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KNOWLEDGE-ORIENTED LEADERSHIP, PSYCHOLOGICAL SAFETY, EMPLOYEE VOICE, AND INNOVATION

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ABSTRACT

Aim/Purpose	The truism is that leadership fosters or restricts innovation behaviours in organisations, but the extent to which it does depends on the leadership style in practice. This study focuses on one of the contemporary leadership styles, knowledge-oriented leadership [KOL], which has received scant attention in research. In doing so, the contextual factors of psychological safety [PS] and employee voice [EV] were applied to determine how KOL influences are channeled to innovation at the individual level.
Methodology	Data were collected from 347 academic staff in public universities in Southern Nigeria and subjected to a partial least square [PLS] analytical procedure for data treatment and hypotheses testing using the SmartPLS 3 software for variance-based structural equation modelling.
Contribution	The study formed an integrated research framework that links knowledge-oriented leadership and innovation by accounting for the contextual mechanisms of psychological safety and employee voice.
Findings	The PLS results demonstrated that the knowledge-oriented leadership and innovation relationship was positive and significant, and this relationship was partially mediated by two variables, namely, PS and EV. Furthermore, the two mediating variables channeled KOL's influence on innovation in a sequence.
Recommendations	Organisations need to consider the practical application of KOL to improve innovation outcomes considerably. By this, leadership training programs should include modules, courses, or topics on KOL to engender the formation of requisite managerial skills. More so, they should consider the criterion of demon-

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strable KOL abilities for leadership selection and recruitment. As a personal development initiative, managers can attend leadership development programmes as well as obtain certification in knowledge management to improve their KOL abilities. This initiative should be encouraged and supported by organisations. In all, the human resource management framework should be responsive to the dynamics of the knowledge economy regarding leadership. Given that PS and EV function as mediators, organisations should actively cultivate an environment enabling interpersonal risky behaviours founded on trust, respect, and cooperation and encourage/support employees who demonstrate such behaviour accordingly. In this line, they should create and sustain a supportive environment that positively reinforces voice decisions and behaviours.

Future Research — The study only determined the links between KOL, PS, EV, and innovation in public universities in Southern Nigeria. Other studies may examine the linkages in other knowledge-intensive organisations as well as expand the geographic scope to make for better generality of findings. Future studies should look at other underlying mechanisms that can affect the KOL-innovation relationship, such as psychological capital, work engagement, work commitment, etc. The role of moderators can be identified and introduced to this integrative framework to demonstrate the conditions affecting the linkages.

Keywords — employee voice, knowledge-oriented leadership, knowledge sharing, innovation, psychological safety

INTRODUCTION

The relationship between leadership and innovation (i.e., a collaborative behavioural process involving the transformation of ideas into practical solutions targeted at a specific problem or challenge) is not new to research. But what appears new is the distinct forms of leadership effectuating innovation among employees in an organisation. Studies have shown that certain positive forms of leadership (e.g., authentic leadership, transformational leadership, ethical leadership, empowering leadership, and supportive leadership) are needed to facilitate and reinforce innovation (Carmeli et al., 2013; X. Li et al., 2020; Liu et al., 2023; Ononye, 2023a, 2023b; Y. Wang et al., 2018). However, not enough studies have investigated the influence of knowledge-oriented leadership [KOL], which is one of the contemporary leadership behaviours that has begun to emerge in innovation studies (Naqshbandi & Jasimuddin, 2018). KOL develops knowledge management behaviours and practices for the effective and efficient utilisation of new and existing knowledge (Sahibzada et al., 2021). This leadership style is important in the knowledge economy because it is aligned with knowledge-intensive organisations, ensuring that the right leadership style is used to modulate and align knowledge exploration and exploitation capabilities according to changing task demands (Sahibzada et al., 2021). Besides, innovation is a knowledge-based activity, and one way to support it is by having leaders who understand the catalytic power of knowledge (Naqshbandi & Jasimuddin, 2018). Although the relationship between KOL and innovation has been studied, the contextual factors affecting this relationship are still limited. To extend this line of research, the study focuses on the mediating roles of psychological safety [PS] and employee voice [EV]. This is because both constructs are closely related to positive forms of leadership and innovation-related variables (Botha & Steyn, 2022; Carmeli et al., 2013; Javed et al., 2017; Sifatu et al., 2022; Y. Wang et al., 2018; Zakkariya & Aboobaker, 2020). PS is a mental state wherein an employee can relate with others without fear of negative consequences (e.g., punishment, rejection, resentment, embarrassment, threat, criticism, or other uncertain reception). EV is a discretionary behaviour involving the expression of information to management about work-related concerns with the intent to foster meaningful change or improvement to organisational processes, practices, and services (Botha & Steyn, 2022; Dedahanov et al., 2016).

