Towards Malaysia MADANI: Do Leadership Styles Influence Innovative Work Behavior?
A Conceptual Framework for the Malaysian Public Sector

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Abstract: Transformational leadership, known for inspiring and motivating employees, has been positively linked to creativity and innovation, while ambidextrous leadership, which balances exploration and exploitation behaviors and supports both idea generation and implementation. This article provides a conceptual framework for the influence of transformational and ambidextrous leadership on innovative work behavior (IWB) among PTD officers as middle managers in Malaysian public service. The first proposition is transformational leadership positively influences innovative work behavior. The second proposition is ambidextrous leadership positively influences innovative work behavior. This model will be further tested using a quantitative research method, survey questionnaires and analyzed using SPSS and PLS-SEM. Accordingly, understanding of IWB in public sector settings is enhanced. The findings demonstrate the application of Social Cognitive Theory (SCT) and thus offer new theoretical insights and practical suggestions. Thus, this study highlights the importance of work behavior that drives innovation and positive values among employees in determining productivity and efficiency in the public sector, offering valuable insights for policymakers and practitioners.

Keywords: *Innovative work behavior, transformational leadership, ambidextrous leadership, middle managers, public service*

1. Introduction

In the context of rapid political, technological, and economic changes, innovation in the public sector is vital. The Organisation for Economic Co-operation and Development (OECD, 2017) emphasizes the role of public service employees as key drivers of innovation, highlighting the need to manage them as both facilitators and subjects of innovation. While innovation research in the public sector often spans individual, team, and organizational levels (Srirahayu et al., 2023; Ramadass et al., 2017), this study focuses on innovative work behavior at the individual level to gain deeper insights into how public service employees can drive innovation. Leadership is a critical predictor of innovative work behavior, with transformational leadership consistently linked to employee creativity (JPA, 2023; Grošelj et al., 2020; Awang et al., 2019). However, innovation's complexity requires diverse leadership behaviors, leading to recent interest in ambidextrous leadership as a relevant concept (Klonek et al., 2023; Rosing et al., 2011). The interplay between transformational and ambidextrous leadership on innovative work behavior among middle managers in public service explains why they are important assets to the organization.

Public sector organizations, operating within bureaucratic constraints, face immense pressure to innovate and address diverse societal challenges, including welfare, security, politics, economics, and environmental sustainability (MIGHT, 2020; Siregar et al., 2019) Which highlights the importance of continuous innovation. Innovation, defined as outcomes, processes, and mindsets, is crucial for maintaining a competitive edge, especially in unpredictable environments (Kahn, 2018). Public officials play a pivotal role in driving this innovation, and fostering an innovative culture among employees is essential for improving public sector effectiveness (Khaola & Musiiwa, 2021; Ramadass et al.,2017). Cultivating innovative, results-oriented culture among public service employees is the first step toward enhancing performance (Maqdliyan & Setiawan, 2023) and this is also highlighted by the OECD (OECD, 2017) about public sector effectiveness.

The case of the Malaysian public sector
Malaysia, in its pursuit of developed nation status, places significant emphasis on innovation capabilities as a global benchmark. Initiatives like the Eleventh and Twelfth Malaysia Plans (Kementerian Ekonomi, 2023), underscore the importance of reshaping public service to enhance efficiency, productivity, and innovation, ultimately aiming to propel Malaysia towards becoming a high-income, inclusive, and sustainable nation by 2030 (JPA, 2023; Ariffin et al., 2022). A robust leadership pipeline in the public sector is essential to navigate the complex challenges of contemporary governance, including transparency in policy-making, ethical conduct against corruption, and effective response to diverse socio-economic needs. The rapid pace of technological advancement and geopolitical uncertainties necessitate leaders who are not only value-driven but also transformational in their approach (MIGHT, 2020; WEF, 2017; Aziz et al.2015). Among critical factors for smooth collaboration between public sector agencies consists of transformational leadership, interdependence, creativity and innovation (JPA, 2023; Awang et al., 2019; Ramadass et al., 2017). In the recent introduction to MADANI's leadership (JPA, 2023), the 6 values of sustainability, prosperity, innovation and creativity, respect, trust and caring are aligned with the ability to engage in innovative work behavior (Sumual et al., 2023; Coun et al., 2021) and drive the successful transformation to reach organizational objectives (Ramakrishnan et al., 2024). By cultivating an environment that encourages transformational leadership and shared values, public sector organizations can enhance their ability to address pressing societal issues and achieve their organizational objectives, ultimately driving successful transformation in the public domain

