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Entrepreneurial Leadership and University Reputation: The Mediating Influence of Knowledge Management in Public Sector Institutions

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ABSTRACT

This study explores the relationship between Entrepreneurial Leadership (EL), Knowledge Management (KM), and Organizational Effectiveness (OE) in public sector universities, emphasizing the mediating role of Knowledge Management. Grounded on the mental empowerment theory and organizational learning mechanisms, the research investigates how entrepreneurial leadership can develop knowledge-based capabilities to enhance institutional effectiveness. A quantitative research design was employed, and data were collected from 317respondents working in public universities through a structured questionnaire. The analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) via Smart-PLS. Results show that Entrepreneurial Leadership has a significant and positive effect on both Knowledge Management and Organizational Effectiveness. Additionally, Knowledge Management partially mediates the relationship between Entrepreneurial Leadership and Organizational Effectiveness. These findings underscore the importance of leadership that encourages innovation and strategic knowledge used to improve performance in higher education institutions. The study contributes theoretically to leadership and knowledge management literature and offers practical insights for policymakers and academic leaders aiming to strengthen organizational outcomes in the public sector.

INTRODUCTION

In the rapidly evolving global knowledge economy, public universities play a critical role in fostering innovation, producing skilled graduates, and conducting impactful research. Leadership, and knowledge management, are some of the critical components that determine an organization's effectiveness in higher education (Gholami, Asli, Nazari-Shirkouhi, & Noruzy, 2013). For universities to overcome obstacles in this dynamic environment, innovation is essential. Effective leadership is the driving force behind innovation and leaders must foster a culture of experimentation ,autonomy and strategic vision to guide them through change(Clark, 1995). Clark (1995) highlights a shift in universities towards entrepreneurial models, where they actively seek new sources of funding, partnerships as well as organize flexibility to remain competitive(Singh, 2010). Research on innovation is crucial since that can satisfy the market's demands while also yielding financial benefits that subtly support the national economy(Serdyukov, 2017). Since leaders have the direct authority to determine whether to implement new ideas within an organization, they must establish clear objectives, and support efforts to innovate from subordinates, their style of leadership has been highlighted as one of the most significant impact on innovation(Kesting, Ulhøi, Song, & Niu, 2015). Organizational learning as a whole may be a major factor in deciding innovation (Stata & Almond, 1989). The dynamic nature of today's educational landscape has made new leadership philosophies that promote progress and positive change necessary. The application of Entrepreneurial leadership models in the university management helps in creating a learning environment for innovation(Sart, 2014).

Recent, studies have demonstrated that entrepreneurial leadership be tested in a variety of settings because the public sector has distinctive organizational characteristics, making it an intriguing theoretical context for entrepreneurship in fact, political interference limits leadership, goals are less clear, achieving public improvement necessitates compromise between several and conflicting interests. Furthermore, public employees are typically more risk-averse and change-resistant(Chang, 2024; Nicholson-Crotty, Nicholson-Crotty, & Fernandez, 2017). More research is required to understand how public sector entrepreneurial leaders adapt to changing circumstances and what qualities are necessary for surviving in challenging situations.

Universities are under more and more pressure to contend for organizational sustainability in the current higher education environment. In the age of globalization, having a global competitive advantage is crucial for both established and emerging nations (Rodrik & Stiglitz, 2025). They are essential to a country because they generate tax income, boost investments and savings, and foster a more civic and entrepreneurial society. They also help a state stay competitive and encourage scientific research that leads to modernization as well as social change. A nation's cultural growth can greatly benefit from high-quality higher education. Thus, this paper's goal is to examine how entrepreneurial leadership might be applied in the public sector while studying the direct effect of entrepreneurial leadership with knowledge management in a causal model by examining their mediating effect in the relationship between entrepreneurial leadership and organizational effectiveness using SEM analysis.

The necessity for universities, especially public ones, to adopt creative and entrepreneurial methods has increased due to the worldwide knowledge economic system's quick pace of change (Vivona, 2024). Previous studies have examined the effects of entrepreneurial leadership on organizations like small and medium enterprises(Hidayah, Rachmawati, & Aprianto, 2025). Empirical research on how all of these factors work within the framework of public universities is lacking. Management influence mitigate the impacts of entrepreneurial leadership on creative work behaviors, especially in settings with limited resources (Duru, Tiemo, Fu, & Nimo, 2025). However public sector universities have ample

resources at their disposal so they can effectively manage their knowledge under their entrepreneurial leaders and enhance their effectiveness. This neglected relationship between knowledge orientation & manner of leadership is a significant philosophical and operational gap in the body of research in the context of public sector universities.

In order to address this gap, this research is empirically exploring the ways in which entrepreneurial leadership affect organizational effectiveness through knowledge management within public universities. By examining the combined effects of these determinants on organizational success in public institutions, this study seeks to close these gaps and provide insightful information to university administrators and policymakers who are working to improve institutional efficiency and impact on society.