Given that EV is a discretionary behaviour, employees may show restraint in speaking up about organisational problems and probable solutions, especially if the right relational context is lacking (Nazir et al., 2020; Ononye, 2023a, 2023b; Ouyang et al., 2022). In such a situation, valuable knowledge remains hidden in the minds of employees, and the promises of EV to the furtherance of innovation processes may not be fully realised. In the knowledge society, knowledge must be created and shared in disparate forms for value creation (Hosseini et al., 2022), and EV represents a knowledge-sharing [KS] approach leveraged by a knowledge-intensive organisation to gain important knowledge (Basheer et al., 2021). KOL's specific purpose is to develop knowledge work by fostering participation in knowledge-related activities, such as knowledge creation and KS (Zahur et al., 2022). Employees' participation in such activities benefits voice decisions because they are able to share important information in a way that triggers creative process engagements (Chan, 2014). By this, KOL promotes a KS culture, which could serve as a catalyst for exploiting EV (Chughtai & Khan, 2023). However, the exercise of expressive opportunities by employees cannot happen in isolation of PS. PS reduces the risks and uncertainties associated with the demonstration of certain work behaviours, like EV (Subhakaran et al., 2020). The behavioural modelling of KOL in a dyadic interaction may cultivate a psychologically safe climate where the voicing of opinions via KS mechanisms is encouraged and supported. Thus, PS is a hallmark for effective employee functioning in KS activities (Abi-Esber et al., 2022).

Drawing from the proactive motivation model of Parker et al. (2010), which argues that certain contextual factors, like a leader's behaviour, impact proactive motivational states (i.e., PS), thereby enhancing or negating employees' proactive behaviour (e.g., EV and innovation) in the workplace. This argument is reinforced by the finding of a recent study (Abi-Esber et al., 2022) that PS intervenes in a leader's behaviour linked with discretionary employee behaviours. Furthermore, constructed upon the social exchange theory (SET), when leaders demonstrate supportive behaviours in the development of dyadic relationships with employees, they create the psychological conditions that allow employees to intentionally engage in specific extra-role behaviour: EV and innovation. The goal is to ensure important work-related ideas, opinions, or comments are utilised in the most efficient and effective manner for innovative work. Given the above, it is highly probable that KOL has the potential to exercise the utility of EV among the employees. How this is achieved is yet to be confirmed in any empirical study. Nonetheless, to the best of the researcher's knowledge, no single study has investigated the simple and sequential mediation of PS and EV in the KOL-innovation link. Therefore, the study attempts to examine the mediating roles of PS and EV in the KOL-innovation relationship.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

KOL AND INNOVATION

KOL employs aspects of transformational leadership (i.e., focused on inspiring, motivating, and coaching employees to ensure experimentation, flexibility, and risk-taking) and transactional leadership (i.e., focused on the exchange of rewards or benefits to ensure consistency, stability, and control) and is characterised by an enhanced focus on communication and motivation (Donate & Sánchez de Pablo, 2014; Naqshbandi & Jasimuddin, 2018), all of which are used to create a positive context for the optimal flow and utility of knowledge to further learning and innovation activities (Donate et al., 2022). By combining both leadership styles, KOL exhibits flexibility to adapt behaviours to the contextual demands of knowledge work (Zia, 2020). Botha and Steyn (2022) state that employee engagement in innovation activities is highly discretionary, which suggests that there are certain contextual factors, like leadership, that support it.

