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RESEARCH PAPER

Empowering Sustainable Performance: How Digital Leadership, Knowledge Sharing, and Digital Readiness Drive Success in Higher Education

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ABSTRACT

The purpose of this study is to examine the relationship between DL and SP, with a mediating role of KS & OL, as well DR in HEIs In Pakistan. Given the growth of digitalization, a phenomenon known as DL has become an important resource to develop SP in HEIs. The study uses the technique of PLS-SEM to analyze that effect and shows a direct significant positive relationship between DL and SP in addition to indirect relationships through KS and OL. The study demonstrates that DL significantly enhances SP in HEIs, both directly and via the mediating effects of KS and OL, with DR serving as a crucial moderating context. HEIs should foster a culture of continuous learning and open knowledge exchange. Aligning leadership with digital readiness strategies enhances adaptability and performance, while adopting digitally responsive leadership styles is crucial for resilience and long-term success.

KEYWORDS Digital Leadership (DL), Sustainable Performance (SP), Knowledge Sharing (KS), Organizational Learning (OL), Digital Readiness (DR), Higher Education Institutions (HEIs), Partial Least Squares Structural Equation Modeling (PLS-SEM)

Introduction

In a world that is becoming more digitized and global than ever before, the demand for universities to take the lead to adapt and enhance disruptive technologies while remaining long term relevant on top of being aligned with international sustainable strategy simply could not get higher (Mok et al., 2021). With the world currently reflecting on the global shift towards digital transformation, those alike leaders are now responsible for incorporating new technologies into everyday life in a way that not only fuels innovation but also ensures everyone can keep their head above water (Alabdali et al., 2024). DL plays a pivotal role in advancing educational transformation and achieving SDGs, especially SDG 4 and SDG 9. However, technology alone is insufficient—institutions must strategically integrate it to drive sustainable outcomes. In developing countries like Pakistan, where digital divides and resource limitations persist, effective DL is essential to foster continuous learning, collaboration, and innovation (Kang, Li, & Feng, 2023). Such leaders play a vital role in addressing complex challenges by fostering a culture of learning, collaboration, and innovation (Rodríguez-Gómez & Gairín, 2015). DL must balance technological integration with sustainable, localized strategies that retain global relevance (Rapaccini et al., 2023).

Given the grow awareness on digital leadership to develop organizational adaptability and innovation, a notable gap exists in literature concerning how digital leadership influences SP particularly influenced through KS and OL (Mollah et al., 2023). Most of the research on digital transformation is limited to corporate settings with regard

to what happens in educational institutions (with special emphasis on developing countries like Pakistan. This intellectual gap forces us to reconsider the landscape of DL and to question how an integrated and multilevel strategic execution of digital readiness could potentially maximize SP in HEIs.

Although knowledge sharing and org learning have been advocated to foster innovation, the ways in which they influence DL → SP are rather poorly understood (Mok et al., 2021). Most of the existing studies are silent over the moderating role of DR to convert the benefits of DL enablers in positive influences on the organizational performance (Al Issa & Omar, 2024). To tackle this gap, the present study aims at empirically exploring DL as an antecedent of KS and OL spearheading SP, with a moderating effect of DR. Bridging these gaps will not simply build to existing knowledge but also reveal constructive implications for those HEIs who would desire to succeed in an era of digital transformation and hyperactive competition (M. A. Khan et al., 2024).

In developing countries, such as Pakistan, the status quo of DL in HEIs to a more desired state where SP is possible is poles apart (I. Khan et al., 2024). Despite its broad adoption, digital technology is often applied superficially in institutions due to fragmented strategies, poor communication, and inadequate OL. Consequently, DR remains low, limiting faculty and students' ability to effectively utilize emerging tools (Lassnig et al., 2022). Universities must integrate digital technologies as a core element of their culture and operations, making DL vital for long-term agility and resilience. Existing gaps in adoption, efficiency, and competitiveness highlight the risks of inaction, potentially widening the divide in a world where DR is essential for survival (Lassnig et al., 2022). This study of this work is to achieve several objectives. The first form is by testing the impacts of DL on SP within higher education institutes. Second, the research will investigate the mediating role of KS and OL in this relationship, emphasizing how these factors influence the impact of DL on institutional outcomes. Third, this research will examine DR as a moderator which explain how the relationship between DL and SP is affected by it. This research will also certainly identify the major challenges and obstacles that are clearly holding institutions back from utilizing DL to create and thrive with a culture of innovate, adapt and sustainable in the long run. Our main objective was to give an insight into the ways in which digital strategies can be aligned with institutional objectives related to university missions within developing contexts (Cohen et al., 2022).