Contribution to the literature

By investigating the effect of entrepreneurial leadership on the standing of government-owned universities, with an emphasis on the mediation aspect of the knowledge management, the current study significantly adds to the expanding corpus of literature on the subject. Despite a wealth of research on entrepreneurial leadership, there is still little use of entrepreneurial leadership within institutions of government, particularly universities(Renko, 2017). By applying entrepreneurial leadership concept to the university setting, where leaders are required to exhibit creativity, tactical thinking, and flexibility in the face of global educational and administration difficulties, this research fills that gap. Additionally, this study presents Knowledge Management as one of crucial mediating process, providing an explanation for how entrepreneurial leadership can enhance the effectiveness of public sector higher education institutes. Although research on knowledge management and learning has been emphasized in the past, it still lags behind developments in practice (Alavi & Leidner, 2001). Only a few investigations have empirically investigated Knowledge Management's function in converting leadership actions into reputational benefits, despite previous research examining the separate effects of entrepreneurial leadership with knowledge management on productivity. By concentrating on public sector universities that operate in developing countries restricted by resources, which have particular fundamentals to change, it also makes a situational contribution. There are still a handful of empirical investigations that directly link Entrepreneurial Leadership to educational prestige, particularly when it comes to public sector institutions(Martinez & Henkle, 2023). An entrepreneurial leader is capable of taking chances, coming up with new ideas, staying focused, taking accountability for their actions, and having an economic mindset. All things considered, this study not only closes the gap in theory but also provides useful advice for policy makers and university administrators who want to improve institutional credibility using expertise and management initiatives.

The majority of previous studies have concentrated on commercial or private-sector settings, ignoring the special potential and limitations found in public institutions of higher education. Furthermore, without the support of efficient knowledge management (KM) procedures, entrepreneurial leadership alone will not improve a university's reputation. By making sure that the knowledge produced by leadership-driven entrepreneurship is recorded, shared, and ingrained throughout the organization, Knowledge Management, plays a critical mediation role (Donate & de Pablo, 2015). This study is particularly significant because it fills a gap in the literature by examining the mediating function of knowledge administration in the relationship between entrepreneurial leadership and organizational prestige in public universities.

Theoretical Framework and Hypothesis Development Knowledge Based view

The current study is grounded on the knowledge-based view of public sector universities which states that entrepreneurial leaders foster a culture of innovation, encourage sharing of knowledge and use it to foster growth.

Mental Empowerment theory

The development of instruments to simulate and assess how employees react to entrepreneurial leadership is examined in the literature. Mental Empowerment Theory is most closely associated with Rappaport (1987), a pioneering psychologist in the field of community psychology. He introduced the concept of empowerment in the early 1980s, emphasizing its importance in promoting individual and community well-being(Rappaport, 1987; Zimmerman, 2000).The mental empowerment theory was used to find connections between entrepreneurship and creativity as this style of leadership empowers employees and boosts their creativity and ultimately leads to well-being of community(Mehmood, Jian, Akram, & Tariq, 2021). Entrepreneurial leaders are more likely to manage knowledge through acquisition, sharing and application(Hussain & Li, 2022).

Organizational Learning Mechanisms

Organizational learning has been conceptualized as a critical component of universities effectiveness, especially given the increasingly available information in societies today. As learning organizations, universities develop processes, strategies, and structures that enable them to learn and react effectively in uncertain and dynamic environments(Sarder, 2016). Critiques of universities' excessive focus on what should be learnt rather than on the procedures of communal and ongoing knowledge generation, acquisition, distribution, and integration lend credence to this idea. From the standpoint of educational reform, this idea from industry total excellence management, or institutional learning has been incorporated into the field of education, emphasizing the use of various data types to promote ongoing development at all organizational levels(Elkjaer, 2004). These strategies include initiatives that improve staff abilities and foster acquisition of knowledge, such as training and development programs. Furthermore, tools like seminars, meetings, and knowledge-sharing platforms make it easier for information to be shared across divisions(Chatterjee, Rana, & Dwivedi, 2020).

Universities can play an important role in fostering creativity and innovation by building an entrepreneurial culture through knowledge management systems which integrate education, research and innovation. Entrepreneurial leaders are the key drivers in the transformation of universities into dynamic institutions that foster a culture of knowledge that allows universities to learn via creativity and adjustment (Marczewska, Weresa, & Lachowicz, 2024). In general, learning organizational systems are not merely technical procedures; they are woven into the corporation's social fabric and necessitate the alignment of the three components (education, research and innovation) to convert understanding into long-term effectives(Marczewska et al., 2024).

Entrepreneurial Leadership in Public Sector Contexts

The use of entrepreneurial concepts like creativity, risk-taking, awareness of opportunities, and proactiveness in public institutions that are often bureaucratic and stability-oriented refers to entrepreneurial (EL) within the public sector. Although EL has been extensively researched in the business world, its applicability in governments like government agencies, public hospitals, and universities has drawn increased attention as a result of the growing demand for these groups to evolve into learning institutes, driven by results, innovation, and flexibility(Bagheri & Pihie, 2011). Entrepreneurial leadership in the public sector is subject to specific institutional frameworks and limitations, including; high degree of supervision and regulation, influence of politics, restricted independence of resources, opposition to change. These must be in line with contemporary social issues and take into account the capacity of organizations, external oversight and management, which are distinct from leadership competence (Demircioglu & Chowdhury, 2021). Historically, the position of authority in the public sector has been centered on the transactional oversight of public policy with a lesser focus on measuring the efficiency of public sector operations

along with the impacts associated with those outcomes on society(Jarrett et al., 2020). Public-sector entities are dependent on addressing human-centered societal issues like quality of life, poverty, dwellings, managing land, as well as prosperity in the absence of market forces for businesses to improve service delivery and performance of goods. According to the New Public Management, also known as NPM, the public sector is a counterpart of Total Quality Management (also known as TQM) within the business community (Dewhurst, Martínez-Lorente, & Dale, 1999; Gomes, Small, & Yasin, 2019). Leaders in the public sector are developed in extremely bureaucratic settings and are taught to provide rules observance, operational legal compliance and operational consistency enough attention. This refers to any departure from the norm or hierarchy (Ansell, Sørensen, & Torfing, 2023). The need for shifting attitudes toward an independent leadership orientation within the government sector is accelerated by the growing socioeconomic and equity issues facing the current world, which shows that public sector leaders must be ready to handle complicated shifts present in local as well as global relationships. Despite more than two thousand years of serious academic study, the term of leadership is still a scientific phenomenon that requires constant analysis, and assessment. Accompanying an entrepreneurial foundation, which is characterized as individuals who generate, approach and implement groundbreaking concepts in the community's domain.