KOL exploits knowledge-related opportunities by providing a compelling vision and direction for knowledge management activities (Latif et al., 2021) and motivational resources to institutionalise learning through the creation, sharing, and application of new knowledge (Ononye & Igwe, 2019), all of which are fundamental to the operationalisation of innovation in organisations (Donate et al.,

2022). Because KOL tends to be tolerant of interpersonally risky behaviours, they often develop and maintain an enabling environment for constructive communications and supportive relationships. The emotional and cognitive changes determine the motivational force for engaging in knowledge-related activities for innovation purposes (Ononye, 2023a). Donate and Sánchez de Pablo (2014) argue that the link between KOL and innovation is indirect through knowledge management processes. This argument has found support in several empirical studies (Chughtai & Khan, 2023; Naqshbandi & Jasimuddin, 2018; Sadeghi & Rad, 2018). While these studies suggest an indirect effect using team or organisation-level analysis, this research draws on the social exchange theory to determine the main effect of KOL on innovation using individual-level analysis. The theory argues that employees' attitudes and behaviours are consequences of the exchange processes or relations between them and organisational leadership. KOL leverages different leadership styles to ensure the right motivational elements impacting employees' personal resources are applied to sustain innovation efforts. In view of this, KOL can influence innovation among employees. Thus:

H1: *The relationship between KOL and innovation is significant and positive.*

KOL and Innovation: The Mediation of PS

PS connotes employees' belief or perception about the consequences of demonstrating interpersonally risky behaviours (e.g., seeking feedback, asking for help, asking a challenging question, proposing a new idea, reporting a mistake, or admitting an error) in their work environment (Kark & Carmeli, 2009; Liu et al., 2023). This suggests that PS is context-specific and is most relevant in contexts where employees' engagement in certain work behaviours puts their personal interest or identity at risk (Zhang et al., 2010), even when doing so would afford benefits to the organisation (Edmondson, 1999). Binyamin et al. (2018) state that demonstrating innovative behaviours requires employees to engage in acts that are interpersonal in nature; hence, employees' perception of safety in interactions is highly important. KOL builds the trust and comfort levels of employees to leverage the motivational forces of self-expression in their working with each other (Zhang et al., 2010). They understand the power of knowledge and strive to leverage the knowledge of employees by creating a safe space for learning and knowledge exchange (Shariq et al., 2018). The elimination of fear in engagements in open discussions triggers the creative tension and trade-offs of ideas from conversations, leading to the demonstration of innovation (Edmondson, 2003). KOL's emphasis on open communication and motivation makes them highly receptive to innovative ideas from employees, which have implications for different aspects of organisational work (Donate et al., 2022; Donate & Sánchez de Pablo, 2014). The transformational qualities of KOL are closely related to PS and innovation behaviour (Carmeli et al., 2013). For instance, KOL's intellectual stimulation of employees encourages them to take risks by challenging the norm to address problems in a novel manner. Moreover, the role clarity, performance expectations, initiating knowledge management structure, and contingent reward provided by their transactional qualities are foundational to PS facilitation of work engagement (Kahn, 1990). Arguably, PS mediates the KOL-innovation link. Thus:

H2: *PS enhances the relationship between KOL and innovation.*

KOL and Innovation: The Mediation of EV

Selvaraj and Joseph (2020) contend that it is no longer tenable to solve complex problems by relying chiefly on a leader's knowledge because it may not always provide a holistic understanding of the intricate nature of a problem. The power of EV lies in the detection of organisational problems/weaknesses as well as the mistakes made by management (Sifatu et al., 2022). This makes it necessary to unlock the hidden information embedded in the minds of individuals by encouraging EV. In doing so, employees demonstrate their participation and involvement in cooperative and constructive discussions about organisational problems or challenges (Basheer et al., 2021), which is essential for improving the quality of decision making. Studies (e.g., Detert & Burris, 2007; Edmondson, 2003; Kim et al., 2023) highlighted leaders' support and openness to information sharing as conditions necessary for EV. Because managers exhibiting KOL behaviour tend to be tolerant of risky behaviours, they

often create a trusting environment supportive of open and constructive relationships. The formation of positive relationships fosters creative conversations to expand employees' cognitive capacity for problem-solving (Ononye, 2023a).

