Research Article

# Knowledge-Oriented Leadership and Innovation Performance: Does Knowledge Management Capacity Mediate The Relationship?

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**Abstract**

**Purpose —** This study aims to investigate the relationship between knowledge-oriented leadership and innovation performance and explore the mediating role of knowledge management capacity and their impact on innovation performance at Muhammadiyah and Aisyiyah Universities (PTMA) in Southeast Sulawesi Province, Indonesia.

**Design/methodology/approach —** Questionnaire data were collected from 132 structural officials at Muhammadiyah and Aisyiyah Higher Education Institutions (PTMA) in Southeast Sulawesi province, Indonesia. This study used a quantitative method with a Partial Least Square-Structural Equation Model (PLS-SEM) approach using smartPLS4 software (version 4.1.1.8) to analyze the data and test the hypothesis.

**Findings —** The results revealed that knowledge-oriented leadership has a significant effect on the knowledge management capacity. Likewise, the influence of the knowledge management capacity on innovation performance is also significant. However, different findings are found in the relationship between knowledge-oriented leadership and innovation performance, which does not have a significant impact. However, the mediating role of the knowledge management capacity can change the relationship to be significant.

**Practical implications —** If knowledge-oriented leaders want to achieve high innovation performance, they must first be able to strengthen the knowledge management capacity within universities. This is due to the inability of knowledge-oriented leadership to improve innovation performance directly; it must instead mediate through the knowledge management capacity.

**Originality/value —** This study found a weak relationship between knowledge-oriented leadership and innovation performance. However, when mediated by knowledge management capacity, the relationship becomes stronger. These findings suggest that to improve innovation performance, strengthening the knowledge management capacity is essential.

**Keywords:** innovation performance, knowledge management capacity, knowledge-oriented leadership, HEIs.

## 1. Introduction

Universities based on knowledge-intensive processes tend to contribute to economic development and foster the expansion of society by generating new ideas and knowledge-based leadership (Sahibzada et al., 2024). Universities are knowledge-based organizations that require leadership that ensures effective management of knowledge assets, leading to increased innovation (Rehman & Iqbal, 2020). Based on the knowledge-based view (KBV) theory of the firm (Grant, 1996), organizational success, competitive advantage, and long-term sustainability in complex business environments depend heavily on the effective utilization of organizational knowledge-based resources (Donate & de Pablo, 2015). According to this theory, a company's most important strategic asset is knowledge, and the fundamental goal of every organization is to transform knowledge into commercial value (Zia, 2020). The problem for many organizations striving for competitive advantage is that they expend more effort in identifying knowledge than in understanding how to generate, maintain, and share it (Shehzad et al., 2021).

Leadership is essential for knowledge-based organizations, particularly in higher education. Knowledge-oriented leadership is a specific form of leadership that has received increasing attention since its inception in leadership and knowledge management literature (Rehman & Iqbal, 2020). A knowledge-oriented leadership approach is a crucial and influential feature that drives innovation in higher education (Manzoor et al., 2023). Knowledge-oriented leadership is considered fundamental to leaders' knowledge processes, with adaptation to change requiring knowledge input (Widtayakornbundit & Luangpituksa, 2023). This leadership style shapes the structure and culture of organizations and drives them toward achieving innovative outcomes. Knowledge-oriented leadership also maximizes the use of technology to generate, disseminate, and execute new ideas (Shehzad et al., 2021).

Leadership support appears to be directly related to the success of knowledge management initiatives within an organization, and even the extent to which it impacts the company's innovation performance (Muhammed & Zaim, 2020). The relevance of knowledge-oriented leadership lies in providing a shared framework for employees to foster commitment to the usefulness of knowledge in advancing the innovation process (Ononye & Maduemezia, 2024). Knowledge-oriented leadership has an exceptional leadership style and changes the

company structure in such a way that team members communicate within and with other departments to generate new knowledge that improves innovation (speed and quality) (Manzoor et al., 2023).

A company's knowledge management capacity plays a crucial role in driving innovative performance (Tippakoon et al., 2023). Knowledge management capability is considered crucial because it helps companies manage all knowledge flows, enabling them to apply knowledge most appropriately to innovation activities (Veiga et al., 2023). While there is ample empirical evidence on the drivers of innovation, several other important issues have not been considered. For example, organizational factors (such as culture, leadership, and management support) may not directly drive innovation, but rather through the knowledge management capacity (Erena et al., 2023). When companies foster leaders experienced in the skills of producing, transforming, storing, and applying knowledge resources, they will enhance the expansion and sharing of innovative knowledge, which will result in the active exploration of new ideas (Shehzad et al., 2021). Companies that employ these leaders will encourage the creation and exchange of new knowledge, which will lead to the successful exploration of innovative approaches (Bashir & Pradhan, 2023).

