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The Effect of Knowledge Management Practice on the Performance in Ethiopian Universities: Mediated By Transformational Leadership

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Abstract

The basic aim of the investigation is to investigate the effect of knowledge management practice on the performance of Ethiopian universities by considering the mediating role of transformational leadership. The argument is that knowledge management by itself is not a guarantee for institutional excellence unless mediated by effective transformational leadership values. The investigation was quantitatively designed. A Path analysis model was used as a data analysis tool. The fitness of the model was tested by model fit testing statistical tools and found robust. Empirical evidence also reveals the same thing. The indirect effects [being mediated] of knowledge management practices on universities' performance in the path analysis model are greater than that of the direct effects [non-mediated]. This shows that knowledge management is passive to influence performance unless supplemented by effective transformational leadership values. Accordingly, I suggest universities in Ethiopia pay due attention to surge the synergetic effect of knowledge management and transformational leadership for the betterment of universities' performance. Moreover, they should inculcate the ideas of knowledge management practices, and transformational leadership values into their strategic vision, mission, and goals. Lastly, effective knowledge management policies, strategies, and programs should be produced to facilitate the alignments between knowledge management practices, and transformational leadership values, and universities' performance.

Keywords: Ethiopian Universities; Knowledge Management Practice; Transformational Leadership; Path Analysis; and Universities' Performance.

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1. INTRODUCTION

In the first place, universities are legally and morally mandated to satisfy society's need for knowledge, innovation and creativity (Machado & Nílson, 2015). They are established with a vision, mission and goal of realizing knowledge creation, distribution, and application (Medsker & Morrel, 1989). Universities are there being authorized to practice knowledge engineering for the betterment of institutional and/or national performance. According to Yoram & Steven (2015), they are institutions where new paradigms, models, values, and principles are articulated to solve the socio-economic & socio-political problems of the particular society. According to Rexford and Russell (2016), competent universities are distinguished by their commitment to practice society-oriented educations, training, consultancies and research. In the language of Newman (1996), university is an abode where inquiries are pushed forward; discoveries are realized; new perspectives are synthesized; and the door of knowledge creation, innovation and creativity will be opened. For Verger (1992), universities are institutions where evidences are produced and truths are established. Joni (2006) argued that universities are there to play the role of improving the thinking pattern of the particular society by supplying practical declarative and procedural knowledge.

The other point is the issue of knowledge. Many theorists approach the very term knowledge from many different perspectives. Francis Bacon (1620) claimed that knowledge is power in his book entitled 'The Navom Organon. Positivists in their part advocated that empirical knowledge is the exclusive source of social progress and development (Cohen & Maldonado, 2007). Modernists suggested that economic prosperity, political stability, social consciousness, and civilization are determined by the synergetic effect of philosophical, empirical and artistic knowledge (Graff, 1973). Pragmatists in their part argued that that knowledge is the light to forecast the future economic, political and social conditions of a particular institution and/or nation (Pietarinen, 2006). Modern theorists like Drucker (1975) argued that knowledge is a competitive edge for better competitive & comparative advantages. For Nonaka, Katsubiro & Dai (1996), it is a strategic resource, which needs strategic management models, policies and strategies. Rony (2017) suggests that knowledge is a strategic asset that is vital for strategic development. For the effective utilization of knowledge wealth, there should be well-designed knowledge management practices (Massimiliano & Smith, 2014).

According to Nonaka et al. (2006), knowledge management is the process of creating, storing, protecting, sharing, applying and disposing knowledge in a manner it improves institutional performance. For Girard *& Girard (2015),*

knowledge management is a strategic management dimension that supports institutions' endeavor for performance beyond expectation by enhancing the best use of knowledge resources. Nonaka & Nishiguchi (2002) argued that knowledge management is the strategic tool for the realization of the knowledge worker, knowledge society, and knowledge economy. For Timothy, Kiessling and Glenn (2009), knowledge management is the source of core competence in the 21st century.