Innovation is usually a direct outcome of the optimal utilisation of critical knowledge resources in organisations. As such, innovation is the transformation of EV, constituting discovery and creativity into practical solutions or change (Ononye, 2021). Given that KOL develops and applies knowledge productively for the attainment of competitive advantage, they could consider the wider utility and value of EV for the facilitation of knowledge work, like innovation. This argument is predicated on the knowledge-based theory. The study also argues that leadership styles viewed as positive can have a cascading influence on innovation by EV given their close relationship to both constructs (Bai et al., 2019; Basheer et al., 2021; Botha & Steyn, 2022; Nazir et al., 2020; Qi & Liu, 2017; Sifatu et al., 2022; Z. Wang et al., 2019; Yan & Xiao, 2016). KOL can demonstrate positive behaviours because they develop and sustain processes intended to foster KS and learning in organisations (Donate et al., 2022; Shariq et al., 2018). They enable employees to acquire, develop, and share critical knowledge necessary to enact changes and to be more involved in decisions and actions affecting work productivity and performance (Ononye, 2022). Given the above, the study contends that the encouragement of EV can mediate the relationship between KOL and innovation. Thus:

H3: *EV enhances the relationship between KOL and innovation.*

KOL and Innovation: The Serial Mediation of PS and EV

KOL expects employees to demonstrate commitment to and involvement/participation in knowledge-related activities. The employee may reciprocate by voice in response to KOL activation of KS components (i.e., knowledge donation and knowledge collection) to enhance organisational knowledge. The social exchange theory argues that "leaders not only create opportunities for voice behavior by providing formal and informal voice mechanisms but also shape the cognitive factors that drive the decision to speak up" (Y. Li & Sun, 2015, p. 174). This notion has been validated in prior empirical studies (Abi-Esber et al., 2022; Detert & Burris, 2007; Yan & Xiao, 2016) that PS often determines leaders' contextual influence on EV, which is also viewed as a predictor and an intervening variable of innovation (Basheer et al., 2021; Nazir et al., 2020;). So, it is logical to assume that PS serves as a mediatory pathway through which leadership exercises EV with the aim of promoting innovation. In the context of KOL, this could be achieved by pointing out the contributions of knowledge management practices to the development of organisational knowledge and the furtherance of organisational change. The championing of such practices engenders employee involvement and participation. Besides, Mehmood et al. (2022) argued that PS, though related, is not enough for innovation; there are other intervening knowledge-related variables that also matter. They further found that PS and KS mediated the link between entrepreneurial leadership and employees' creativity. The serial mediation argument is that EV and PS form the contextual influences of leadership on innovation. Thus:

H4: *The serial mediation of PS and EV enhances the relationship between KOL and innovation.*

The hypotheses stated above are summarised in Figure 1 to show the pathways through which KOL influences innovation among employees.