Companies in developing countries can compensate for their limited research and development capacity by enhancing knowledge management practices to achieve superior innovation performance (Tippakoon et al., 2023). Besides its importance in creating innovative products, the application of in-depth knowledge also ensures the continuous translation of company expertise into personalized products and increases efficiency (Al-Tal & Emeagwali, 2019). Knowledge is beneficial for innovation because it helps identify new ideas such as customer demands, new technological opportunities, competitor movements, etc. (Hock-doepgen et al., 2021). Managers need to realize that knowledge management not only signifies knowledge acquisition but also significantly builds metacognitive strategies for adopting, disseminating, and creating new ideas (Muhammed & Zaim, 2020). Managers committed to valuing knowledge help create and maintain knowledge-sharing practices that enhance innovative capabilities (Veiga et al., 2023). Corporate managers need knowledge management (KM) capabilities (i.e., infrastructure and processes) to enhance open innovation (Naqshbandi & Jasimuddin, 2018). Knowledge sharing can enhance administrative innovation, manifested in organizational structures and authority, as well as changes in reward systems (Asgarian, 2012). Both tacit and explicit knowledge are essential components of corporate innovation (Al-Tal & Emeagwali, 2019). Companies that seek knowledge from diverse knowledge actors tend to have higher levels of innovation performance (Tippakoon et al., 2023).

Improving innovation performance is crucial for organizations in highly competitive environments (González-Mohíno et al., 2024). Innovation is not a one-time task but rather a gradual process of transforming ideas into marketable products (Erena et al., 2023). Innovation performance is measured as a company's ability to introduce complex innovations, namely the introduction of a combination of product and process innovations (Tippakoon et al., 2023). Proper coordination ensures that resources are allocated efficiently, that the right people collaborate on innovative projects, and that development processes are managed effectively, all of which are crucial for realizing new ideas and turning them into tangible innovations (González-Mohíno et al., 2024).

A novelty in current research is the different forms of leadership that generate innovation among employees in an organization (Ononye & Maduemezia, 2024). The lack of research on knowledge-oriented leadership and knowledge management is a reason to fill this gap (Zia, 2020). Limited research has examined the mediating role of knowledge capability (infrastructure and process) in the relationship between knowledge-oriented leadership and open innovation outcomes (Shehzad et al., 2021). Empirical evidence on the intervening role of knowledge management capabilities in the relationship between knowledge-oriented leadership and open innovation is still limited (Naqshbandi & Jasimuddin, 2018). Knowledge-oriented leadership can encourage employees to actively use their social capital, which can facilitate knowledge management behavior, leading to project innovation (Zia, 2020). Despite the increasing interest of researchers in exploring the relationship between knowledge management and innovation, empirical evidence examining the relationship between knowledge management practices and innovation effectiveness from a developing country perspective is difficult to find (Syed et al., 2020).

In light of the aforementioned phenomena, research addressing knowledge-oriented leadership, knowledge management capacity, and innovation performance has been limited in the context of Indonesian universities, particularly in Southeast Sulawesi Province. With these considerations in mind, this study was initiated with the aim of investigating the relationship between knowledge-oriented leadership and innovation performance and exploring the mediating role of knowledge management capacity and their impact on innovation performance at Muhammadiyah and Aisyiyah Higher Education Institutions (PTMA) in Southeast Sulawesi Province, Indonesia.

## 2. Literature review

The theoretical basis of this research includes the Knowledge-Based View (KBV) theory (Grant, 1996), the Contingency Leadership Theory (Fiedler, 1964), and the Innovation Theory (Schumpeter, 1934). The KBV theory (Grant, 1996) states that organizational success, competitive advantage, and long-term sustainability in a complex business environment depend heavily on the effective utilization of organizational knowledge-based resources. According to the aforementioned theory, a company's most important strategic asset is knowledge, and the basic goal of every organization is to transform knowledge into commercial value (Zia, 2020). The Contingency Leadership Theory (Fiedler, 1964) states that there is no single best leadership style that fits all situations. A leader's behavior patterns must be adapted to current conditions. Leadership effectiveness depends on the fit between a leader's leadership style and the conditions of the situation at hand, such as the relationship between the leader and members, task structure, and the power of the leader's position (Gürlek & Çemberci, 2020). The Innovation Theory (Schumpeter, 1934) highlights the role of innovation and entrepreneurship as key drivers of economic growth. This theory states that innovation, through the discovery and implementation of new ideas, creates fundamental changes in the economic system, replacing old models with new ones. This theory argues that innovation is the key to economic progress. Innovation can take the form of the discovery of new technologies, the development of new products or services, the opening of new markets, or changes in company organization (Gürlek & Çemberci, 2020).