Theoretically and practically, this study makes a contribution. In addition to its theoretical significance, this study presents one of the individual contributors; namely, organizational culture and performance with relation to higher education sector in Pakistan as very little empirical studies investigated digital leadership on sustained performance mediated by ICT capabilities before (Borah, Iqbal, & Akhtar, 2022). It also contributes to the literature by uncovering institutions' levels of digital readiness as a moderator that has not been frequently explored in studies involving implementation of digital strategies on institutions (Mok et al., 2021). Practically, the findings guide university leaders on implementing DL, enhancing knowledge management, and building digital competencies, while warning of potential setbacks if neglected. These insights aim to support universities in adapting to digital demands and sustaining success in a competitive academic landscape(Gaston, 2023).

Literature Review

One of the root causes has been brought to light — that enlightened digital leadership is a vital foundation for transformative capability in sustainable quest for performance (Schiuma et al., 2024). Roots in transformational leadership theories, the concept of DL first started to develop in the 1990s with the evolution of information technology as an integral part of business operations (Tigre, Curado, & Henriques, 2023). Initially, leaders focused on establishing technical platforms to meet organizational needs. By the 2000s, with the rise of e-commerce and the internet, DL evolved into a strategic function influencing decision-making. In the 2010s, the widespread adoption of disruptive technologies like AI, cloud computing, and big data positioned leaders as key drivers of digital transformation, emphasizing agility, innovation, and collaboration. (Chawla, 2023).

The theoretical foundation of this study is based on the Dynamic Capabilities Theory (DC) (Pitelis, Teece, & Yang, 2023), which suggests that an organization's capacity in developing, integrating and reconfiguring internal and external resources to meet changing business environments is critical for it to enjoy superior performance over time. It posits digital leadership as a dynamic capability, one that enables firms to become more alert, in sensing for arising opportunities and threats, and more agile; reconfiguring resources to leverage advances in technology (Pitelis, Teece, & Yang, 2023)..

KS and OLserve as key mediators, enabling the exchange of ideas and expertise that generate intellectual capital and drive innovation (Fait et al., 2023). OL--the means by which organizations adapt and grow based on new organizational knowledge— reinforces this dynamic capability by incorporating new insights into routines with an eye towards ongoing improvement (Prayag et al., 2024). In this model, DL is intervening directly in these processes and creating an environment that fosters collaboration and transparency, orientation towards the right information timely delivered – as essentially required to improve organizational adaptability and field performance (Madi Odeh et al., 2023).

It also considers DR as a moderator determining the impacts of DL effect. It measures how adept the institution is at adopting digital tools and strategies, both from a technological perspective and a cultural one. One of the capabilities that may be needed when discussing SP is KS and OL, two factors which excellent digital organizations will find easier to foster via more DL style (digital data-powered decision-making) (Martínez-Falcó et al., 2024). On the other hand, low DR will restrict the effectiveness of DL is able to respond to technological changes, disrupting the way to deliver optimal performance of a firm (Adhiatma, Fachrunnisa, & Rahayu, 2023).

Key components associated with successful DL are the technology backbone, digital capabilities and an agile learning culture resulting in a perpetual innovation environment (Jasim et al., 2024). Effective digital leaders possess strategic foresight, technological acumen, and the ability to foster collaboration across all organizational levels. These qualities enhance KS and OL, contributing to SP. Grounded in Dynamic Capabilities Theory, this study offers a holistic view of how DL enables HEIs to remain resilient, adaptable, and innovative in a rapidly evolving digital landscape (Pitelis, Teece, & Yang, 2023).