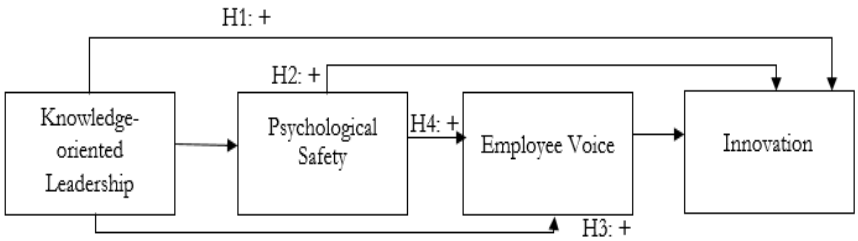

Figure 1. The research framework

METHOD

The study followed a cross-sectional approach to survey academic staff randomly selected from public universities operating in Southern Nigeria. The survey was performed for two months, from February 2023 to March 2023. The sample was selected because academic staff actively participate in knowledge-related activities in their work with students, colleagues, businesses, and other critical stakeholders to enhance teaching, research, and consultancy. Moreover, they often face an evolving environment in which innovative approaches are required to effectively and efficiently navigate different challenges impacting teaching, learning, and research outcomes. Donate and Sánchez de Pablo (2014) mention that organisations that are knowledge-intensive, like universities, require a different management style from those that are less or not knowledge-intensive and that the role of leadership should be distinctive and supportive of knowledge management practices. Given the relevance of knowledge and innovation in such organisations, the study assumes that the constructs under investigation would be demonstrated to a degree in their activities to test the probable links. This sample has been utilised in Sahibzada et al. (2021) to demonstrate the direct and indirect connections between KOL and organisational performance. After administering a survey on 391 academic staff in person, 353 responses were collected. A letter that explicitly captured the research topic, the research aims, and a statement of anonymity of responses accompanied the questionnaire. Informed consent for voluntary participation was obtained prior to the full application of the questionnaire. The respondents were followed up via text messages and/or calls, as indicated in their preferred communication mode, to improve the response rate, and the reminders were transmitted on three occasions during the survey period.

The academic staff who voluntarily participated were instructed to fill out a coded questionnaire on KOL and PS and were asked to present a similarly coded questionnaire to their immediate unit heads to assess their EV and innovation behaviour. Both questionnaires were completed and returned in an envelope provided by the researcher. Six of the 353 questionnaires were removed due to incomplete responses, resulting in 347 valid observations, i.e., an 88.7% response rate. The valid responses exceeded the minimum observations required to attain stable estimations in structural equation modelling, as Hair et al. (2017) indicated. The demographic characteristics of the respondents showed that male respondents (n = 189, 54.5%) were more than females (n = 158, 45.5%). The average age and tenure of the respondents were 46.7 years and 16.9 years, respectively. The majority of respondents had obtained a doctorate (n = 293, 84.4%), and 54 (15.6%) hold a master's degree. Of the 347 respondents, 131 were engaged in administration and academic work, and 216 were mainly engaged in academic work.

The questionnaire comprised validated scales from existing literature and was anchored on a 5-point Likert scale from strongly disagree (1) to strongly agree (5). The six-question items of KOL were adopted from Donate and Sánchez de Pablo (2014). A sample item includes "managers reward employees who share and apply their knowledge." The use of this scale has been found to be reliable in prior studies (Chughtai & Khan, 2023; Naqshbandi & Jasimuddin, 2018). Reinforcing this statement, Cronbach's alpha, $\alpha = 0.805$, for this scale demonstrated high reliability. Six question items were taken from Edmondson (1999) to measure the extent to which employees feel safe engaging in open discussions with others in an organisation; that is, PS. Sample item includes "members of this organisation are able to bring up problems and tough issues." The PS scale achieved an acceptable Cronbach's alpha of 0.767. EV was assessed with the 6-question item scale in LePine and Van Dyne (1998). A sample includes "This employee develops and makes recommendations concerning issues that his/her work." The Cronbach's alpha, $\alpha = 0.836$ for this scale, was high. Four items were taken from Ononye (2021) to assess the extent to which employees demonstrate innovative behaviour at work. Sample items include: "This employee defines problems to be solved at work" and "This employee is usually involved in the implementation of new ideas." The Cronbach's alpha, $\alpha = 0.780$, for this scale was high.

The data collected were analysed with the partial least square structural equation modelling (PLS-SEM) technique using the SmartPLS 3 software. The PLS is a variance-based analytical approach that combines factor analysis and regression. This approach is appropriate when mediation variables are studied with a small sample size. Following the 2-step analytical procedures in Anderson and Gerbing (1988), the study analysed the measurement model (i.e., verifying the validity and reliability of the constructs) and structural model (i.e., estimating the model parameters to determine the hypothesised relationships) sequentially. In doing so, the rule of thumb in Hair et al. (2017) was applied for the interpretation of the PLS results. The mediational approach recommended by Baron and Kenny (1986) was adopted for hypothesis testing. The bootstrap method using 5000 iterations was utilised in the structural model analysis.