Although knowledge management is emerging as a strategic source of institutional competitive edge, its implementation should be supported by practical transformational eldership values (Kimiz, 2005). For Bernard M. Bass (1990), transformational leadership is a primary cause for performance beyond expectation. Moreover, Bass (2005) designed a transformational leadership model comprising four elements such as idealized influence, inspirational motivation, individualized consideration, and intellectual stimulation (Bass, 1991). According to Davenport & Prusak (1998), transformational leadership significantly contributes to the improvement of a university's performance by activating the desire for idea generation, innovation and creativity. For Rexford and Tylor (2016), it is a means of awakening institutional visions, missions, goals, policies, strategies, systems and sub-systems to work together for the same purpose.

The other point is the mediating role of transformational leadership between knowledge management and universities' performance. Theorists like M. Birasnav et al (2013) recommend that the synergetic effect of knowledge management and transformational leadership is crucial for extraordinary performance. According to Chun-Hsiung & Chun-Hsiung (2012), transformational leadership values play a significant role in activating the influence of knowledge management on universities' performance. Michael, Provitera & Mostafa (2018) in their part argued for the collaboration influence of knowledge management and transformational leadership in enhancing universities' performance. Transformational leadership models and values are critical success factors for the individual, team, and institutional achievements (Parvaneh & Zahra, 2014).

Despite the above-mentioned empirical facts, there is no intensive investigation indicating the effect of knowledge management on the performance of Ethiopian universities by considering the mediating role of transformational leadership values. Being inspired by this very claim, I decided to undertake a detail quantitative investigation. The basic objective is to examine the effect of knowledge management on performance in Ethiopian universities being mediated by transformational leadership. To complete the investigation, 369 academicians & academic leaders were chosen from the top ten Ethiopian

higher education institutions [public & private] based on the 2020/21 evaluation of ministry of science & higher education. A path analysis model was adapted to amaze the data gathered. Premises from empirical review and statistical analysis revealed that knowledge management by itself is passive to strongly & significantly influence universities performance unless mediated by effective and efficient transformational leadership values.

2. Basic objectives

The objective of this very investigation is to:

1) To examine the Association between Knowledge Management & University Performance
2) Investigative the relationship between knowledge management and transformational leadership
3) Investigate the Association between Transformational Leadership & University Performance
4) The Mediating Role of Transformational Leadership between Knowledge Management between & University Performance

3. Theoretical Foundations Of Knowledge Management, Transformational Leadership And University Performance

3.1. The Association between Knowledge Management & University Performance

In the first place, universities should be exemplarity for the institutions in achieving extraordinary perforce. Their level of performance is usually expressed in terms of research qualities, academicians' profile, knowledge engineering capabilities, and extents of core competence, public relaxations, knowledge application capabilities, and social extents of social responsibilities (Carol & Adams, 2012). For scholars such as Kong (2016), a good performing university can be distinguished by their capacity to create new paradigms, models, principles, values and systems. For theorists such as Patricia & Hans (2011), universities' performance record is expressed from the view of its engagement in enhancing teamwork, accelerating group dynamics, building knowledge, enhancing moral values, and advocating social, political and economic justices. For Rexford & Taylor (2016), a good universities' performance level can be traced by their amounts of engagement in forecasting the future political, economic and social conditions of the given institution and/or nation. In the word of scholars like Richard (2015), universities performance can be seen from the view of designing practical and timely political, economic and political paradigms, systems, policies, strategies, and programs.

Generally, universities' performance is the cumulative of individual and team performance. Hence, predominate at university level can be grouped in to two: individual performance & team performance. While individual performance is concerned with the individual achievements of academicians, researchers, knowledge workers, administrators, etc., team/group performances are concerned with the

achievements of management teams, committees, etc. (Elizaveta & Tatyana, 2013).

The other issue is the idea of knowledge management. According to Nonaka & Takeuchi (1995), knowledge management is the capability of a given institution to create, distribute and apply knowledge in a way it improves innovation, and creativity. Fore Dalkir (2005), is an instrument of realizing performance progress. Somchai & Yuen (2007) expressed knowledge management as an exclusive source of innovation, creativity, and technology. Medsker and Morrel (1989) in their part described it as a collaborative and integrated approach to design practical paradigms, models, values, systems and practice for the betterment of performance.