Theoretical Model

This mesh structure provides a robust framework that can be used to comprehend how digital transformation initiatives, in combination with leadership and readiness,

contribute to the creation of innovation and a lasting competitive advantage. Figure 1 summarizes the relationships among these variables based on theory, thus allowing the investigators to present a strong concept map.

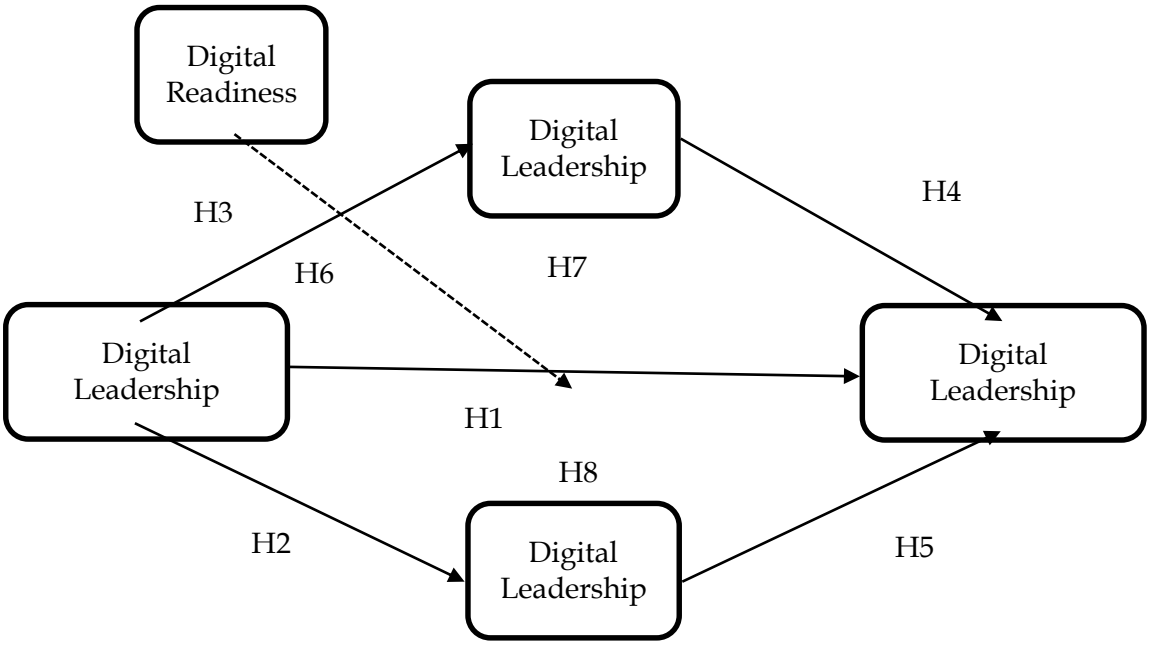

Figure 1: Conceptual Framework

Hypothesis Development

The Effect of Digital Leadership on Sustainable Performance

Today, organizations need to adapt their business and strategy continuously in the face of rapid technological changes to keep up with competitors (Pitelis, Teece, & Yang, 2023). Leaders who swiftly embrace digital transformation enable institutions to optimize resources, respond to real-time challenges, and enhance agility. Digital leadership facilitates operational efficiency and informed decision-making through effective use of digital tools, analytics, and automation (Atobishi, Moh'd Abu Bakir, & Nosratabadi, 2024). While digital transformation is driving this constant reshuffling of resources, it does make yourself more fit for the future by positioning your organization to succeed in the long term with sustainable performance (Pitelis, Teece, & Yang, 2023). By promoting a digital-first culture, innovative leaders use technology to drive organizational change and offer sustainable competitive advantage. Therefore, a hypothesis is raised:

H1**:** Digital leadership positively affects sustainable performance.

The Effect of Digital Leadership on Organizational Learning

When leaders support the integration of digital technologies, learning and adapting is then enforced at the organizational level, in turn making the organization successful. Digital-age leadership involves establishing infrastructure that fosters communication and collaboration through digital platforms. This enhances organizational capacity to innovate, adapt to market changes, and sustain competitiveness. Digital leaders facilitate a learning-oriented culture by promoting knowledge flow and embedding continuous improvement (Snyder, Ingelsson, & Bäckström, 2024). Consequently, it is postulated that:

H2: Digital leadership positively affects organizational learning.