### 2.1. Knowledge-oriented leadership and knowledge management capacity

Donate & de Pablo (2015); Chaithanapat et al. (2022); Okręglicka (2023) define knowledge-oriented leadership as a combination of motivational and communication elements, as well as certain aspects of transformational and transactional leadership styles, where the management team is considered actively involved and dedicated to supporting the company's learning environment. Knowledge-oriented leadership is a specific form of leadership that has received increasing attention since its inception in leadership and knowledge management literature (Rehman & Iqbal, 2020). According to Manzoor et al. (2023), knowledge-oriented leadership is a collective or individual process or specific behavior that influences the sharing and use of new and specialized knowledge among others. Naqshbandi & Jasimuddin (2018) and Rehman & Iqbal (2020) define knowledge-oriented leadership as an attitude or action, observed or imputed, that encourages the creation, sharing, and utilization of new knowledge in a way that appears to bring about changes in collective thinking and outcomes. Knowledge-oriented leadership can be defined as a collective or individual attitude or action, observed or imputed, that stimulates some of the newest and most important knowledge to be shared, created, and used in a way that brings about changes in collective thinking and outcomes (Latif et al., 2021).

Furthermore, according to Shariq et al. (2019), knowledge-oriented leadership is defined as a collective or individual attitude or action that includes consultation, support, stimulation of knowledge dissemination, delegation, facilitation, mentoring, recognition, innovative role modeling, providing vision, giving rewards and intellectual stimulation, observation or assignments that stimulate some of the newest and most important knowledge to be shared, created, and used in such a way that brings changes in collective thinking and results. Knowledge-oriented leadership is a way to exploit new knowledge, change the way of thinking to achieve collective results, and apply it to achieve more effective processes (Banmairuroy et al., 2022).

Knowledge-oriented leadership can enhance knowledge management capacity by promoting and guiding the acquisition, sharing, and application of knowledge (Gürlek & Çemberci, 2020). A knowledge-oriented leader encourages employees to discuss new knowledge, dedicates significant time to enhancing employee knowledge, suggests new alternatives, and encourages employees to view problems from different angles (Zia, 2020). Widtayakornbundit & Luangpituksa (2023) emphasized the influence of knowledge-oriented leadership on knowledge management, where leaders transfer practical knowledge to their community members through a management model that emphasizes the determination of knowledge and collaborative networks connected to the external environment, community knowledge sharing, and social outcomes as part of social capital. Knowledge-oriented leaders themselves engage in knowledge management activities and thus act as role models and influence their followers to demonstrate knowledge management behaviors by fostering work engagement, affective commitment, and creative self-efficacy (Rehman & Iqbal, 2020). The role of knowledge-oriented leadership can be further emphasized in relation to KBV, as coordinating and integrating knowledge held by diverse individuals is a challenging task for managers (Latif et al., 2021). Based on the theoretical and empirical review above, the following hypothesis is developed:

H1. Knowledge-oriented leadership has a significant and positive impact on knowledge management capacity

### 2.2. Knowledge-oriented leadership and innovation performance

According to (Alipour et al., 2022; Azeem et al., 2021), innovation means the application of new ideas and thinking resulting from creativity. This leads to the creation of a comparative advantage for a company in competition with other companies by providing new services in various fields (Allameh, 2018). According to Li & Gao (2021), innovation is a multi-stage process that rationally combines resources to create value, resulting in improved or new products, services, or processes. The essence of innovation is the creation and recombination of knowledge. Toe & Tantasanee (2021) define organizational innovation as the application of new or significantly improved products or processes, new marketing methods, or new organizational methods in business practices, workplace organization, or external relationships. Innovation is seen as the process of creating novelty, embracing new ideas or behaviors for an organization, and is defined as the rapid development and commercialization of new products and services before a company's competitors (Ince et al., 2023).

Alaskar et al., (2024) suggest that innovation refers to the results of a company's innovation efforts, including the successful launch and differentiation of new products/services, the updating of administrative systems and business processes to align with the market environment, and the company's ability to create value through innovation efforts to outperform competitors in meeting customer and market demands. He et al. (2021) define innovation as the use of innovation capabilities to drive increased firm value. Rehman et al. (2023) define innovation as how well an organization develops new technologies and acquires new instruments to improve product quality through innovation compared to its competitors. In general, innovation not only fully utilizes existing resources, increasing efficiency and potential value, but can also bring new intangible assets to an organization (Wang & Wang, 2012).

Zhao et al. (2021) define organizational innovation as influenced by internal and external factors, such as government policies, regional culture, organizational characteristics, and employee behavior. Banmairuroy et al. (2022) suggest that organizational innovation consists of three types: product innovation, process innovation, and business model innovation. Furthermore, there are two components that shape organizational innovation: innovation climate and innovative work behavior. Manzoor et al. (2023) identified two key dimensions of innovation: innovation speed, defined as a company's ability to commercialize and develop its products and services quickly to gain a competitive advantage; and innovation quality, which refers to the effectiveness of innovation-based procedures and their outcomes. According to Wang et al. (2024), corporate innovation stems from various collaborative innovation activities, with the characteristics of collaborative innovation networks playing a crucial role.