Hypotheses Development

Four hypotheses are developed for this investigation in order to produce a more thorough and potent statistical analysis of the collected data and to provide a better statistical basis for the conclusions, as the empirical proof presented in this study will test the current concepts that supported the creation of these assumptions.

Entrepreneurial leadership and organizational effectiveness

Many researchers have claimed that in the current complicated and volatile circumstances, it is evident that the rising inefficiency of more traditional methods to strategy needs an entrepreneurial approach. They claimed the organizations must be increasingly entrepreneurial to better their effectiveness, their capacity for modification, and long-term survival (Lin & Yi, 2023). In numerous fields, entrepreneurial leadership has become a critical component of organizational effectiveness. This style of management encourages creativity, flexibility, and proactive resolution of issues by fusing conventional managerial techniques with entrepreneurial ideas(Meung, 2023).

In order to increase organizational agility and adaptability, entrepreneurial leaders empower staff members, promote initiative, and cultivate an innovative culture. These leaders improve overall effectiveness and long-term viability by encouraging learning, adaptability, and opportunity-seeking behavior(Islam & Asad, 2024). Additionally, by fostering a feeling of purpose and ownership, entrepreneurial management raises motivation and engagement among workers, which further improves the efficiency of the organization. These leaders can handle an incredibly competitive and dynamic environment by using their entrepreneurial skills (Pauceanu, Rabie, Moustafa, & Jiroveanu, 2021). Organizations and individual staff member performance is greatly impacted by entrepreneurial leadership, particularly when it comes to inventiveness and originality. Since entrepreneurial leadership fosters innovation, tactical flexibility, and proactive decisions, it significantly improves organizational effectiveness. Additionally, by encouraging an environment of sharing information and facilitating decision-making at all levels, these leaders improve organizational adaptability and operational effectiveness.

Hypothesis 1 (HI): Entrepreneurial leadership has a significant positive effect on organizational effectiveness.

Entrepreneurial leadership and Knowledge Management

Since this leadership style fosters creativity, flexibility, and proactive resolving issues entrepreneurial leadership is essential to improving knowledge management. Entrepreneurial individuals are more inclined to establish settings that encourage knowledge application, integration, and sharing all essential components of efficient knowledge administration. Effective Knowledge Management adoption requires the free flow in knowledge, which leaders in entrepreneurship facilitate by encouraging open communication. These leaders recognize the strategic importance of information as an advantaged resource and incorporate Knowledge Management into their daily work to drive innovation and adaptation (Hussain & Li, 2022).

The goal is to encourage the skilled educators to apply their expertise and create a knowledge-based environment that would enhance the policies in long run. For any organization to succeed, Knowledge Management practices are seen to be crucial for the expansion of their intellectual skills. Furthermore, these leaders include knowledge management into organizational procedures to promote creativity and flexibility because they see the strategic significance of Knowledge management as a competitive asset. As a result, effective knowledge management is accelerated by entrepreneurial leadership, which eventually results in improved organizational development and creative thinking (Indrašienė et al., 2021).

By quickly turning knowledge into action, entrepreneurial leaders' fluid and opportunity-seeking mentality improves responsiveness and creativity and aids organization's in adapting to change. This hypothesis is therefore based on the scientific belief that the effective implementation and application of knowledge management strategies is catalyzed by entrepreneurial leadership. Entrepreneurial leaders frequently support knowledge management which includes information generation, storage, sharing, and application by empowering staff members, dismantling organizational silos, and encouraging open dialogue. Knowledge management is essential for ongoing learning and innovation.

Hypothesis 2 (H2): Entrepreneurial leadership has a significant positive effect on knowledge management.

Knowledge management and organizational effectiveness

By facilitating the methodical production, exchange, and use of knowledge to enhance decision-making, creativity, and general performance, knowledge management (KM) considerably boosts organizational effectiveness. Good knowledge management (KM) ensures that important organizational knowledge is recorded and made available to staff members, enabling them to take better decisions and solve challenges more quickly. Put another way, it is suggested that understanding management is a way to maximize an organization's internal knowledge assets. Knowledge management aims at transforming an organization into an institution of learning through the exchange of both explicit and implicit assets(Acevedo & Diaz-Molina, 2023). Providing employees with commitment from the organization is one of the most crucial methods to numerous academics who have studied the connections between knowledge management and the administration of human resources(Runar Edvardsson, 2008). Additionally, it was mentioned that universities that hope to keep knowledge workers and expect them to grow in commitment should support knowledge sharing among staff members by implementing policies that foster a supportive environment encouraging knowledge offering activities, and fostering strong bonds between leaders team members and staff members(Park & Kim, 2018; Reychav & Weisberg, 2009).