The Effect of Digital Leadership on Knowledge Sharing

Today with the rise of the internet and accessible data, and the interconnected world, it all depends on sharing knowledge across teams and departments. Digital leaders create a collaboration culture by using digital platforms for communication and knowledge sharing (Deng, Duan, & Wibowo, 2023). Not only does this broaden the reach of collective expertise, it also fosters creativity and solutions. Leaders who insist on digital tools for the dissemination of knowledge empower their teams to feel free to actually share critical insights throughout the real organization and this keeps decision-making as well as strategic fine tuning more about the right basis. It is an essential part of keeping their organization agile, innovative, and responsive to market shifts (Pitelis, Teece, & Yang, 2023). Thus, we present this hypothesis:

H3**:** Digital leadership positively affects knowledge sharing.

The Effect of Knowledge Sharing on Sustainable Performance

The unrestricted flow of information is essential for innovation and adaptability. By facilitating the exchange of ideas, KS enables organizations to leverage collective intelligence for strategic decision-making and continuous operational improvement (Teece, 2018). KS therefore increases the responsiveness of a institution, making it much more effective in responding to changes outside and leads to improved operational efficiency and long-term performance. The organizations that do a good job of KS between teams and departments are far more sustainable as they are able to adjust on the fly-processes leading up to innovation (Pan et al., 2023). Therefore, the following hypothesis is proposed:

H4**:** Knowledge sharing positively affects sustainable performance.

The Effect of Organizational Learning on Sustainable Performance

Organizations that learn & adapt continuously are better placed to stay ahead in such dynamic scenario. In creating this culture, institutions make sure they are able to benefit from new learning happening within its four walls and think about experiences gone by in order to strategically take these learnings into the future (Teece, 2018). This learning process helps build the capability to successfully reconfigure and innovate operations, which are critical for holding long-term performance (Kordab, Raudeliūnienė, & Meidutė-Kavaliauskienė, 2020). OL is embedded in structures that promote adaptability, ensuring long-term competitiveness and sustained effectiveness. Accordingly, the current study aims to test the following hypothesis:

H5: Organizational learning positively affects sustainable performance.

The Moderating Role of Digital Readiness in the Link between Digital Leadership and Sustainable Performance

However, the benefits of DL in improving performance hinges on the level at which the institution is prepared and capable to digitalize itself. However, institutions at lower levels of digital readiness probably will not be equipped to avail themselves of the improvements, just as the uplift may mitigate any significant performance benefits (Sarfraz et al., 2022). DR enhances the effect of DL on organizational outcomes, as it ensures a more rapid virtual and strategic integration of resources. Therefore, the next hypothesis is suggested.

H6**:** Digital readiness moderates the relationship between digital leadership and sustainable performance.

The Mediating Role of Knowledge Sharing in the Link between Digital Leadership and Sustainable Performance

The practical outcome of DL on SP is realized via KS. By encouraging digital based solutions and collaborative tools, Leaders can filter knowledge throughout the organization which are vital to incorporate new insights into decision-making and strategic processes (Teece, 2018). The sharing of knowledge that this brings about in-state organizations to better reconfigure their resources and address challenges coming from outside the organization which stimulate innovation and long-run performance. DL creates a culture of sharing knowledge, which can then spread throughout the organization and turn leadership efforts into measurable performance improvements (Abbas et al., 2019). Some other proposed hypothesis is against this backcloth:

H7**:** Knowledge sharing mediates the relationship between digital leadership and sustainable performance.

The Mediating Role of Organizational Learning in the Link between Digital Leadership and Sustainable Performance

DL further fosters sustainability of performance by the means of OL. Organizations can adapt, as are a result of a dynamic environment, and the decision-making process by encouraging an ongoing emergence of new knowledge leads to developing efficacious strategies (Teece, 2018). OL enhances flexibility, fosters innovation, and drives operational improvement—key factors for SP. It enables institutions to navigate market changes and mediates the impact of DL by translating emerging knowledge into actionable improvements (Shahzad et al., 2020). Therefore, we postulate the following hypothesis.