Organizations need to consider the practical application of knowledge-oriented leadership to significantly improve innovation outcomes (Gürlek & Çemberci, 2020; Manzoor et al., 2023; Ononye & Maduemezia, 2024; Zia, 2020). Knowledge-oriented leadership behavior is a crucial organizational factor that can stimulate innovation in higher education through effective knowledge asset management (Rehman & Iqbal, 2020). Knowledge-oriented leadership is a key factor for companies to achieve innovation performance in the international business context (Chaithanapat et al., 2022). Knowledge-oriented leadership plays a crucial role in promoting the use and development of innovative ideas by demonstrating desired behaviors and encouraging followers to generate and disseminate knowledge (Bashir & Pradhan, 2023). Based on the theoretical study and empirical evidence mentioned above, the following hypothesis is developed:

H2. Knowledge-oriented leadership has a significant and positive impact on innovation performance

### 2.3. Knowledge management capacity and innovation performance

Gold et al. (2001) state that the knowledge management capacity is a systematic approach to formalizing knowledge, experience, and expertise that helps organizations generate new competencies that lead to higher organizational performance. Chawla et al. (2022) define the knowledge management capacity as a company's ability to acquire, share, and use knowledge for the organization's benefit. The knowledge management capacity is defined as a set of organizational processes that continuously create and distribute knowledge, helping companies reorganize existing knowledge and gather new knowledge from internal employees, external stakeholders, and the market (Hsiao & Chen, 2011). Veiga et al. (2023) view the knowledge management capacity as a process involving the creation, transfer, integration, and application of knowledge. Asgarian (2012) defines the knowledge management capacity as a more active approach that utilizes knowledge and expertise to create value and improve organizational effectiveness. The knowledge management capacity is considered a system, mechanism, and process for managing the creation, retention, sharing, and application of knowledge to enhance a company's ability to utilize its knowledge resources (Tippakoon et al., 2023).

Hock-doepgen et al. (2019) suggest that, in general, there are two streams of knowledge management research: static KM and dynamic KM. The static dimension refers to a company's internal KM capabilities, which provide an inter-organizational basis for social interaction, knowledge storage, and knowledge availability. The dynamic

dimension captures a company's external KM capabilities, emphasizing the company's ability to acquire, transform, and apply knowledge emerging from sources outside the company's boundaries. Attia & Eldin, (2018); Bahar et al., (2021) Also, define the knowledge management capacity as an organization's ability to manipulate knowledge, such as acquiring, creating, transferring, integrating, sharing, and applying knowledge-related resources and activities to generate new knowledge across functional boundaries. The knowledge management capacity involves deploying knowledge for individuals to integrate with the necessary competencies transferred through the members' actions or experiences for their jobs (Widtayakornbundit & Luangpituksa, 2023). Rezaei & Shirani (2019) state that the knowledge management capacity is a planned and structured approach to knowledge creation, sharing, and utilizing and benefiting from knowledge as an asset to improve company performance and product efficiency in line with customer interests and company strategy. The knowledge management capacity is generally considered a company's ability to create, share, and apply knowledge resources to generate core value and maintain competitive advantage (Lei et al., 2021).

Companies seeking to seriously improve their innovation performance should consider how they can ensure the success of their knowledge management initiatives (Muhammed & Zaim, 2020). The involvement of organizational members in knowledge management activities, such as knowledge acquisition, sharing, and application, is a critical determinant of organizational innovation because it not only enhances the organization's intellectual capital but also facilitates innovation through the generation and implementation of new ideas (Rehman & Iqbal, 2020). Companies need to acquire knowledge from multiple sources to increase the variety of knowledge that can be used to generate innovation (Tippakoon et al., 2023). Innovation is carried out by workers who possess adequate knowledge about their work, the organization, and the external context, and this is fostered through effective knowledge management (Chawla et al., 2022). Knowledge management capabilities are considered crucial because they help companies manage all their knowledge flows, enabling them to apply knowledge that best suits their innovation activities (Veiga et al., 2023). Based on the theoretical review and empirical evidence above, the following hypothesis is developed:

H3. The knowledge management capacity has a significant and positive impact on innovation performance

### 2.4. Mediating role of knowledge management capacity

Knowledge management behaviors contribute significantly to the effects of knowledge-oriented leadership on projecting innovation (Zia, 2020). When companies foster leaders experienced in the production, transformation, storage, and application of knowledge resources, they will increase the expansion and sharing of innovative knowledge, which will lead to the active exploration of new ideas (Shehzad et al., 2021). Company managers need knowledge management (KM) capabilities (i.e., infrastructure and processes) to enhance open innovation (Naqshbandi & Jasimuddin, 2018).

Proper coordination can ensure that resources are allocated efficiently, that the right people collaborate on innovative projects, and that development processes are managed effectively, all of which are crucial for realizing new ideas and transforming them into tangible innovations (González-Mohíno et al., 2024).