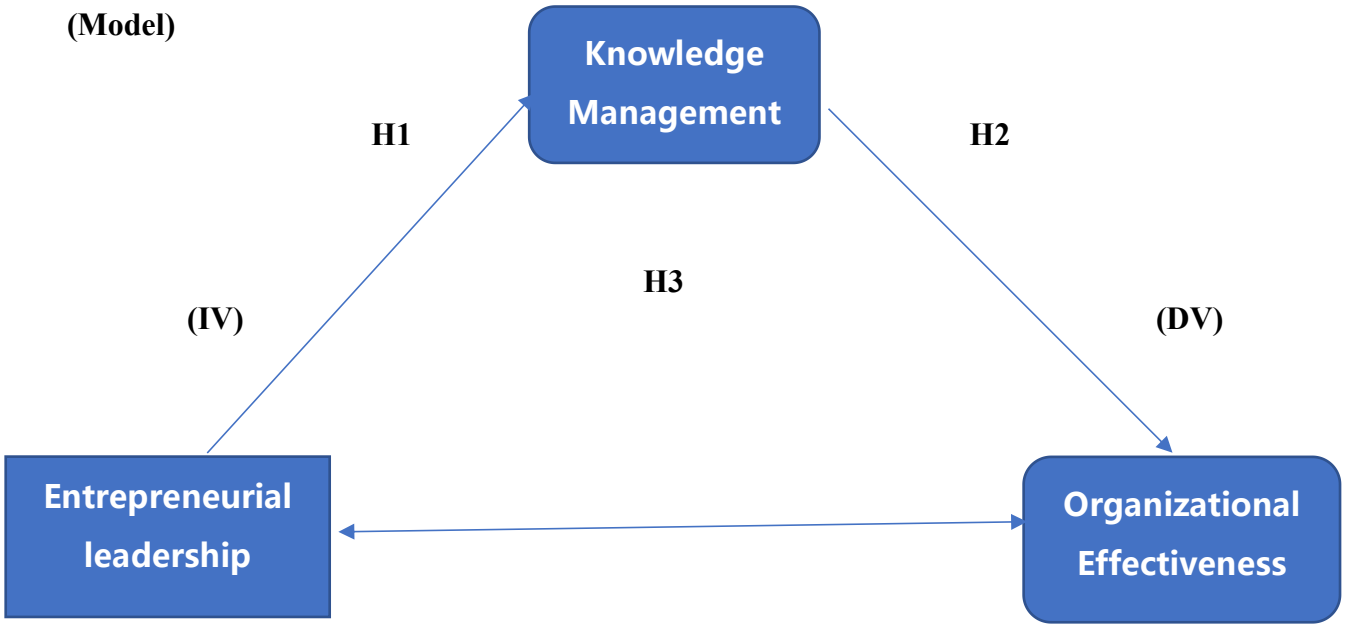
Hypothesis 3 (H3): There is a significantly positive relatioship between knowledge management and organizational effectiveness.

The mediating role of Knowledge Management

One of the most important mediating mechanisms that turns entrepreneurial leadership into better organizational performance is knowledge management. Knowledge-based choices and ongoing development depend on the processes of knowledge production, acquiring it, sharing, and the application, all of that are included in knowledge management (Shujahat et al., 2019). By encouraging open dialogue, opportunities for education, and the use of information as a strategic resource, leaders frequently create an environment that is conducive to knowledge management. Through these methods, knowledge is transformed into a useful resource that spurs creativity and improves the organization's capacity to adapt successfully to changes in the external world (Donate & de Pablo, 2015). According to KM's intermediary position, entrepreneurial leadership starts the push for innovations and strategic flexibility, but successful Knowledge Management practices are what make these goals a reality and convert these objectives into quantifiable performance results. The mediation function of knowledge management suggests that without solid information management procedures, managerial entrepreneurship might not be enough to guarantee better results. Universities can use knowledge management (KM) to consolidate knowledge, share best practices, and gather employee feedback and opinions in a way that promotes excellence in operation and strategic decision making. This based on information strategy aids universities in anticipating future developments, innovating actively, and adapting to change. Entrepreneurial leaders frequently encourage innovation and present novel concepts, but knowledge management is the process by which these concepts are utilized throughout the organization. By establishing forums for information exchange, interconnected dialogue and idea development, knowledge management systems facilitate collaborative creativity which in turn enhances effectiveness.

Hypothesis 4 (H4): Knowledge management mediates the relationship between entrepreneurial leadership and organizational effectiveness.

Theoretical framework
(Model)



RESEARCH METHODOLOGY

In order to investigate the impact of entrepreneur leadership on the standing of Pakistani public sector universities and the mediating role of knowledge management, this

study uses a quantitative approach (Takona, 2024). Innovative thinking, initiative, and taking chances are traits associated with entrepreneurial leadership, play a major role in shaping organizational results in improving its reputation and understanding processes(Gupta, MacMillan, & Surie, 2004). The study uses a cross-sectional research approach, which makes it possible to gather information from an extensive group of academics and administrative employees at one particular moment in time from public sector universities. Reliability and validity will be guaranteed by the use of standardized tools. Well established measurements were used to assess leadership in entrepreneurship. Every item is rated on a five-point Likert scale. A pilot test was carried out to evaluate the internal uniformity and reliability of the questionnaire items before their full implementation. Structural equation modelling (SEM) using smart PLS was carried out to examine the information.