Alberta & Wilberforce (2012) claims that knowledge management is all about policies, strategies, and initiatives practiced while knowledge creation, storage, protection, sharing, application and disposal. For Huei-Tse Hou (2012), knowledge management serves as a means of improving performance by unlocking the innovative potential of academicians, knowledge workers, and academic leaders. Jin Chen & Shiyang Wei (2009) commented that knowledge management is there to enhance performance by stabilizing the tension of organizational politics. Somchai & Yuen (2007) in their part promoted knowledge management practices as a means of generating extraordinary performance from knowledge workers, academicians, academic leaders, teams, and stakeholders.

Paula Danskin et al (2014) in their part promoted that knowledge management is a strategic tool for strategic development. For Rony (2017), knowledge management is a means of policy formulation, implementation, and evaluation. Timothy & Glenn (2009) argued that it is there to facilitate the practicality of the universities' vision, mission and strategic goal/s by allying different institutional initiatives to act in the same direction for the same purpose. These all arguments show that knowledge management is the institutional quest of the 21st century to enhance institutional performance.

3.2. The Association between Transformational Leadership & University Performance

In the first place, the effectiveness and efficiency of academicians, knowledge workers, and administrators are influenced by different factors. One of these is transformational leadership (Yoram and Steven, 2015). In a synthesized manner, transformational leadership is one type of leadership theory in which leaders are work with followers in identifying the need for changes, designing inspirational vision, mission, and goal, articulating change initiatives, choosing dedicated followers, and implementing the expected changes boldly and authentically (Odumeru & Ogbonna, 2013). Bass (1990) suggested transformational leadership as the best

leadership approach for extraordinary individual, team, and institutional achievements. He also argued that such leaders are known by exhibiting personalities such as idealized influence [II], individualized consideration [IC], intellectual stimulation [IS], and inspirational motivation [IM]. For him, idealized influence is all about winning followers' trust, respect and confidence by reflecting a strong sense of vision and mission. Inspirational motivation is concerned with providing strategic vision, which stimulates followers to accomplish in an extraordinary manner (ibid). Intellectual stimulation is all about rethinking institutional assumptions and problems in a new way and approaching them with new paradigms, models, values and logical powers (ibid). Lastly, individual consideration is concerned with approaching people at an individual level so that they develop a sense of belongingness and citizenship (Alavi, M., & Leidner, D. E., 2001).

Theorists such as Barth-Farkas et al (2014) in their part suggest that transformational leadership is there to accelerate institutional performance by activating reformations in the particular institution. Sara Fernández-Lopez et al (2017) also proved that transformational leadership more contributes to university performance than that transactional. According to Xi Zhang et al (2017), transformational leadership is a key for improving individual, and team performance of higher education institution. For Suhana et al (2019), it is there to stimulate institutional innovation and creativity. In the words of Anthony (1973), transformational leadership values are influential in inspiring academicians for extra achievement. Esther (2018) argues that transformational leadership improves a university's service-giving capacity by enhancing individual consideration.

3.3. The Relationship Between Knowledge Management and Transformational Leadership

Knowledge management and transformational leadership are two concepts that are closely related and can have a significant impact on organizational success (Alavi, M., & Leidner, D. E., 2001). The relationship between knowledge management and transformational leadership is symbiotic and mutually reinforcing (Bass, B. M., & Riggio, R. E. (2006). Tis can be justified from different perspectives. Concerning knowledge creation and sharing, transformational leaders are there to encourage a culture of learning and knowledge sharing within the organization (Nonaka, I., & Takeuchi, H. (1995). They promote open communication, provide opportunities for training and development, and recognize and reward employees for sharing their expertise. When seen from the view of knowledge dissemination and implementation, transformational leaders play a crucial role in disseminating knowledge throughout the organization (Choi, B., & Lee, H. (2003). They communicate the organization's vision, goals, and strategies, ensuring that

employees understand and align their efforts accordingly.

The other perspective is that of knowledge acquisition and learning. From the view this very concept, transformational leaders are expected to act and react as a lifelong learner themselves and encourage their followers to continuously acquire new knowledge and skills (Hult, G. T. M., Ketchen Jr, D. J., & Slater, S. F. (2005). They promote a learning culture, support employees' professional development, and provide resources and opportunities for learning (Jung, D. I., Chow, C., & Wu, A. (2003). The last perspective is organizational agility and adaptability. When seen from this viewpoint, both knowledge management and transformational leadership contribute to organizational agility and adaptability (Hult, G. T. M., Ketchen Jr, D. J., & Slater, S. F. (2005). Knowledge management enables organizations to capture and leverage knowledge to respond quickly to changing market conditions and customer needs (Riggio, R. E., & Bass, B. M. (2002). Transformational leaders, with their visionary and change-oriented approach, inspire and guide employees through organizational transformations, ensuring that knowledge is effectively utilized to drive innovation and adapt to new challenges (Nonaka, I., & von Krogh, G. (2009).