Based on the theoretical review and empirical evidence mentioned above, the following hypothesis is developed:

H4. Knowledge management capacity significantly mediates the relationship between knowledge-oriented leadership and innovation performance

## 3. Methodology

### 3.1. Sample and data collection

This study took samples from 7 Muhammadiyah and Aisyiyah Higher Education Institutions (PTMA) in Southeast Sulawesi province, Indonesia. The respondents of this study were structural officials consisting of the rector, vice rector, dean, vice dean, study program coordinator, head of the Quality Assurance Institute, and head of the Research and Community Service Institute. The reason for selecting structural officials as respondents is that leaders at this level are the main actors in the implementation of knowledge management and innovation in higher education. The data collection technique used questionnaires distributed to 140 structural officials within the Muhammadiyah and Aisyiyah Higher Education Institutions (PTMA) in Southeast Sulawesi province. Of the 140 questionnaires successfully collected, 8 were declared incomplete and did not meet the criteria for processing in statistical analysis. Ultimately, a total of 132 questionnaires were usable for further data processing.

### 3.2. Instrument development

This study adopted a 6-point knowledge-oriented leadership instrument developed by Rehman & Iqbal (2020) and Sahibzada et al. (2024). An example of an item is "Leadership has been creating an environment for responsible employee behavior and teamwork." For the knowledge management capacity, this study adopted 5 dimensions consisting of 22 items according to Sahibzada & Mumtaz (2023) and Sahibzada et al. (2023). An example of an item in the creation dimension is "my university's workers constantly generated new ideas." An example of an item in the acquisition dimension is "Knowledge is obtained from partners." An example of an item in the storage dimension is "the department I work for has several publications to display the captured knowledge." An example of an item in the sharing dimension is "my university constantly updates information available to me." Then, an example of an item in the utilization dimension is "the university utilizes knowledge for practical use." Meanwhile, for innovation performance, this study used 3 dimensions consisting of 10 items from Sciarelli et al. (2020). An example of an item in the administrative innovation dimension is "Our department staff members can try new ways of doing things while still respecting the university's procedures". One example of a product innovation dimension item is "Our institution often develops new teaching materials and methodologies". An example of an item for the process innovation dimension is "Our institution incorporates new techniques/inputs in producing programs/services".

### 3.3. Data analysis technique

This study employed a quantitative method with the Partial Least Squares-Structural Equation Model (PLS-SEM) approach using smartPLS4 software (version 4.1.1.8). The main reason for choosing the PLS-SEM technique is that it can handle small sample sizes and non-normal data (Hair et al., 2019).

## 4. Data analysis and results

### 4.1. Respondent Characteristics

Of the 132 completed questionnaires that met the requirements for statistical analysis, an analysis of the demographic characteristics of the respondents was carried out as shown in Table 1 below:

**Table 1. Demographic Characteristics of Respondents**

| characteristics | category | frequency | % |
|---|---|---|---|
| Gender | Male | 87 | 65.91 |
| | Female | 45 | 34.09 |
| Age | Under 30 | 6 | 3.03 |
| | 31-40 | 56 | 42.42 |
| | 41-50 | 45 | 34.09 |
| | 51 and above | 27 | 20.45 |
| Academic education | master's degree | 89 | 67.42 |
| | PhD/Doctor | 43 | 32.58 |
| Academic position | expert assistant | 48 | 36.37 |
| | lecturer | 69 | 52.27 |
| | associate professor | 13 | 9.85 |
| | professor | 2 | 1.52 |
| Work experience | Under 5 | 40 | 30.30 |
| | 6-10 | 28 | 21.21 |
| | 11-20 | 57 | 43.18 |
| | 21 and above | 7 | 5.30 |

**Notes:** N=132
**Source:** Authors' own work

### 4.2. Measurement model assessment

Measurement model assessment was used to determine the validity and reliability of the latent constructs contained in the research model (Hair et al., 2019). An acceptable loading value for a construct is 0.7, meaning that the item measures at least 70% of the phenomenon being investigated (Mansoor et al., 2025). Detailed measurements of item validity and reliability are presented in Table 2.

The Fornell-Lacker Criterion method was also used to test the discriminant validity of the constructs. The square root of the AVE of each latent construct must be higher than its correlation with other latent constructs (Fornell

& Larcker, 1981). The Fornell-Lacker Criterion matrix for this research model is presented in Table 3. Furthermore, the Heterotrait-Monotrait (HTMT) method was also used to determine the discriminant validity of the constructs. The HTMT test results are shown in Table 4.