H8**: Organizational learning mediates the relationship between digital leadership and sustainable performance.**

Material and Methods

Research Design

This study investigates the impact of DL on SP in Pakistani public-sector HEIs, emphasizing the mediating roles of KS and OL, and the moderating role of DR. Using a cross-sectional survey design, data were collected from faculty, administrators, and mid-level managers actively engaged in digital transformation efforts. Structural Equation Modeling (SEM) via Smart PLS enabled simultaneous analysis of mediation and moderation effects (Hair et al., 2019). This approach allowed for the rigorous statistical analysis of several multi-level interactions among variables.

Sample Size and Data Collection

Stratified random sampling was employed to ensure a representative sample and enhance external validity by capturing diverse perspectives from faculty, administrators, and mid-level management in Pakistani higher education. This method ensured proportional representation across groups. G*Power determined (Montoya, 2023) a minimum sample of 160 (effect size = 0.3, $\alpha = 0.05$, power = 0.80), and the study exceeded

this with 245 responses. The larger sample size improved statistical power and reinforced the reliability and generalizability of the findings.

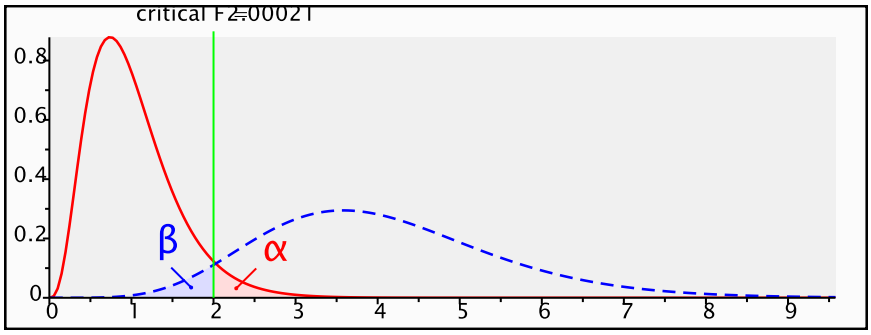

Figure 2: Sample Size

Measurement Scales

This study utilized a 5 point Likert scale to measure the constructs validity and reliability. DL is measured using a 5-item scale based on (Avolio, Kahai, & Dodge, 2000), while SP was evaluated through a 5-item scale reflecting long-term organizational value creation from (Adolph & Beckmann, 2024). Lin et al. (2023) measures KS in terms of organizations ensuring exchange of information and expertise which, ultimately leads to innovations and collaboration. OL was measured 4 items scale from (Jerez-Gomez, Céspedes-Lorente, & Valle-Cabrera, 2005). Finally, DR was assessed with a 5-item scale from (Igwe, Ebenuwa, & Idenedo, 2020), examining infrastructure, digital literacy, and readiness for transformation. These validated scales ensure rigor and support analysis of key constructs in HEIs.

Ethical Considerations

The validity of this study is strongly based on the substantiation of explicit ethical boundaries that safeguard participants and support investigative credibility. Informed consent is an integral part, with study participants being given clear instructions about the nature and purpose of the study, procedures, possible outcomes, and voluntary participation (Berg et al., 2001). Personal data will be anonymized at all stages of collection, analysis, and dissemination to ensure confidentiality. Strict protocols will prevent disclosure of any identifiable information, and participants may withdraw at any time without consequence. Support will be provided if any emotional discomfort arises. These ethical safeguards aim to uphold trust, integrity, and adherence to research standards in Pakistan's higher education sector.

Results and Discussion

Table 1
Demographic Information

Category	Sub-category	Frequency	Percent
Gender	Female	133	54.30%
Gender	Male	112	45.70%
Age	21-25	104	42.40%
Age	26-30	128	52.30%
Age	31-35	11	4.50%

Age	36-40	2	0.80%
Education	Intermediate	43	17.40%
Education	Bachelors	51	20.80%
Education	Masters	87	35.50%
Education	M. Phil	56	22.90%
Education	PhD	8	3.30%
Total		**245**	**100.00%**

Measurement model

The validation of the model for higher education institutions was confirmed through convergent and discriminant validity assessments. Tables 2 and 3 provide a summary of VIF, AVE, and reliability metrics, affirming the model's measurement validity within the context of HEIs of Pakistan.