Research Design

A standardized, self-administered questionnaire was used as the data collection tool for this research, and it was distributed to academics and administrative staff members working in the public sector universities. In order to evaluate the three main dimensions related to entrepreneurship including; leadership, knowledge management, and organizational standing, an instrument was created using known, approved scales from earlier research. We employed the six -item scale for Entrepreneurial leadership, which has been demonstrated to have good empirical features and qualities(Renko, El Tarabishy, Carsrud, & Brännback, 2015). We used the eight-item organizational effectiveness scale, which has been shown to have strong empirical characteristics (Angle & Perry, 1981) one item regarding the improvement of overall university ranking was added in it to enhance its relevance and adaptability in the context of Pakistan. So the total items of university effectiveness were nine. The scale of organizational effectiveness was adapted from Angle and Perry (1981) and were modified in the context of Public sector universities. Goal attainment, internal process efficiency, teacher and student happiness, innovation capability, and change-adaptability are some of the characteristics that make up this construct. Examples include: "This institution successfully accomplishes its financial and academic objectives. We used the Four-items scale to access knowledge management, which has been shown to have strong empirical characteristics (Freeze & Kulkarni, 2005). Therefore the final research instrument comprised of 19 items.

Population, Sampling technique and Sample Size

The study's target population comprises of the academic and the administrative staff working in the major public sector universities of Faisalabad Pakistan, i.e, University of Agriculture Faisalabad and Government College university Faisalabad were considered to provide a range of viewpoints. In order to understand how entrepreneurial management is viewed at the grassroots level and how it impacts sharing of information tendencies, including judgments about organizational repute, the study justifies the inclusion of administrative and academic workers as the unit of investigation. Administrators and academics are essential for handling knowledge about the institution, implementing leadership instructions, and enhancing the educational institution's credibility and public perception.

In this current study, a convenient or non-probability sampling technique was used to choose the participants from the population (Sarstedt, Ringle, and Hair 2021). Standards were used to calculate the final sample size, guaranteeing that the results had statistical integrity and generality in the framework of public higher education. The population sample size typically ranges from 304 to 500 persons for statistical research such as structural equation modeling (SEM) for robustness(Kyriazos, 2018). To guarantee voluntary participation and preserve moral values like informed consent and privacy, formal consent was acquired before collecting data. The questionnaires were distributed to 400 respondents out of which we received 340 responses back, few were incomplete and were omitted from the study so the

final sample size of the study was 317 which were considered adequate as the number of respondents per item exceeded 10 responses (Kyriazos, 2018).

Data Collection Method

A standardized, self-administered questionnaire was used as the data collection tool for this research, and it was distributed to academics and administrative staff as mentioned above. With its five-point Likert scale, which ranged from "strongly disagree" to "strongly agree," the survey's closed-ended items allowed for uniform responses that were simple to measure and examine. Depending on respondent convenience and likes and dislikes questionnaires were distributed both digitally (through the use of email or via web-based tools like Qualtrics or Google Forms) and in paper form. This two-pronged strategy was used to boost response rates and effectively reach respondents from different universities and organizations. A pilot study was carried out to confirm the questionnaire's validity, reliability, and clarity prior to the primary gathering of data. Participation was entirely up to the participant, and throughout the data gathering procedure, careful adherence to ethical principles including informed authorization and privacy was maintained.

Variable Measurement

Employing established and validated tools, every factor in this study have been evaluated on a Likert scale with five points. Multiple items were used to measure each of the variables, and their strong internal accuracy (Cronbach's alpha > 0.80) ensured consistency and appropriateness for multivariate approaches like SEM. The average rating for all items was calculated to combine answers for each component. Pilot research was carried out to improve item intelligibility and assess each scale's inner coherence.

Results

To make sure that the information was accurate, dependable, and suitable for additional analysis, data screening was done before the primary statistical analyses were carried out. There are no missing values in the data for any of the study's variables, according to the missing value analysis in Table 1.

		GEN	AGE	EDU	STATUS	EL	OE	KM
N	Valid	317	317	317	317	317	317	317
	Missing	0	0	0	0	0	0	0

Note: GEN; = Gender, EDU; = Level of Education, STATUS; =Employment status, EL; = Entrepreneurial leadership, OE; = Organizational Effectiveness, KM; = Knowledge Management

Initially, every questionnaire that was returned was examined for conflicting answers, outliers, and missing values. The kurtosis and skewness coefficients for all variables were then examined in order to determine whether the data was normal (Cain, Zhang, & Yuan, 2017; Hatem, Zeidan, Goossens, & Moreira, 2022). Common method bias was also tested by Harman's one-factor test. The results showed that no single factor explained most of the variance, indicating that CMB did not pose a significant issue. The results of frequency analysis of gender indicate that females are 302 (95.3%. and males are 15(4.7%). The findings frequency analysis of age suggest that a larger portion of the sample of this study is female. Just 4.7% of the participants were between the ages of 25 and 30; a higher percentage were between the ages of 31 and 35 (0.6%) or older than 35 (0.3%). According to the findings, 283 out of 317 respondents (89.3%) have a bachelor's degree, making up the bulk of

responders. Only 0.3% of those surveyed have a Ph.D., whereas 6.6% of respondents have a Master's degree. Furthermore, 3.8% of those surveyed said they had additional credentials. The majority of the items in this study exhibit an even distribution of non-normality, as indicated by the analysis of skewness and excess kurtosis for the observed variables. In particular, nearly every factor shows a negative skew, suggesting that responders opted to select higher answer scale level. This suggests that the variances are leptokurtic, which means that the responses have large tails and an abrupt peak. Elbow and tailed mass distributions vary from typical if kurtosis is less than 0. This is especially noticeable in items pertaining to Knowledge Management (KM1–KM4), Organizational Effectiveness (OE1, OE3, OE4, OE6–OE9), and Entrepreneurship Leadership (EL2, EL3, EL4). Such a pattern implies that those who participate generally have a propensity to convey opinions that are favorable, which may indicate a strong agreement with assertions that are phrased positively. Furthermore, negative kurtosis excess is seen in all observed variables, with a few items displaying exceptionally high values (e.g., OE6 = 14.550, OE3 = 12.762, KM4 = 11.057).