**Table 2. Validity and reliability**

| Construct | dimension | item | loading | CA | AVE | CR |
|---|---|---|---|---|---|---|
| Knowledge-oriented leadership | | KOL1 | 0.913 | 0.925 | 0.731 | 0.942 |
| | | KOL2 | 0.879 | | | |
| | | KOL3 | 0.724 | | | |
| | | KOL4 | 0.884 | | | |
| | | KOL5 | 0.824 | | | |
| | | KOL6 | 0.891 | | | |
| Knowledge management capacity | Creation | KMC1 | 0.713 | 0.969 | 0.610 | 0.972 |
| | | KMC2 | 0.716 | | | |
| | | KMC3 | 0.715 | | | |
| | | KMC4 | 0.771 | | | |
| | | KMC5 | 0.724 | | | |
| | | KMC6 | 0.789 | | | |
| | Acquisition | KMC7 | 0.876 | | | |
| | | KMC8 | 0.820 | | | |
| | | KMC9 | 0.732 | | | |
| | | KMC10 | 0.821 | | | |
| | Storage | KMC11 | 0.756 | | | |
| | | KMC12 | 0.739 | | | |
| | | KMC13 | 0.742 | | | |
| | | KMC14 | 0.805 | | | |
| | Sharing | KMC15 | 0.740 | | | |
| | | KMC16 | 0.820 | | | |
| | | KMC17 | 0.799 | | | |
| | | KMC18 | 0.884 | | | |
| | Utilization | KMC19 | 0.867 | | | |
| | | KMC20 | 0.729 | | | |
| | | KMC21 | 0.769 | | | |
| | | KMC22 | 0.819 | | | |
| Innovation performance | Administration | IP1 | 0.863 | 0.945 | 0.670 | 0.953 |
| | | IP2 | 0.873 | | | |
| | | IP3 | 0.824 | | | |
| | | IP4 | 0.842 | | | |
| | Product | IP5 | 0.817 | | | |
| | | IP6 | 0.792 | | | |
| | | IP7 | 0.774 | | | |
| | Process | IP8 | 0.791 | | | |
| | | IP9 | 0.776 | | | |
| | | IP10 | 0.824 | | | |

**Notes:** AVE = Average variance extracted; CA = Cronbach's alpha; CR = Composite reliability; IP = Innovation performance; KMC = Knowledge management capacity; KOL = Knowledge-oriented leadership.
**Source:** Authors' own work

**Table 3.** Fornell-Larcker criterion

| Construct | KOL | KMC | IP |
|---|---|---|---|
| KOL | 0.855 | | |

| | | | |
|---|---|---|---|
| KMC | 0.748 | 0.781 | |
| IP | 0.640 | 0.741 | 0.818 |

**Notes:** IP = Innovation performance; KMC = Knowledge management capacity; KOL = Knowledge-oriented leadership
**Source:** Authors' own work

**Table 4.** HTMT

| Construct | KOL | KMC | IP |
|---|---|---|---|
| KOL | | | |
| KMC | 0.779 | | |
| IP | 0.672 | 0.757 | |

**Notes:** IP = Innovation performance; KMC = Knowledge management capacity; KOL = Knowledge-oriented leadership
**Source:** Authors' own work

### 4.3. Structural model evaluation

Based on Table 5, the R-square coefficient of determination (R2) was 0.560 for the knowledge management capacity and 0.566 for innovation performance. These figures indicate that the exogenous variables in this study can explain 56% of the variation in changes in the knowledge management capacity and 56.6% in innovation performance. The structural equation model for this study is presented in Figure 1.

The direct effect test showed that knowledge-oriented leadership had a significant positive effect on the knowledge management capacity (β = 0.671, t = 15.484, p = 0.000). Therefore, hypothesis H1 was accepted. Different results were obtained for the relationship between knowledge-oriented leadership and innovation performance, where the value was insignificant (β = 0.128, t = 1.328, p = 0.092). Therefore, hypothesis H2 was rejected. Hypothesis H3 proposed a significant positive effect of the knowledge management capacity on innovation performance. The test results demonstrated that the knowledge management capacity had a significant positive impact on innovation performance (β = 0.594, t = 7.935, p = 0.000). Therefore, hypothesis H3 was supported.

The indirect effect of knowledge-oriented leadership on innovation performance, mediated by the knowledge management capacity, demonstrated satisfactory results with a β value of 0.398, a t value of 6.281, and a p value of 0.000. These results indicate that the knowledge management capacity acts as a strong mediator in the relationship between knowledge-oriented leadership and innovation performance. Considering that the direct relationship between knowledge-oriented leadership and innovation performance was insignificant, the type of mediation generated by the knowledge management capacity is a full mediation. Therefore, hypothesis H4 is accepted. The complete results of the hypothesis testing are presented in Table 6.