However, despite these efforts, Malaysia's innovation performance, (which ranks 36th out of 132 countries) in the Global Innovation Index (GII) (WIPO, 2023) and recently in the process of developing the Malaysia Innovation Index (MOSTI, 2021) to improve the country's performance at the global level. Highlighting challenges in the nation's innovation capabilities. The Malaysian public sector also faces ongoing issues in service delivery, as evidenced by the increasing number of complaints recorded by the Public Complaints Bureau (PCB) from 2018 to 2022 (BPA, 2023; BPA, 2022). From 2018 to 2022, the Public Complaints Bureau (PCB) recorded 52,398 complaints, with the most common issues in 2022 being actions that did not meet complainants' requirements (9,086 cases), unsatisfactory service quality (1,443 cases), and failure of enforcement (1,600 cases). Other complaints included procedural non-compliance, delayed actions, lack of public amenities, unjust actions, and misconduct. The rising volume of complaints underscores the urgent need for the public sector to enhance its efficiency by fostering innovative behaviors among its employees (Liza Hashim, 2020).

These challenges underscore the need for a comprehensive investigation into Malaysia's public service innovation performance, focusing on enhancing innovative work behavior (IWB) among civil servants. Leadership plays a critical role (Ahmad et al; 2023) in this context, with transformational (Zahari et al., 2022) and ambidextrous leadership styles being particularly influential in shaping innovative behavior within public organizations (Coun et al., 2021). In this context, the public sector middle managers, especially those who served under the Administrative and Diplomatic Service or Perkhidmatan Tadbir dan Diplomatik (PTD) hold pivotal roles in driving innovation and achieving organizational objectives (Ramakrishnan et al., 2024; Ahmad et al., 2023; Mustafa et al., 2023).

Given Malaysia's ambition to become a high-income nation by 2030, the need to enhance innovation capabilities within the public sector is more pressing than ever. The challenges in service delivery, as evidenced by public delivery complaints (BPA, 2023) indicate that public sector employees must adopt innovative behaviors to meet the nation's development goals (Srirahayu et al., 2023). Leadership styles, particularly transformational and ambidextrous leadership, play a crucial role in cultivating an innovative climate that supports work behavior among PTD officers as public sector middle managers and future leaders.

Rationale of study
This study supports a systematic way of examining new areas such as work behavior as key factors of productivity and efficiency. The recognition of innovative work behavior (IWB) as a critical factor for enhancing organizational efficiency and competitiveness is gaining momentum, especially within the context of public service organizations. As mentioned, the success of these organizations heavily depends on their employees' ability to engage in IWB, despite the challenges posed by bureaucratic structures, budget constraints, and political issues (Afsar & Umrani, 2020; Hashim, 2021). In the Malaysian public sector, these challenges are

further compounded by the Global Innovation Index (GII), which underscores the urgent need for innovative approaches to improve service delivery and address public grievances (Singh & Hanafi, 2020). This study's background highlights the fragmented understanding of IWB, particularly in public organizations, making it difficult for these entities to foster a culture of innovation effectively (Bos-Nehles et al., 2017) to work behavior, other factors such as leadership styles could provide a deeper understanding of how these factors are related.