Evaluation of the Structural Model

Since the off-diagonal variables are zero, the correlation matrix of the inner model residuals does not display a relationship between the internal construct residuals. This proves that the remaining variables are not multicollinear, meeting a crucial premise for Smart-PLS's inner estimate of the model. The concepts have substantial to high positive connections with one another, according to the latent variable interaction matrix. Entrepreneurship Leadership (EL) has a strong correlation (r = 0.651) with Organizational Effectiveness (OE) and an intermediate correlation (r = 0.429) with Knowledge Management (KM) (Kretzschmar and Gignac 2019).

Table 2: Latent Variable Correlation

EL	1.000	0.429	0.651
KM	0.429	1.000	0.691
OE	0.651	0.691	1.000

The degree of convergence between predictive constructs is indicated by the inner the model's VIF (variance inflation factor) values which tell about multicollinearity: EL predicts OE with a VIF of 1.225. Additionally, KM's VIF for OE prediction is 1.225. Every inner VIF score is much below the typical cutoff point of 5.0, suggesting that there are no problems with multicollinearity across the framework's predicting components(O'brien, 2007). The convergence across signals within each construct is represented by the outer VIF values, which vary from 1.243 to 2.724: EL5 (2.724) and EL6 (2.702) have the greatest VIF values; however, they are still below the crucial level. Appropriate degrees of collinearity are shown by the outside VIF values being less than 3.3. Therefore, the measurement method is not threatened by multiple correlations.

Outer Loadings:

The degree to which each metric and its accompanying latent construct are related is reflected in the outer loadings. A loading of 0.70 or above is often seen as appropriate in Smart-PLS. In contrast, whilst may be kept if the item's overall dependability (e.g., AVE, CR) is still deemed adequate(F. Hair Jr, Sarstedt, Hopkins, & G. Kuppelwieser, 2014). Despite the EL3 and EL4 loaded above 0.80, suggesting that they made significant contributions to the build, the majority of EL indicators exhibit robust loadings (above 0.70). Even if they fall just short of the optimal limit, EL5 (0.685) and EL6 (0.697) are still within an acceptable range, especially if the construct shows strong composite reliability and the average variance extracted. Every component exhibits a significant association with the implicit model, as evidenced by the strong loadings of all KM indicators, which are well over 0.70. With the

highest weighting (0.876), KM2 makes a substantial contribution to the assessment of knowledge management. OE2 (0.528), is well below the acceptable cutoff and might be eliminated based on how it affects construct validity. Although marginal, OE8 (0.661) and OE9 (0.662) might be kept provided that the general model fit and dependability are sufficient.

Table 3: Outer Loading Items

	EL	KM	OE
EL1	0.706		
EL2	0.734		
EL3	0.836		
EL4	0.824		
EL5	0.685		
EL6	0.697		
KM1		0.827	
KM2		0.876	
KM3		0.751	
KM4		0.761	
OE1			0.805
OE2			0.528
OE3			0.740
OE4			0.730
OE5			0.773
OE6			0.755
OE7			0.748
OE8			0.661
OE9			0.662

Structural equation modeling using partial least squares (PLS SEM)

Given its increasingly popular use in social sciences and practice today, a critical evaluation of PLS-SEM's implementation appears appropriate and necessary.

Evaluation of the Measurement Framework

To make sure that the latent ideas utilized in the investigation were valid and reliable, the measurement model was evaluated. With the convergent reliability (CR) values above the suggested cutoff of 0.70 and Cronbach's Alpha values that varied from 0.818 to 0.878, every construct showed good internal consistency(Izah, Sylva, & Hait, 2023). The convergent reliability was confirmed by the average variate extracted (AVE) figures for every construct being greater than 0.50. The majority of the indicators' outer loadings were above 0.70,

suggesting that the parameters seen accurately reflect the corresponding concepts. Construct reliability is further confirmed by composite reliability (rho-c) values, which vary from 0.880 to 0.903 and beyond the 0.70 criterion. The average variance extracted (AVE) is a crucial indicator in the use of partial least squares structural equation modeling (PLS-SEM) for evaluating convergent validity. At least 50% of the variance in its indicators can be explained by the concept, according to AVE's generally accepted threshold of 0.50 or above(Cheung, Cooper-Thomas, Lau, & Wang, 2024). Since all of the AVE values are higher than 0.50, the convergent validity is deemed satisfactory. All things considered, the constructs are valid and dependable for measurement model analysis.