RESULTS

A preliminary test was conducted to confirm the appropriateness of factor analysis for the dataset before performing the 2-step analytical procedure for structural equation modelling (SEM). The Kaiser–Meyer–Olkin measure of sampling adequacy showed that the resulting values were greater than the minimum acceptable value of 0.60 (KOL = 0.778, PS = 0.741, EV = 0.802, innovation = 0.739), and Bartlett's test for sphericity was significant for all the latent constructs at $p < 0.05$. These preliminary tests were performed with SPSS 20.0. Having confirmed the factorability of the dataset, the study proceeded to determine the validity and reliability of the measurement model. In Table 1, construct validity was assessed using the average variance extracted (convergent validity) and the Fornell-Larcker criterion (discriminant validity). The reliability was assessed with factor loading (item reliability) and composite reliability (construct reliability). Following the rule of thumb in Hair et al. (2017), the results indicate that construct validity was achieved because the average variance extracted (AVE) value of each construct was higher than the minimum point of 0.50, and the correlation of each construct was higher than the inter-construct correlations. Thus, acceptable convergent validity and discriminant validity were demonstrated. Furthermore, satisfactory reliability was confirmed because the factor loading (FL) of each item underlying a construct exceeded the minimum acceptable value of 0.707, and the composite reliability (CR) of each construct was above the limit of 0.70. Thus, adequate item and construct reliability were established.

Table 1. Measurement model results

	Construct	FL Range > .707	CR > .70	AVE > .50	VIF	Fornell-Larcker criterion			
						1	2	3	4
1	KOL	0.771 - 0.840	0.798	0.740	1.097	**0.860**			
2	EV	0.725 - 0.873	0.754	0.566	1.160	0.136	**0.752**		
3	PS	0.794 - 0.816	0.862	0.658	1.185	0.097	0.205	**0.811**	
4	Innovation	0.844 - 0.888	0.803	0.621		0.102	0.271	0.084	**0.788**

The multicollinearity test was performed using the variance inflation factor (VIF) to establish whether the self-reported scale is free of common method bias (Hosseini & Ferreira, 2023). This is critical in ensuring that latent constructs are perfectly correlated and that reliable inferences can be drawn from the measurement model (Ononye & Igwe, 2019). Following the recommendation in Kock (2015) that a model has no problem with common method bias (CMB) if all VIF values are ≤3.3, the resulting values demonstrated that CMB does not pose a challenge in this model. Given these satisfactory results, the study advanced to the second step of SEM, which is the estimation of the structural model. Regarding the R^2 value (0.575), the rule of thumb in Hair et al. (2017) states that values less than 0.75 and greater than 0.50 are considered moderate. Thus, the link between KOL, PS, and EV has moderate predictive power on innovation. The standardised root mean square residual (SMSR) and normed fit index (NFI) were within the recommended range/point. SMSR (0.074) was below 0.08, and NFI (0.904) was close to 1; all suggest a good model fit (Kline, 2014).

In Table 2, the structural model was assessed with the path coefficients (β), p-value, and coefficient of determination (R^2). The β indicated the nature of the relationship, the p-value demonstrated the significance of the relationship, and the R^2 showed the strength or intensity of the relationships given the dependent latent construct. H1 proposed that the relationship between KOL and innovation is significant and positive, and the PLS-SEM result (β = 0.133, p = 0.000) found that this proposition holds true. Thus, H1 was accepted. H2 predicted that PS enhances the KOL-innovation relationship, and the PLS-SEM result (β = 0.099, p = 0.027) proved this prediction to be true. Thus, H2 was accepted. The introduction of the mediational factor of PS made the correlation of the KOL-innovation link to reduce slightly (β = 0.128, p = 0.000), however, there was no change in its significance. The mediation effect was deemed to be partial. H3 argued that EV enhances the KOL-innovation relationship, and the PLS-SEM result (β = 0.130, p = 0.000) provided evidence to support this argument. Thus, the argument in H3 was confirmed. The introduction of the mediational factor of PS made the correlation of the KOL-innovation link reduce slightly (β = 0.128, p = 0.000); however, there was no change in its significance. The mediation effect was considered partial, which suggests there are other important contextual factors not included in this model. H4 stated that the serial mediation of PS and EV enhances the KOL-innovation relationship, and the PLS-SEM result (β = 0.159, p = 0.000) proved this statement to be valid. Thus, H4 was supported.