Therefore, this study seeks to bridge this gap by examining the relationship between transformational and ambidextrous leadership styles and their impact on the IWB of middle managers within the Malaysian public sector. Given the complex bureaucratic environment of the public sector, middle managers play a critical role in fostering innovation, yet their influence remains under-researched (Ancarani et al., 2021; Kempster & Gregory, 2017). Middle managers in the public sector here refer to PTD officers as middle managers due to their roles in policy design and implementation, management and government administration, and rigorous leadership assessments as part of leadership development (PPTD, 2022; INTAN, 2022). The findings of this study will contribute to a deeper understanding of how leadership styles can enhance the innovativeness among middle managers, ultimately improving service delivery and helping Malaysia achieve its national goals.

2. Literature Review

Innovative work behavior
Innovative Work Behavior (IWB) was first introduced by Farr and Ford (1990) to describe efforts by individuals to introduce new and valuable ideas, processes, and products in the workplace (Jose & Mampilly, 2016). De Jong & Den Hartog (2010) Further explain that IWB involves identifying problems and introducing beneficial ideas to create value, encompassing behaviors related to idea exploration, generation, support, and implementation (Janssen, 2000). Despite its frequent use in empirical research, there has been limited clarification of the concept itself. IWB generally refers to actions focused on generating, introducing, and/or applying novel and potentially advantageous ideas within an organization (AlEssa & Durugbo, 2021). IWB includes both extra-role and in-role behaviors, involving both radical and incremental innovation. While it shares similarities with workplace creativity and intrapreneurship, IWB is distinct in its singular focus on various forms of innovation (Sumual et al., 2023). Further research on the concepts of IWB will provide a better understanding of organizational innovation culture.

IWB is a complex process that requires generating ideas that are practical, proactive, and realistic (AlEssa & Durugbo, 2021). Its significance extends beyond organizational boundaries to impact national, global, and industrial levels, serving as a critical driver for companies to establish and sustain a competitive edge. In public sector organizations, innovation primarily targets process enhancement and service delivery improvement (de Vries, 2022; Masrek et al., 2017). Although innovation's importance is recognized in the public sector, there is a notable oversight in fostering innovative behavior among public sector employees (Vivona et al., 2022). This oversight is concerning, given the challenges public organizations face in maintaining effective citizen services and adapting to changes in public policy and priorities (Miao et al., 2018). Consequently, understanding and fostering IWB in the public sector is essential to improve service delivery and organizational efficiency.

The distinctions between IWB, creativity, and intrapreneurship are crucial for understanding their contributions to organizational innovation. Workplace creativity focuses on generating novel and useful ideas, primarily during the ideation phase, without necessarily considering their implementation. (Kremer et al., 2019) While creativity is a key component of IWB, IWB extends beyond idea creation to include their promotion and realization within the organization (Kassa, 2021). In contrast, intrapreneurship involves developing new ventures within an existing organization, characterized by entrepreneurial activities such as innovation, risk-taking, and proactive behavior (Khan et al., 2020). Unlike IWB, which can be part of everyday activities for all employees, intrapreneurship often involves specific roles or initiatives aimed at driving significant organizational change. Therefore, deeper investigations into the dimensions of intrapreneurship would explain values that are important to the organization.

However, public sector research on IWB has historically received less attention, despite its potential to enhance organizational efficiency and competitiveness (Bos-Nehles et al., 2017; Rafique et al., 2022). Studies have shown that factors such as leadership styles, organizational climate, and individual characteristics significantly

influence innovative behaviors, with transformational leadership being particularly effective in fostering innovation (Afsar & Umrani, 2020). In the Malaysian public sector, research has demonstrated that ethical leadership, organizational commitment, and self-efficacy significantly impact IWB (Hashim, 2021). Overall, promoting IWB in public service organizations is crucial for enhancing service delivery, improving efficiency, and better addressing public needs and challenges (Pham et al., 2024). Existing research on IWB has highlighted its importance in private organizations but has a huge potential for research in the public sector.