**Table 5.** R-square

| Endogenous construct | R-square ($R^2$) | R-square adjusted |
|---|---|---|
| Knowledge management capacity | 0.560 | 0.544 |
| Innovation performance | 0.566 | 0.534 |

**Source:** Authors' own work

**Table 6.** Hypotheses testing

| Hypotheses | Relationship | 3 | t-value | p-value | Decision |
|---|---|---|---|---|---|
| Direct effect | | | | | |
| H1 | KOL → KMC | 0.671 | 15.484 | 0.000* | Accepted |
| H2 | KOL → IP | 0.128 | 1.328 | 0.092 | Rejected |
| H3 | KMC → IP | 0.594 | 7.937 | 0.000* | Accepted |
| Indirect effect | | | | | |
| H4 | KOL → KMC → IP | 0.398 | 6.281 | 0.000* | Accepted |

**Notes:** IP = Innovation performance; KMC = Knowledge management capacity; KOL = Knowledge-oriented leadership; *p < 0.05
**Source:** Authors' own work

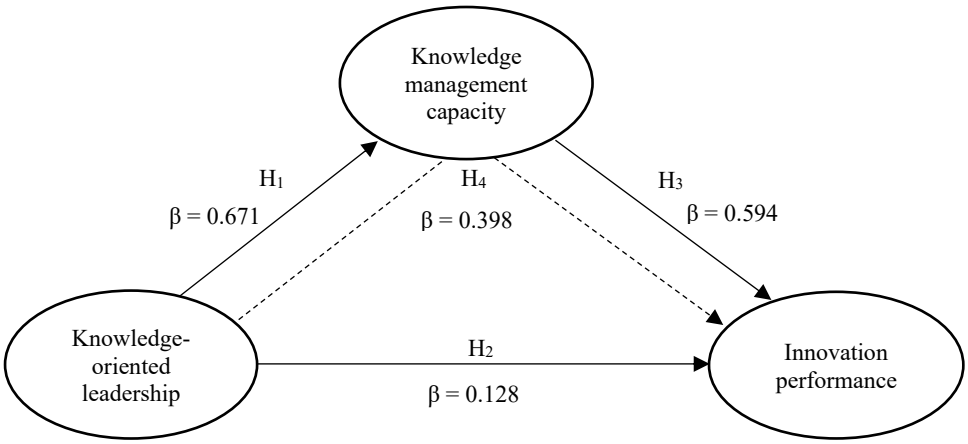


**Figure 1.** Conceptual framework

## 5. Discussion

This study examines the direct influence of knowledge-oriented leadership on innovation performance in higher education institutions and investigates the mediating role of the knowledge management capacity. Therefore, several hypotheses were developed to address these questions. The results of the hypothesis testing will be discussed further in the following explanation.

Hypothesis 1 proposes that knowledge-oriented leadership has a significant positive effect on the knowledge management capacity. The research findings demonstrate that knowledge-oriented leadership has a direct, positive, and significant impact on the knowledge management capacity. These findings align with the contingency theory of leadership (Fiedler, 1964), which states that a leader's behavioral patterns must be adapted to current conditions. Knowledge-oriented leadership is recognized as a leadership style that aligns with the needs of knowledge-intensive industries (Gürlek & Çemberci, 2020). Higher education institutions, as knowledge-based organizations, require a leadership style that can ensure effective management of knowledge assets (Rehman & Iqbal, 2020).

The findings of this study highlight the important role of knowledge-oriented leadership in improving the knowledge management capacity. Knowledge-oriented leadership is crucial in fostering an environment that facilitates efficient knowledge management practices, such as the acquisition, dissemination, and utilization of knowledge (Chaudhary et al., 2025; Latif et al., 2021; Naqshbandi & Jasimuddin, 2018) Thus, knowledge-oriented leadership can strengthen organizational knowledge management (Gürlek & Çemberci, 2020). A knowledge-oriented leader encourages openness, learning, establishes communication channels, and fosters employee trust to discuss new knowledge, dedicates significant time to improving employee knowledge, suggests new alternatives, and applies knowledge to encourage employees to view problems from different angles (Rehman & Iqbal, 2020; Zia, 2020). Thus, knowledge-oriented leaders must be able to play a role in creating a work environment that fosters responsible employee behavior and teamwork, which will impact the provision of up-to-date information, as well as the development of knowledge and research within higher education.

Hypothesis H3 states that the knowledge management capacity has a significant positive effect on innovation performance. The research findings demonstrate that the knowledge management capacity has a significant positive effect on innovation performance. These results support Grant, (1996) knowledge-based view (KBV) theory, which emphasizes that knowledge is the most important resource for companies to create value and achieve competitive advantage. Knowledge management capabilities play a crucial role in the success of hospitality businesses and in achieving competitive advantage by enabling the promotion of innovative performance, leading to the creation of new, personalized products/services for customers (Veiga et al., 2023). Organizations that demonstrate higher levels of knowledge management capacity tend to create opportunities for more organizational innovation carried out by workers who have sufficient knowledge to respond quickly to business dynamics, reduce redundancy, and develop inventive ideas (Al-Tal & Emeagwali, 2019; Chawla et al., 2022; Tippakoon et al., 2023), so that knowledge management capacity plays an important role in supporting and encouraging organizational innovation (Asgarian, 2012; Gürlek & Çemberci, 2020).