Table 2
VIF and outer loading

	Outer loadings	VIF
DL1 <- DL	0.872	2.714
DL2 <- DL	0.877	2.890
DL3 <- DL	0.867	2.686
DL4 <- DL	0.872	2.764
DL5 <- DL	0.874	2.728
DR1 <- DR	0.612	1.320
DR2 <- DR	0.868	2.454
DR3 <- DR	0.820	1.989
DR4 <- DR	0.840	2.216
DR5 <- DR	0.865	2.470
KS1 <- KS	0.881	2.598
KS2 <- KS	0.872	2.482
KS3 <- KS	0.880	2.558
KS4 <- KS	0.871	2.426
OL1 <- OL	0.859	2.267
OL2 <- OL	0.854	2.122
OL3 <- OL	0.864	2.317
OL4 <- OL	0.849	2.165
SP1 <- SP	0.866	2.644
SP2 <- SP	0.874	2.758
SP3 <- SP	0.864	2.629
SP4 <- SP	0.873	2.742
SP5 <- SP	0.865	2.644
DR x DL -> DR x DL	1.000	1.000

Table 3
Construct validity Reliability and Discriminant validity

Measures	DL	DR	KS	OL	SP
Cronbach's alpha	0.921	0.862	0.899	0.879	0.918
Composite reliability (rho_a)	0.922	0.882	0.899	0.88	0.918
Composite reliability (rho_c)	0.941	0.902	0.93	0.917	0.939
Average variance extracted (AVE)	0.761	0.651	0.768	0.734	0.754
Discriminant validity (Fornell Larcker Criterion) **DL**	0.872	-	-	-	-
Discriminant validity (Fornell Larcker Criterion) **DR**	0.848	0.807	-	-	-

Discriminant validity (Fornell Larcker Criterion) **KS**	0.607	0.685	0.876	-	-
Discriminant validity (Fornell Larcker Criterion) **OL**	0.361	0.444	0.745	0.857	-
Discriminant validity (Fornell Larcker Criterion) **SP**	0.728	0.793	0.829	0.628	0.868