Transformational leadership and its relationship to Innovative Work Behavior
Transformational Leadership (TL) is a leadership style distinct from transactional leadership, focusing on inspiring employees toward a vision that surpasses their self-interests (Gao et al., 2020). Leaders who employ TL build strong relationships with their followers, which in turn fosters sustained organizational performance (Sobaih et al., 2022). This leadership style emphasizes aligning employees' aspirations with organizational goals, creating a shared vision, and nurturing a sense of belonging within the team (Al-Omari et al., 2019). Transformational leaders motivate their followers by providing inspiration, serving as role models, encouraging intellectual growth, and supporting the achievement of shared organizational visions (Suifan et al., 2018). As a result, TL has a profound impact on followers, promoting creativity, commitment, and the pursuit of significant initiatives within the organization (Bass & Riggio, 2006). TL development as both theory and style has provided a good context on leadership styles that are important for organizations.

TL boosts employee morale and aligns their efforts with organizational goals (Yusup & Maulani, 2023). By reducing resistance and encouraging positive behaviors, TL fosters confidence in employees' abilities to contribute to organizational success (Eroje et al., 2021). Furthermore, TL addresses fundamental psychological needs by promoting autonomy, competence, and interpersonal relationships in the workplace (Jensen & Bro, 2018). These factors create a conducive environment for innovation, enabling employees to focus on generating new ideas. Transformational leaders significantly influence organizational norms and values, thereby enhancing individual performance and encouraging innovative solutions (Li et al., 2019; Shafi et al., 2020). In essence, TL motivates employees by instilling a sense of purpose that transcends individual interests, creating a supportive environment that promotes organizational goals.

Transformational leaders also play a crucial role in cultivating a unique organizational culture that fosters IWB among employees (Nasirin & Asrinaa, 2020). They demonstrate problem-solving skills, motivational abilities, and effective performance evaluation, which are essential for nurturing IWB (Pradhan & Jena, 2019). As a result, empirical evidence consistently shows a positive correlation between TL and IWB (Li et al., 2019). Existing research has consistently demonstrated the positive impact of TL on employees' innovative behavior and overall organizational performance (Afsar et al., 2014; Thompson et al., 2021). Transformational leaders inspire creativity and innovation among employees, making TL one of the most effective leadership styles for fostering these behaviors (Thompson et al., 2021). Studies across various industries and cultural contexts have confirmed the significant relationship between TL and IWB, highlighting the crucial role of transformational leaders in creating environments that promote innovation (Abdul-Azeez et al., 2024; Li et al., 2019). These models can be further tested in public sector contexts.

Middle managers in the public sector
The research about middle managers started in the 1950s (Burns, 1957) and has evolved into middle-level experiences at work (Kim, 2005), the role of middle managers in the organization (Ancarani et al., 2020, Cooper et al., 2019; Kempster et al., 2017). In Malaysia, the role of PTD at the middle management level is important for organizational change and the development of future leaders (Ahmad et al; 2023; Samah, 2021) and their ability to innovate in their roles as think tanks to the government (Yusof, et al., 2016). While middle managers at large were perceived as vulnerable, ambiguous (2002) and received a lack of guidance from their superiors (Balogun and Johnson, 2005) recent studies have shown that this group becomes a significant asset to organizations (Cooper et al., 2019) and in the context of the public sector, middle managers as legitimacy expert and crucial during policy implementation as change agents (Ancarani et al., 2020). In common, this research highlights the importance of middle managers in hierarchical organizations because of their credibility, expertise, and the complex nature of being the middle.

However, the literature in this area remains scarce. The role and impact of middle managers need to be further explored (McGurk, 2009), to support the complexity of middle managers in the public sector. In Administrative and Diplomatic Service known as *Perkhidmatan Tadbir dan Diplomatik* (PTD), the majority of them are middle managers. In driving progress, the role of PTD includes public policy design and implementation, executive making decision-making, and advisory roles to the political masters (Ahmad et al; 2023; Samah, 2021). More research focusing on this particular group can assist in providing a better explanation of public service delivery and shift the negative mindset of PTD officers as the driver of productivity, creativity and innovation in realizing the country's aspiration towards an income high-income nation.

