trust and open communication channels were identified as ways to build effective and productive relationships between leaders and members in virtual settings to enhance organizational commitment and cultivate a culture for positive team dynamics.

Trust

Without face-to-face interactions, leaders and their members need greater levels of trust to ensure organizational commitments are being met. Leaders must be able to rely on their members to work independently, absent traditional oversight, to achieve goals and meet expectations. Members must be able to demonstrate their ability to deliver the quality of work expected of them, which means leaders must set clear expectations and be able to articulate what constitutes acceptable deliverables regarding work performance and outputs. When members can demonstrate their capabilities effectively, leaders can feel confident in their members' abilities. Accountability on the part of the member builds trust within the LMX relationship and is demonstrable of the member's organizational commitment (Newman & Ford, 2021). Effective collaboration and information sharing have improved team dynamics among individuals working within virtual teams (Newman & Ford, 2021). Leaders should find ways to celebrate team members' professional and personal milestones to foster collaboration among virtual teams. Additionally, leaders should strive to find ways to remind the team of cultural values and beliefs celebrated within diverse teams to ensure that all members feel appreciated and valued.

Communication Channels

In virtual workplaces, clear and concise communication is imperative to build lasting, effective, high-quality relationships between leaders and members (Jackowska & Lauring, 2021; Newman & Ford, 2021). Open and honest communication fosters an environment of trust and reliability between team members and leaders. Video conferencing tools should be used when appropriate to build trust among team members in virtual settings to facilitate real-time interactions. The use of video conferencing tools can reduce the opportunities for miscommunication, which can occur through written and electronic communication, and allows team members and leaders to clarify any miscommunications in real time. When the use of video conferencing is not reasonable, such as when teams are dispersed across multiple time zones, teams should have a set of guidelines for effective communication, and these guidelines should be regularly enforced to assist in building

a culture of open communication.

9. Conclusion

Positive LMX is produced by leaders who actively interact with their team members, promote flexible communication, and recognize individual accomplishments. Autonomy and empowerment are also essential to LMX to prove that leaders have faith in their team members to make wise choices while working virtually, where different virtual platforms and collaboration tools enable a remote team to function unitedly. LMX is a resilient leadership approach that provides flexibility in handling virtual obstacles and acknowledging individual efforts to foster team cohesiveness and a sense of commitment and belonging among virtual teams. Organizations must encourage employees' proactive work habits and enhance the caliber of their relationships with one another (Huynh et al., 2019). However, remote work challenges traditional leader-member exchange (LMX) relationships due to the lack of face-to-face interactions and physical proximity, which can harm team cohesion, trust, and communication. Leaders must adapt their leadership techniques to the new remote work setting by leveraging communication technology to bridge the distance and promote meaningful interactions between leaders and remote team members (Sobral & Furtado, 2024). This study explored how high-quality LMX improves organizational commitment and team dynamics in virtual work settings. Focusing on the LMX concept in virtual teams, this study makes a significant and timely contribution to the development of the virtual work environment. This study explores how LMX functions where face-to-face interactions are nonexistent, in contrast to earlier LMX research, which has mostly concentrated on traditional teams. Moreover, the study offers fresh perspectives on how, in a virtual setting, LMX quality affects organizational commitment, communication styles, and team cohesion. Future research can focus on how high-quality LMX promotes employee engagement in the virtual workspace. Additionally, future research should focus on a qualitative approach to better understand the perceptions of members working within virtual workspaces.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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