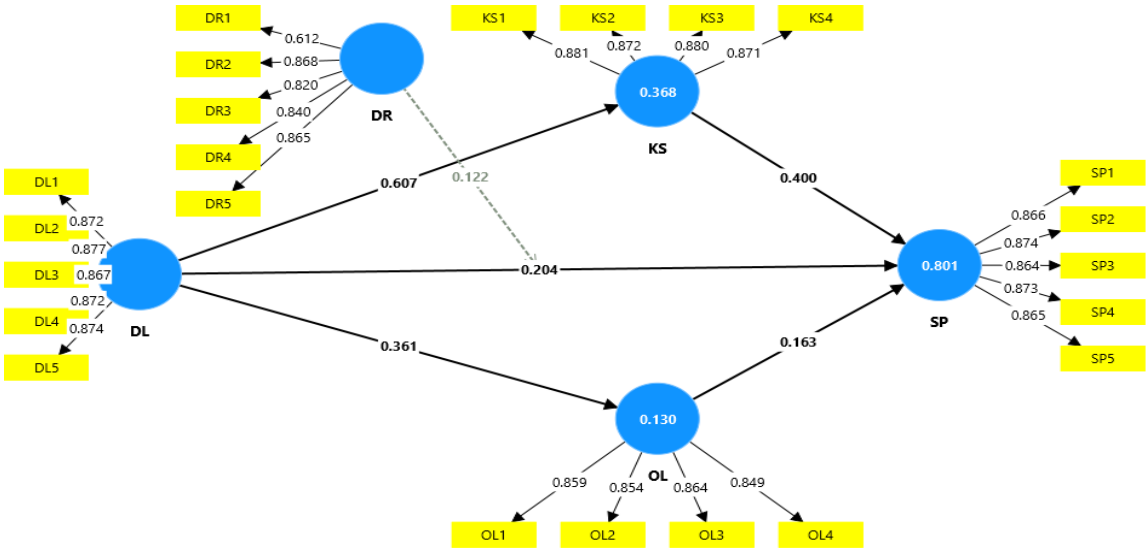

Figure 3: Measurement Model

Structural model

After validating the measurement model, relationships among constructs were analyzed using bootstrapping with 5,000 resamples via Smart-PLS, following (Streukens & Leroi-Werelds, 2016). Figure 4 and Table 4 confirm strong statistical support for all hypotheses ($p < 0.05$), highlighting both direct and indirect effects. Notably, DL influences DR and SP, with KS and OL mediating the DL–SP relationship. These results emphasize the pivotal role of leadership and readiness in driving performance within higher education.

Table 4
Path Coefficients

	Original sample (O)	Sample mean (M)	Standard deviation	T statistics (|O/STDEV|)	P values	Decision
DL -> KS	0.607	0.607	0.040	15.004	0.000	Supported
DL -> OL	0.361	0.363	0.051	7.061	0.000	Supported
DL->SP	0.204	0.203	0.048	4.249	0.000	Supported
DR -> SP	0.279	0.282	0.052	5.315	0.000	Supported
KS -> SP	0.400	0.397	0.050	7.987	0.000	Supported
OL -> SP	0.163	0.163	0.030	5.511	0.000	Supported
DR x DL -> SP	0.122	0.119	0.032	3.799	0.000	Supported

The direct effect of DL on SP shows a smaller but still significant relationship, with a coefficient of 0.204 ($t = 4.249$, $p = 0.000$). This suggests that while leadership plays a direct role in enhancing performance, its influence is somewhat mediated through other constructs. The relationship between DR and SP is stronger, with a coefficient of 0.279 ($t = 5.315$, $p = 0.000$), highlighting the importance of readiness in driving performance outcomes.

Table 1

Total indirect and specific indirect effects

Measures	Original sample (O)	Sample mean (M)	Standard deviation	T statistics (|O/STDEV|)	P values	Decision
DL -> SP	0.302	0.300	0.035	8.544	0.000	Supported
DL -> OL -> SP	0.059	0.060	0.015	4.027	0.000	Supported
DL -> KS -> SP	0.243	0.240	0.032	7.608	0.000	Supported

Further, KS has a substantial direct effect on SP, with a coefficient of 0.400 (t = 7.987, p = 0.000), emphasizing the critical role of knowledge sharing in achieving sustainable performance. Similarly, OL has a positive and significant effect on SP (coefficient = 0.163, t = 5.511, p = 0.000), reinforcing the idea that organizational learning contributes to performance outcomes. Finally, the interaction effect between DR and DL on SP is also significant (coefficient = 0.122, t = 3.799, p = 0.000), indicating that the combination of digital leadership and readiness has a meaningful impact on sustainable performance.

The total indirect effect of DL on SP is both substantial and statistically significant, with a coefficient of 0.302 (t = 8.544, p = 0.000). This finding underscores the fact that the influence of DL on performance is not solely direct, but is significantly mediated through other organizational processes. This suggests that digital leadership enhances sustainable performance by leveraging internal mechanisms such as knowledge sharing and learning within the institution.

Examining the specific indirect effects offers more clarity. The path from DL to SP through OL, with a coefficient of 0.059 (t = 4.027, p = 0.000), indicates that leadership facilitates performance through its impact on learning processes, though the effect is relatively modest. This pathway highlights the importance of fostering learning environments within institutions, where leadership can nurture the development of knowledge and skills, ultimately contributing to performance outcomes, albeit on a smaller scale.

Conversely, the indirect effect of DL on SP through KS is far more pronounced, with a coefficient of 0.243 (t = 7.608, p = 0.000). This strong mediation effect underscores the critical role of knowledge sharing in translating leadership into performance outcomes. KS acts as a vital conduit through which leadership exerts its influence, demonstrating that leaders who prioritize and promote the exchange of knowledge within their institutions significantly enhance the potential for achieving sustainable performance.