Table 4. Internal consistency, Composite Reliability and AVE

	Cronbach's alpha	Composite reliability (rho_ a)	Composite reliability (rho- c)	Average variance extracted (AVE)
EL	0.848	0.868	0.884	0.562
KM	0.818	0.824	0.880	0.648
OE	0.878	0.885	0.903	0.512

Note: Entrepreneurial Leadership (EL), Knowledge Management (KM), Organizational Effectiveness (OE)

AVE ,cross loadings and HTMT ratio were used to access the discriminant validity of the constructs. The Fornell-Larcker method states that each construct's square root of the AVE, or average variance extracted, should be higher than its associations with other constructs. The discriminant validity at the construct level was confirmed in the present research when the square root of AVE for Organizational Effectiveness (0.716), Knowledge Management (0.805), and Entrepreneurship Leadership (0.749) surpassed their respective inter-construct correlation(Joseph F. Hair 2016).

Table 5 Fornell and Larker

	EL	KM	OE
EL	0.749		
KM	0.429	0.805	
OE	0.691		0.716

Cross loadings tell us that, whether indicators (items) truly measure the construct they are intended to measure and not others. Results of data analysis showed that each indicator loaded most strongly on its corresponding concept thus confirming the discriminant validity(Rönkkö & Cho, 2022).

Table 6 Cross Loadings

	EL	KM	OE
EL			
KM	0.474		
OE	0.730	0.809	

For evaluating discriminant validity, the HTMT (Heterotrait - Monotrait) ratio is seen to be a more reliable technique. Usually, a conservative cutoff point of 0.85 (or 0.90 in less stringent situations) is employed. The fact that every HTMT number in this investigation was below the cutoff further supports the idea that the constructs are statistically distinguished from each other.

Assessment of the Structural Model

The structural model was evaluated using a number of important criteria when a valid and accurate measurement model was established, including multicollinearity (VIF values), effect size (f2), path coefficients, coefficient of determination (R2), and predictive relevance (Q2). Coefficient of determination, measures how well a statistical model explains the variation in the dependent variable. Coefficient of Determination

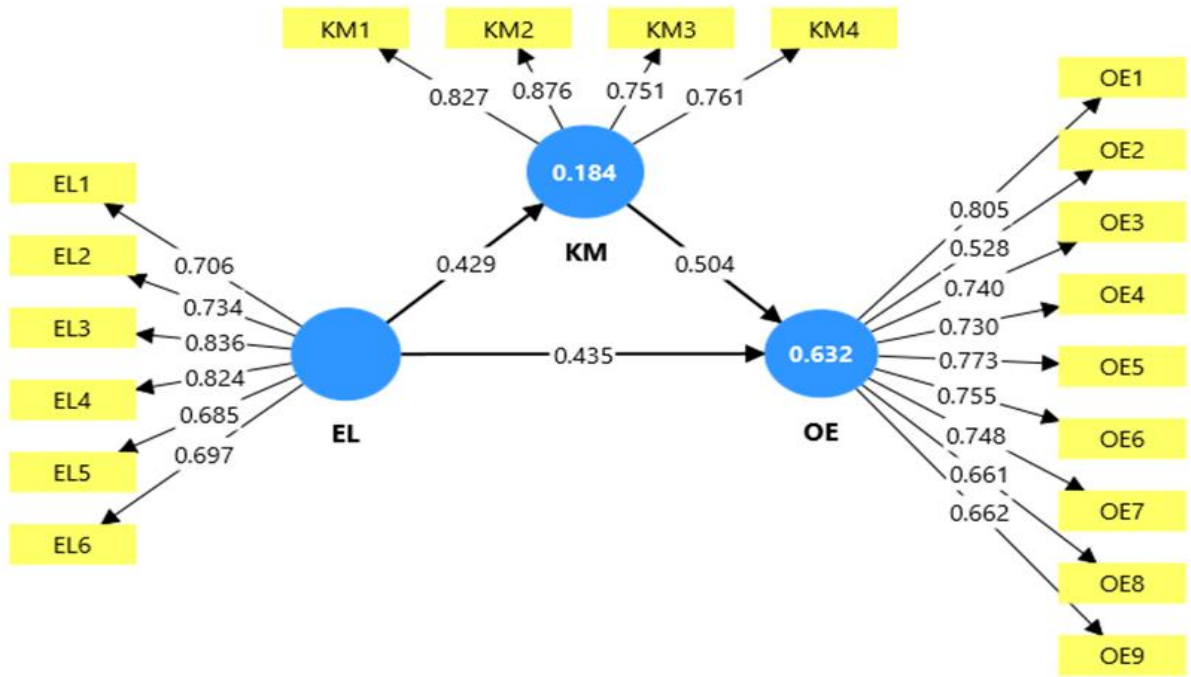
	R-square	R-square adjusted
KM	0.184	0.181
OE	0.632	0.629

f^2 (f-square) is a measure of effect size. It tells you how much a specific independent (exogenous) variable contributes to explaining the variance in a dependent (endogenous) variable, beyond what other variables already explain.

f^2 (f-square) effect size

	EL	KM	OE
EL		0.225	0.419
KM			0.564
OE			

Examining the Hypothesized Relationships



Direct Path Hypothesis

Relationship	Coefficient	t-value	p-value	Remark
Entrepreneurial leadership => Knowledge Management	0.429	6.232	0.000	Supported
Entrepreneurial leadership=>Organizational		6.109	0.000	Supported

Effectiveness	0.435			
Knowledge Management => Organizational Effectiveness	0.504	7.891	0.000	Supported

Indirect Path Hypothesis (Mediation Analysis)

Relationship	Coefficient	t-value	p-value	Remark
Entrepreneurial Leadership=>Knowledge Management=> Organizational Effectiveness	0.216	5.411	0.000	Supported

The path analysis findings are shown in Table above. Hypothesis 1 is validated when Entrepreneurial leadership and Knowledge Management are positively correlated (β=0.429; p=0.000; t= 6.232). Hypothesis 2 is also validated since entrepreneurial leadership and organizational Effectiveness are significantly correlated (β=435; p=0.000; t=6.109). Three hypotheses are supported; however, knowledge management is direct, positive, and strongly correlated with organizational effectiveness (β=0504; p=0.000; t=7.891). Fourth Hypothesis also supported by the indirect, positive, and significant relationship between entrepreneurial leadership and knowledge management (β=0.216; p=0.000; t=5.411) and the mediating function of organizational effectiveness.