These studies suggest some gaps in understanding how these leadership styles influence innovation, particularly among middle managers who are key drivers of organizational change (De Jong & Hartog, 2007; Saeed et al., 2023). This paper can contribute to the existing body of knowledge by further exploring the relationship between TL and IWB, with a focus on middle managers in Malaysian public service organizations. Based on the arguments, the following proposition is formulated:
Proposition 1: Transformational leadership positively influences innovative work behavior

Ambidextrous leadership and its relationship to innovative work behavior
The concept of ambidextrous leadership (AL) for innovation, was introduced by (Rosing et al., 2011) was rooted in the broader theory of organizational ambidexterity. This theory emphasizes the importance of leaders' ability to switch between opening and closing behaviors to promote innovation effectively. Opening behaviors, such as encouraging experimentation and risk-taking, are essential for idea generation, while closing behaviors, such as enforcing rules and monitoring progress, are crucial for idea realization. Together, these opposing but complementary activities enable leaders to modulate employee actions, facilitating both exploration and exploitation within the organization (Gebert et al., 2010; Miron-spektor et al., 2011; Rosing et al., 2011). In this context, AL is defined as behaviors that promote positive organizational values.

Ambidextrous leadership challenges the notion that innovation-promoting and monitoring behaviors are distinct by asserting that high levels of both are necessary for fostering innovation. Leaders who exhibit strong closing behaviors are crucial in transforming creative ideas into tangible innovations, a process that cannot occur without equally strong opening behaviors. (Alghamdi, 2018; Slåtten et al., 2023). Studies by Zacher and Wilden, (2014) highlights the diminished impact on innovation when leaders emphasize one behavior over the other, underscoring the need for a balanced approach in leadership to maximize innovative outcomes. Despite the growing recognition of ambidextrous leadership in innovation literature, its application in public administration remains underexplored (Backhaus & Vogel, 2022; Franken et al., 2020). Although some recent studies have examined ambidextrous leadership in public organizations, these often focus on outcomes other than innovation. (Dinesh Babu et al., 2024). There is a need for further research to explore the relationship between AL and innovative work behavior (IWB) within the public sector, particularly in light of theoretical advancements in leadership and innovation (Akıncı et al., 2022). More studies on the process of innovation can illustrate leadership as a practice.

Existing research on ambidextrous leadership consistently demonstrates its positive impact on innovative performance across various organizational settings. Studies by Zacher and Rosing, (2015) and Wang et al., (2021) have shown that high levels of both opening and closing behaviors are associated with superior innovative outcomes, often surpassing those achieved through transformational leadership alone. Furthermore, research in public sector contexts, such as Kousina and Voudouris (2023), confirms the significant influence of ambidextrous leadership on employee innovation, particularly when psychological ownership acts as a mediating factor. These findings underscore the importance of ambidextrous leadership as a key strategy for fostering innovation in diverse organizational environments (Saleh et al., 2023). Based on the arguments, the following proposition is formulated:
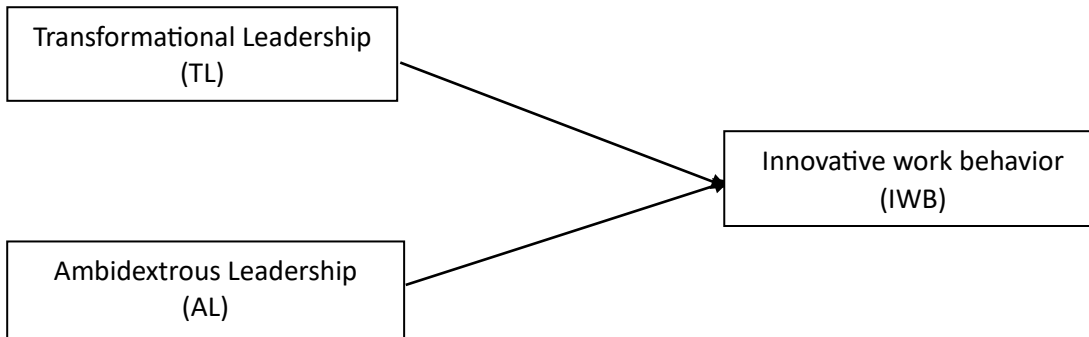**Proposition 2:** Ambidextrous leadership positively influences innovative work behavior