Table 2. Structural model estimation

H	Paths	β	p value	Remark
1	KOL → Innovation	0.133	0.000	Significant
2	KOL → PS	0.225	0.000	Significant
	PS → Innovation	0.192	0.000	Significant
	KOL → Innovation	0.131	0.000	Significant
	KOL → PS → Innovation	0.099	0.027	Significant
3	KOL → EV	0.383	0.000	Significant
	EV → Innovation	0.347	0.000	Significant
	KOL → Innovation	0.128	0.000	Significant
	KOL → EV → Innovation	0.130	0.000	Significant
4	PS → EV	0.288	0.000	Significant
	KOL → PS → EV → Innovation	0.159	0.000	Significant

Note: P < 0.05 R^2 = 0.575, SRMR = 0.074, NFI = 0.904, β = beta values

DISCUSSION

The study found a positive and significant relationship between KOL and innovation. Although previous studies (e.g., Chughtai & Khan, 2023; Donate et al., 2022; Naqshbandi & Jasimuddin, 2018; Sadeghi & Rad, 2018) showed that KOL effect on innovation is indirect, this finding demonstrated that it could also be direct. The relevance of KOL lies in providing employees with a shared frame of reference to engender commitment to the utility of knowledge in furthering innovation processes. Importantly, employees do not operate in a vacuum; the permission of leaders is critical for the implementation of employees' ideas, and as such, a salient aspect of employee innovation is the communication of ideas to leaders to elicit feedback (Lukes & Stephan, 2017).

The study found that PS enhances the KOL-innovation relationship. KOL leads through the knowledge lens by generating psychological conditions to stimulate proactive behaviours among employees regarding the use of KS practices for problem solving (Donate et al., 2022). Arguably, PS, characterised by mutual trust and respect, is a social lubricant that strengthens the connection, communication, and collaboration between KOL and employees, thereby improving KOL effectiveness in an innovation context.

The study found that EV enhances the KOL-innovation relationship. This finding is consistent with the assertions in Ononye and Igwe (2019) and Ononye (2021) that leadership behaviours that facilitate and support KS can influence cognitive processes connected to innovation. In a social exchange relationship, employees' engagement in extra-role behaviour, like EV and innovation, maybe a cognitive response to the behaviours encouraged and supported by KOL.

The study found that the sequential effect of KOL on innovation is achieved through PS and EV. This finding is consistent with the social exchange theory that KOL creates and maintains a psychologically safe environment for employees to work. In return, employees feel obligated to reciprocate by engaging in EV to enhance innovative work. It somewhat aligns with Mehmood et al. (2022) that PS and EV-mediated entrepreneurial leadership and employees' creativity link in a sequence. This is to say that employees' perception of PS as shaped by KOL will encourage their innovative behaviour when EV is demonstrated. In all, KOL can extend the potency of knowledge-related practices to a range of desirable employee behaviours by cultivating and maintaining a psychologically safe environment. The result also supported Mehmood et al. (2022), who stated that PS is related but not enough for innovation; other knowledge-related variables, like EV, also play a role.

Additionally, EV had a higher mediational effect than PS, and the possible reason is that a perceptible construct (stimulus), like PS, needs to be expressed in action (response) for it to explicate a greater influence on innovation (Y. Wang et al., 2018). Interestingly, the KOL-innovation link, though positive and significant, can achieve a higher effect indirectly. It is highly plausible that the use of complementary factors or mechanisms can reinforce their influence and effectiveness in an innovation context.