Hypotheses H2 and H4, the study found no significant impact on the direct relationship between knowledge-oriented leadership and innovation performance. However, after mediation by the knowledge management capacity was included, the indirect influence of knowledge-oriented leadership became significant on innovation performance. This indicates that the knowledge management capacity can be an effective mediating variable in the influence of knowledge-oriented leadership on innovation performance. In line with these findings, knowledge management behavior carries a significant portion of the effect of knowledge-oriented leadership on projecting innovation (Zia, 2020). The relevance of knowledge-oriented leadership lies in providing a shared frame of reference for employees to foster commitment to the benefits of knowledge in advancing the innovation process (Ononye & Maduemezia, 2024). Knowledge-oriented leadership behavior is a crucial organizational factor that can stimulate innovation in higher education through effective knowledge asset management (Rehman & Iqbal, 2020). This leadership model creates an appropriate environment for knowledge behavior, encourages learning, facilitates knowledge acquisition, sharing and rewarding knowledge applications, guides employees through the knowledge process, and tolerates mistakes, thus contributing to innovation performance (Gürlek & Çemberci, 2020). Therefore, it can be explained that knowledge-oriented leadership, which has the role of creating a work environment, the role of a knowledge leader, the role of a knowledge driver, the role of an advisor, and the role of a high reward provider, will be able to improve innovation performance if it pays attention to the knowledge management capacity.

## 6. Conclusions

This study aims to investigate the impact of knowledge-oriented leadership on innovation performance and measure the mediating role of knowledge management capacity in the relationship between knowledge-oriented leadership and innovation performance, especially at Muhammadiyah and Aisyiyah Higher Education Institutions (PTMA) in Southeast Sulawesi Province, Indonesia. Questionnaires were collected from 132 structural officials and analyzed using the PLS-SEM method. The results revealed that knowledge-oriented leadership has a significant effect on the knowledge management capacity. Likewise, the influence of the knowledge management capacity on innovation performance is also significant. However, different findings are found in the relationship between knowledge-oriented leadership and innovation performance, which does not have a significant impact. However, the mediating role of the knowledge management capacity can change the relationship to be significant.

## 7. Theoretical implication

This study adds to the literature on three relationships: knowledge-oriented leadership, knowledge management capacity, and innovation performance in the context of higher education, given that there is still little research that highlights these relationships within the scope of higher education. This study can provide several theoretical implications. First, the importance of knowledge-oriented leadership in creating knowledge management capacity in knowledge-intensive organizations, such as higher education. Leadership plays a crucial role in developing systems and cultures that promote knowledge-sharing behavior, thereby increasing organizational efficiency and competitiveness (Chaudhary et al., 2025). Second, this study adds to the literature on the ability of knowledge-oriented leadership to improve higher education innovation performance mediated by knowledge management capacity. Knowledge-oriented leaders themselves engage in knowledge management activities, thus acting as role models and influencing employees to demonstrate knowledge management behaviors by fostering work engagement, affective commitment, and creative self-efficacy (Rehman & Iqbal, 2020). Knowledge-oriented leaders shape organizational cultures and structures in higher education that facilitate effective knowledge resource management and enhance innovation, leading to improved organizational performance and increased competitive advantage (Rehman & Iqbal, 2020).

## 8. Practical implication

The findings of this study provide several practical implications for managers in higher education. First, higher education institutions must be able to create knowledge-oriented leaders can strengthen the knowledge management capacity of higher education through the creation, acquisition, storage, sharing, and utilization of knowledge. Second, universities are expected to be able to strengthen the knowledge management capacity through the creation, acquisition, storage, sharing, and utilization of knowledge to improve innovation performance in the form of administrative, product, and process innovation.

Third, if knowledge-oriented leaders want to achieve high innovation performance, they must first be able to strengthen the knowledge management capacity within universities. This is due to the inability of knowledge-

oriented leadership to improve innovation performance directly; it must instead mediate through the knowledge management capacity.

## 9. Limitations and future research

This study still has several limitations. First, this study only took samples from 7 Muhammadiyah and Aisyiyah Higher Education Institutions (PTMA) in Southeast Sulawesi Province, Indonesia. Therefore, the scope of the research object is not broad enough, and the research results cannot be fully generalized to research objects outside the context of this study. Therefore, future research can use a wider sample, for example, the 172 Muhammadiyah and Aisyiyah Higher Education Institutions (PTMA) throughout Indonesia. Second, this study still uses a first-order construct in the measurement model, so the suggestion for future research is to use a second-order measurement model to be able to measure complex multidimensional constructs or variables in a single model. Third, this study only highlights two variables that influence the innovation performance of higher education institutions, namely knowledge-oriented leadership and the knowledge management capacity. Therefore, future research can add other variables that can impact higher education innovation, such as organizational culture or technological support.

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