Table 6
R^2 and Adjusted R^2

	R-square	R-square adjusted
KS	0.368	0.366
OL	0.130	0.128
SP	0.801	0.798

Coefficient of Determination (R^2)

Table 6 depicts the model's predictive strength. KS has an R^2 of 0.368 (adjusted 0.366), indicating that leadership and readiness explain 36.8% of its variance. OL has a lower R^2 of 0.130 (adjusted 0.128), reflecting modest explanatory power. SP demonstrates strong predictability with an R^2 of 0.801 (adjusted 0.798), highlighting the substantial combined influence of leadership, readiness, KS, and OL.

Discussion

The results of path analysis and indirect effects are unequivocally supportive in line with the proposed hypotheses for this study. The study confirms that DL has a strong direct effect on SP, with a path coefficient of 0.505 ($t = 10.148$, $p = 0.000$), supporting H1. DL also shows significant positive effects on OL with $\beta = 0.361$ ($t = 7.061$, $p = 0.000$), and on KS with $\beta = 0.607$ ($t = 15.003$, $p = 0.000$), supporting H2 and H3. These results underscore the pivotal role of DL in promoting learning, trust, and knowledge exchange to drive innovation and institutional growth. KS shows a strong effect on SP with a path coefficient of 0.400 ($t = 7.994$, $p = 0.000$), while OL has a smaller yet significant impact with a coefficient of 0.163 ($t = 5.518$, $p = 0.000$). These results suggest that while both are essential, KS plays a more substantial role in enhancing institutional performance.

The results supports that DR moderates the relationship between DL and SP, as shown by a significant interaction effect ($\beta = 0.122$, $t = 3.801$, $p < 0.05$), confirming H6. Institutions with higher DR are better positioned to leverage digital leadership for sustained success. H7 and H8 are also supported, with KS and OL mediating the DL–SP relationship. The indirect effect of DL on SP through KS is 0.243 ($t = 7.608$, $p = 0.000$), and through OL is 0.059 ($t = 4.027$, $p = 0.000$), indicating that KS has a stronger mediating role. These findings emphasize that DL enhances performance through both knowledge-sharing and learning mechanisms, with greater impact via KS.

Conclusion

The contribution of this research to the literature is significant, as it assists researchers and educators in better understanding about how Digital Leadership significantly influences Sustainable Performance within higher education. The study then empirically establishes that Digital Leadership has a significant direct and an indirect effect on performance. It underscores that leadership does transform not only leading the strategic initiatives but also in creating a Knowledge-sharing and organizational learning culture, … The building blocks of institutional flexibility, creativity, as well sustainability for the long run. The innovative introduction of Digital Readiness as a moderating variable brings new insight to the field, showing that leadership effectiveness is greatly intensified in digitally ready organizations. This is even more relevant at a time when higher education endures too much of those pressures to change with fast evolving technological landscapes. Those with high digital infrastructure, as well as advanced skills and a readiness for change in their organizations are better able to use leadership initiatives that lift performance. Organizational success may well thus hinge on whether leadership and digital readiness are in alignment. Also, the study opens new insights into mediating effects of Knowledge Sharing and Organizational Learning where leaders promoting continuous learning & open knowledge sharing for enabling resilient organizations to sail through changes as well innovate upcoming opportunities. To maintain high performance in a dynamic and uncertain environment, institutions must be able to adapt rapidly.

Recommendations

Based on the findings of this study, it is recommended that higher education institutions foster a culture of continuous learning and collaboration to enhance the impact of digital leadership on sustainable performance. Leaders should align their strategies with institutional digital readiness by integrating digital tools, infrastructure, and competencies into core operational and strategic planning. Investing in capacity-

building initiatives, such as digital training programs and leadership development, will equip staff with the necessary skills to navigate digital transformation effectively. Embracing adaptive leadership styles—particularly those that promote innovation, participation, and responsiveness—can further support organizational resilience. Institutions are also persuaded to adopt evidence-based leadership practices that rely on data and feedback mechanisms to drive continuous improvement. Moreover, policy-makers and regulatory bodies should provide supportive frameworks, funding, and strategic direction that enable digital transformation across the sector. These recommendations aim to support higher education institutions in building digital capacity, improving performance, and sustaining long-term institutional relevance.

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