THEORETICAL AND PRACTICAL IMPLICATIONS

This study advances both theory and practice regarding the relationships among the constructs. First, theoretically, the study examined the direct and indirect effects of KOL on innovation at the individual level, whereas prior research works contributed to the elucidation of the aforementioned relationship at the team and organisational level (Chughtai & Khan, 2023; Donate et al., 2022; Donate & Sánchez de Pablo, 2014; Naqshbandi & Jasimuddin, 2018; Sadeghi & Rad, 2018). Second, the aforementioned studies mentioned that KOL is necessary but not adequate for the effectuation of innovation, suggesting an indirect effect. However, this study noted that the KOL effect can be both direct and indirect at the individual level. However, in comparison to the direct effect, this leadership style can indirectly achieve more influence on innovation. Hence, the relevance of underlying factors in maximising its effectiveness in a specified context. Third, this study indicated the pathways (PS and EV) in which knowledge-oriented leadership explicates influence on innovation, whereas other related studies used PS and KS as contextual variables for other positive leadership behaviours (e.g., humble leadership and entrepreneurial leadership) in a creativity context (Mehmood et al., 2022; Y. Wang et al., 2018). Thus, this study demonstrated the centrality of the sequential link between PS and EV in fostering innovation based on a knowledge-oriented approach to leadership. The relational dynamics among the constructs deepen our understanding from the social exchange perspective. Fourth, KOL is still in a nascent state of development (Latif et al., 2021); thus, this study added to the literature on the construct, initially developed by Donate and Sánchez de Pablo (2014), at the individual level and in an African country context, Nigeria in particular. The study presented other individual-level consequences of KOL not documented in previous studies (Chughtai & Khan, 2023; Donate et al., 2022; Donate & Sánchez de Pablo, 2014; Naqshbandi & Jasimuddin, 2018; Sadeghi & Rad, 2018; Sahibzada et al., 2021).

Importantly, organisations need to consider the practical application of KOL to improve innovation outcomes considerably. To achieve this, leadership training programs should include modules, courses, or topics on KOL to engender the formation of the requisite managerial skills. More so, they should consider the criterion of demonstrable KOL abilities for leadership selection and recruitment.

As a personal development initiative, managers can attend leadership development programmes as well as obtain certification in knowledge management to improve their KOL abilities. This initiative should be encouraged and supported by organisations. In all, the human resource management framework should be responsive to the dynamics of the knowledge economy regarding leadership. Given that PS and EV function as mediators, organisations should actively cultivate an environment enabling interpersonal risky behaviours founded on trust, respect, and cooperation and encourage/support employees who demonstrate such behaviour accordingly. In this line, they should create and sustain a supportive and deliberative environment that reinforces voice decisions and behaviours.

LIMITATIONS AND FUTURE RESEARCH

The research had its limitations. First, the study only determined the links between KOL, PS, EV, and innovation in public universities in Southern Nigeria. Other studies may examine the linkages in other knowledge-intensive organisations as well as expand the geographic scope to make for better generality of findings. Second, future studies should look at other underlying mechanisms that can affect the KOL-innovation relationship, such as psychological capital, work engagement, work commitment, etc. Third, the role of moderators can be identified and introduced to this integrative framework to demonstrate the conditions affecting the linkages. Fourth, the study made use of self-reported data from a single source, which may be prone to bias. Although the time-lagged data collection was adopted, future research can employ a longitudinal dataset for more concrete causal inferences.

CONCLUSION

The PLS analytical method was applied to investigate the relationship between KOL and innovation by accounting for PS and EV as mediators. Data were obtained from 347 academic staff operating in public universities in Southern Nigeria. From the PLS-SEM results, the study demonstrated that the KOL and innovation relationship was positive and significant, and this relationship was partially mediated by two variables, namely, PS and EV. Furthermore, the two mediating variables channeled KOL's influence on innovation in a sequence. Therefore, it was concluded that the KOL-innovation relationship can be explained by the mediational dynamics of PS and EV.

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