Proposed Conceptual Framework
As mentioned earlier, most studies focus on the outcomes of innovation more than the innovation process itself. This study will focus on the key elements of IWB by integrating Social Cognitive Theory (SCT) with Transformational and Ambidextrous Leadership Theories in the conceptual framework. SCT explains how

individuals learn and innovate based on their perceptions of their environment, making it relevant for understanding employee behavior in organizations (Muchiri et. al., 2020). Transformational Leadership Theory, which emphasizes inspiring positive change and fostering a supportive, adaptive climate (Abdul Sahid et al., 2023), and Ambidextrous Leadership Theory, which focuses on balancing exploration and exploitation (Jabeen et al., 2023),. Together, these theories combined provide a comprehensive approach to understanding how leadership influences innovative work behavior. This framework aims to enhance organizational effectiveness and innovation, particularly within bureaucratic settings, by offering insights into leadership practices that drive continuous learning and operational efficiency. The proposed conceptual framework for this study is illustrated below:

Figure 1: Conceptual Research Framework (Developed by this research)

This study adopts a positivist paradigm and a deductive approach, grounded in Social Cognitive Theory (SCT), to explore the relationships between transformational leadership (TL), ambidextrous leadership (AL), and innovative work behavior (IWB). The research integrates TL and AL theories to hypothesize that both leadership styles positively and significantly influence IWB among middle managers in the public sector. By examining these relationships, the study aims to explain different levels of the innovation process from both individual and team perspectives. Additionally, the application of SCT using PTD officers as the study sample provides insights into how middle managers learn and innovate in their respective roles across ministries.

The framework is expected to show that transformational leadership fosters creativity and motivates middle managers to engage in innovative behaviors, while ambidextrous leadership helps them balance idea generation and execution. This combination should promote a dynamic and adaptable work environment, enhancing organizational effectiveness through continuous learning and problem-solving. The study's contribution lies in providing evidence of how these leadership practices can improve innovation in public service organizations, especially in bureaucratic contexts like Malaysia's public sector. Ultimately, this research could offer insights into enhancing public service delivery and achieving national development goals.

3. Methodology

The research design is structured around Saunders' Research Onion model, which provides a systematic approach to developing research methodology. This model covers various layers, including the research philosophy, approach, strategy, and data collection techniques, ensuring a comprehensive and methodical framework. This study will adopt a quantitative approach, utilizing questionnaires for data collection. Due to the absence of a comprehensive sampling frame, a non-random purposive sampling method will be employed. The sample will consist of PTD officers in Grades 48 and 52, serving in five selected ministries in Putrajaya. These ministries are chosen based on the Public Complaints Bureau Report, which highlights that they consistently received the highest number of complaints from 2019 to 2022. Guided by Krejcie and Morgan's (1970) sample size guideline, a sample size of 310 PTD officers in middle management from selected ministries is appropriate.

The respondents will be recruited online and through various networks. A survey will be developed using a survey tool such as Google Forms. The respondents will be invited to participate through several social media platforms such as WhatsApp and Facebook. Upon data, exploratory factor analysis (EFA) will be conducted

using SPSS to examine the dimensionality of items and proceed with the PLS-SEM for theory-testing theory testing. The survey strategy, chosen for its efficiency in gathering data from a large sample, aligns with the study's quantitative focus, facilitating empirical testing and objective analysis using SPSS and PLS-SEM.