Discussion

The results of the research provide unique knowledge regarding knowledge management (KM), Organizational Effectiveness (OE), and entrepreneurial leadership (EL) interact dynamically in public sector universities. The findings show that EL has a large and favorable impact on both knowledge management and organizational learning, confirming the importance of creative thinking behaviors in improving the effectiveness of organizations and systems. Given the close correlation between entrepreneurial leadership and knowledge management, it is likely that leaders who value creativity, initiative, and risk taking create an atmosphere in which information is produced, disseminated, and used more efficiently. Entrepreneurial leadership helps to promote more flexible and responsive knowledge management systems in public sector contexts, where inflexible, universities frequently predominated before(Latif et al., 2020).

Influence Of Entrepreneurial Leadership on Knowledge Management

The findings support a strong positive relationship among knowledge management and entrepreneurial leadership. This result aligns with earlier studies that indicate that entrepreneurs cultivate an environment that promotes creative thinking, information exchange, and ongoing education(Hussain & Li, 2022).

Influence of Entrepreneurial Leadership on Organizational Effectiveness

Organizational Effectiveness is also significantly improved by entrepreneurial management. This bolsters the claim that by promoting creativity, adaptability, and an anticipatory mindset to solving issues, entrepreneurial leadership improves the results of performance. As indicators of organizational effectiveness, others have focused on individual engagement, direction, role succession, relationships with others, disagreements, uncertainty about roles, or appraisal. Current research reinforces this conclusion by arguing that entrepreneurial leadership fosters a culture of continuous development, boosts flexibility, and creates a dynamic corporate culture(Mishra & Misra, 2017; Sandybayev, 2019).

Influence of Knowledge Management on Organizational Effectiveness

Efficient knowledge management ensures that knowledge from institutions is preserved and used to help with policy creation, decision-making, and improving the caliber of instruction, research, and management acts as an incentive for improved resource management,

knowledgeable leadership, and ongoing development in such a manner (Zack, McKeen, & Singh, 2009; Zheng, Yang, & McLean, 2010).

The Mediating Role of Knowledge Management

The discovery that knowledge management partially mediates the link between organizational effectiveness and entrepreneurial leadership is among those most significant. This suggests that, in addition to having a direct effect on organizational effectiveness, leadership in entrepreneurship also enhances knowledge management techniques and confirm the previous findings in this regard. Knowledge management has been used as mediator in the past studies with different innovative performance, sustainable organization performance as well as company's overall performance (Ahmadi & Saffari, 2024; Kordab, Raudeliūnienė, & Meidutė-Kavaliauskienė, 2020; Madhoushi, Sadati, Delavari, Mehdivand, & Mihandost, 2011). Therefore, the current study confirms the findings of the previous studies.

Theoretical and Practical Implications

The current study confirms the propositions of the mental empowerment theory as entrepreneurial leaders foster trust and innovation which empowers employees which ultimately enhances knowledge management practices through acquisition, sharing and application leading to improved university performance (Hussain & Li, 2022; Rappaport, 1987). Furthermore, the current study confirms the organizational learning mechanisms by fostering enquiry, experience and participation the core elements of Elkjaer (2004) "third way" of learning. Entrepreneurial leaders create environment by reflective thinking and collaborative knowledge creation.

Because it offers evidence-based tactics to improve the performance of institutions, this study is extremely pertinent to policymakers and leaders at government universities. By stressing the need of developing leadership skills for entrepreneurs, the study highlights the necessity of creating settings that promote innovation, aggressive problem-solving, and efficient sharing information procedures. In the end, the results will help public universities become more effective as organizations and have a greater impact on society, which will ensure their survival in a global economy that is driven by information as knowledge management aims to make efficient use of information (Zheng et al., 2010).

Conclusion

The results show that Entrepreneurial Leadership has a favorable and significant impact on knowledge management, suggesting that visionary, proactive and inventive leaders foster a culture that encourages learning, intellectual development, and information sharing. Furthermore, Knowledge Management and Entrepreneurial Leadership both directly and favorably affect organizational effectiveness, showing that if knowledge and leadership strategies are aligned, organizations are better equipped to accomplish their objectives, change with the times, and maintain long-term viability. The research does acknowledge many limitations, though, such as the context-specificity of the results, possible biases in data provided by participants, and the changing character of information security risks. These drawbacks imply that more research is required to completely comprehend these patterns and generalize the results to other contexts. In particular, longitudinal studies and industry-specific research are recommended. The research concludes that knowledge management and entrepreneurial leadership are essential facilitators of organizational effectiveness in public universities. In an ever more complicated educational environment, universities can improve their adaptability, productivity, and academic achievement by establishing learning processes and cultivating an approach to management that promotes creativity.

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