4. Discussion

Relationship between transformational leadership and innovative work behavior
The literature highlights the significant impact of immediate leaders on employees' innovative work behavior (IWB), particularly within the public management field where innovation and leadership are closely studied. Transformational leadership, known for inspiring employees to exceed their self-interests and embrace a shared vision, is frequently associated with organizational transformation and increased IWB. (Abdul-Azeez et al., 2024). Studies have shown that transformational leaders can enhance employees' innovative potential by encouraging them to perceive problems differently and maximize their creative abilities. (Karimi et al., 2023). However, the relationship between transformational leadership and IWB has produced mixed results, with some research demonstrating a strong positive effect on creativity and innovation, while others have found minimal impact (Alshahrani et al., 2024; Saif et al., 2024)).

Despite the varied findings, transformational leadership plays a crucial role in fostering IWB by creating a culture that values innovation (Li, 2019; Saif et. al., 2024). Effective transformational leaders inspire employees to think critically, innovate, and tackle new challenges, thereby enhancing both individual and organizational effectiveness (H. Khan et al., 2020). They align organizational values with their own, motivate employees to pursue change and self-improvement, and promote analytical thinking, all of which contribute to heightened innovative behavior. (M. A. Khan et al., 2020). Moreover, transformational leaders involve employees in the entire innovation process, from idea generation to the realization of new products or services, emphasizing the importance of job autonomy and support from management in driving innovation (Karimi et. al., 2023; Khan et al., 2020). Therefore, this study anticipates finding support for Proposition 1.

Relationship between Ambidextrous leadership and innovative work behavior
This study utilizes the ambidextrous theory of leadership to examine how Ambidextrous Leadership (AL) influences Innovative Work Behavior (IWB). According to Rosing et al. (2011), AL involves leaders' ability to foster exploration through opening behaviors and facilitate exploitation through closing behaviors, both of which are essential for promoting innovation among employees. Leaders must continuously adapt their leadership styles to suit the dynamic needs of their teams, balancing the exploration of new ideas with the efficient implementation of those ideas to improve organizational effectiveness (Dinesh Babu et. al., 2024). IWB involves generating and implementing new ideas, products, or processes, which are crucial for organizational performance and innovation (De Jong & Den Hartog, 2007; Farr et al., 2003). The stages of AL, which include exploration and exploitation, require leaders to navigate these complex processes effectively (Alghamdi, 2018).

Ambidextrous leadership is recognized as a critical factor in driving organizational innovation, with scholars highlighting the need for leaders to balance opening and closing behaviors to foster innovative thinking and structured implementation (Rosing & Zacher, 2023). This leadership style is particularly effective in managing the nonlinear nature of innovation, where employees challenge the status quo and introduce new ideas (Mascareño et al., 2021). By adopting ambidextrous approaches, leaders can support their teams in both generating and implementing innovative ideas, thereby enhancing team learning and innovation (Duc et al., 2020). The ability to switch between leadership styles as needed is crucial for leaders to effectively foster innovation, enabling employees to engage in innovative work behavior and improve overall performance (Usman et al., 2020). Therefore, this study anticipates finding support for Proposition 2.

5. Conclusion

In conclusion, this study provides a conceptual examination of how transformational and ambidextrous leadership styles impact innovative work behavior among middle managers in Malaysian public service organizations. By focusing on these leadership styles and their interplay with innovative work behavior, the research aims to address a significant gap in the existing literature regarding leadership practices in the context of the Malaysian public sector. Theoretically, this study enhances our understanding of how diverse leadership

behaviors influence innovation, particularly within bureaucratic environments. Practically, the findings will offer valuable insights for top management and practitioners, enabling them to design and implement more effective leadership strategies that foster innovation and improve team performance, especially in heterogeneous teams. Furthermore, from a policy perspective, this research underscores the need for targeted leadership training programs, aligning with broader goals to enhance public sector efficiency and innovation. Overall, this study contributes to the advancement of leadership theory and provides actionable recommendations to support Malaysia's ambition of becoming a high-income, innovation-driven nation by 2030.

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