3.4. The Mediating Role of Transformational Leadership between Knowledge Management between & University Performance

There are sufficient empirical evidences justifying that transformational leadership plays the role of linking knowledge management practices, and institutional performance. According to Cyprian (2018), transformational leadership is there to bridge between knowledge management practices and university performance. For Suhana Suhana et al (2019), the contribution of knowledge management to innovation and creativity is enhanced when mediated by effective transformational leadership values. In the word of Victor and Samuel (2018), effective transformational leadership practices values such as inspirational motivation, idealized influence, intellectual stimulation, and individualized consideration are powerful to activate the impact of knowledge management on universities' performance. B. J. Erasmus, Grobler and Van (2015) advocate that the synergetic influence of knowledge management and transformational leadership is a decisive success factor for improvising academicians', administrators', and university leaders' performance.

For Rujie Qu et al (2014), the interaction effect of knowledge management and transformational leadership is a key source of universities' innovation, and creativity. For Richard (2015), the collaboration between knowledge management and transformational leadership is important in integrating institutional paradigms, models, values, policies, strategies, systems and programs in the same direction for the same purpose. According to Chaoyun and Wei-Sheng

(2015), transformational leadership plays an interceding role between knowledge creation, sharing & application and institutional performance. Sara Fernández-Lopez et al (2017) in their part claim that transformational leadership significantly interplays between knowledge management model, values, & principles, and universities' performance.

3.5. Theoretical Framework

There are three variables in the theoretical framework. Knowledge management practices such as knowledge creation, storage, protection, sharing, application, and disposal were considered as predictors. Both individual and team/group performance were taken as outcome variables. The Bass (1998) transformational leadership values such as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration were used as mediating variables. Accordingly:

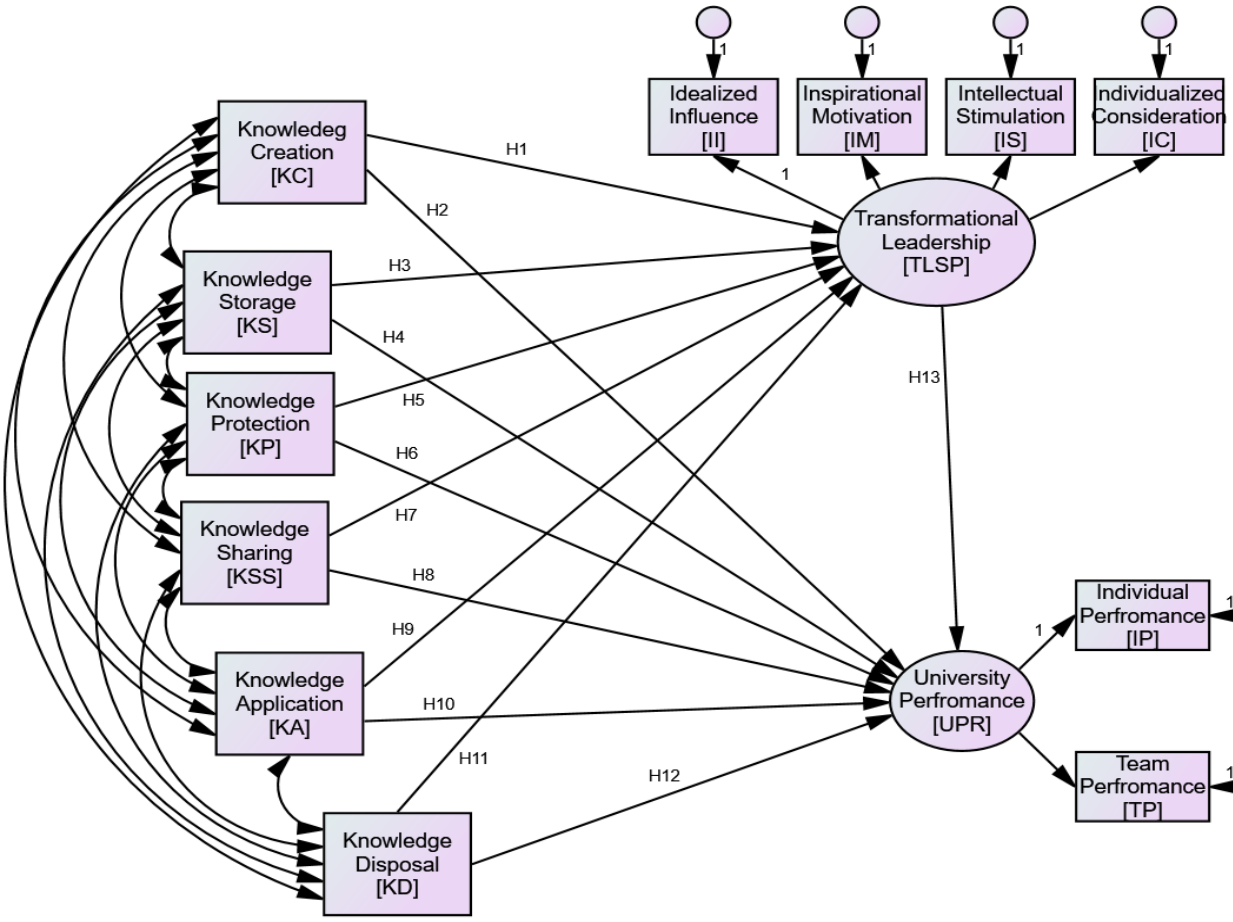
4. DESIGN AND METHODOLOGY

1.1. Targeted population and the research design

The research paper was designed quantitatively. The research paper was designed quantitatively. The targeted populations were all public universities in Ethiopia. In the first place, top 10 universities were chosen based of the annual university ranks prepared by ministry of educations. These are Addis Ababa University, Jimma University, Hawassa University, Addis Ababa Science and Technology University, Adama University, Bahir Dar University, Haromaya University, Arbaminch University, Wollega University, and Arsi University. Then, 382 academician and academic leaders were chosen as a sample size based on similar literatures, the Cochran Formula (1977), and the sample size determination table. Daya were gatahered in person and online.

The issue of multicollinearity, orthogonality, reliability, validity and heteroscedasticity were statistically tested. A path analysis was adopted to analyze the data gathered. Exploratory factor analysis[EFA] was used to reduce none-value adding data from the analysis. The next point is data analysis. The author implemented all correlation, multiple regression, polynomial regression, mediation, and path analysis to address the research aims mentioned in the objective section.

To improve the robustness of the model, model modification indices were computed. The predetermined one-tail hypotheses were tested by the p-value approach. The fitness of the model was statistically tested by tools such as RMR, GFI, AGFI, PGFI, NFI, RFI, IFI, TLI, CFI, and RMSEA. To come to conclusion both empirical and statistical evidences were adopted.



Var.	CR												
IP	0.7												
IM	0.8												
IS	0.8												
IC	0.7												
KC	0.9												
KS	0.8												
KP	0.8												
KSS	0.9												
KA	0.8												
KD	0.8												
UPR	0.82	0.60	0.75	0.71	0.71	0.74	0.77	0.71	0.74	0.73	0.70	0.77	**0.78**

Figure 1: *Transformational leadership & Knowledge Management Model*

5. ANALYSIS, RESULT, AND DISCUSSION

5.1 The Issues Reliability and Validity

Before moving to the detail analysis, the issues of composite reliability and validity were statistically tested. Concerning composite reliability, the criteria suggested by Fan, Thompson, & Wang (1999) was used. For the sake convergent and discriminant validity, the cut-point criteria suggested by Anthony (1973), & Hamed (2016) was implemented. Accordingly,

Table 1: *Composite Reliability, Convergent and Discriminant Validity Table*

As can be seen from table 1, all the composite reliabilities are greater than 0.80. All the average variance extracted [AVE] is ≥ 0.50. Moreover, the square roots of the AVE are greater than inter-item correlations among latent variables.

Hence, there is no reliability and validly problems.

5.2 The Path Analysis Model

For the sake of this very paper, a path analysis was conducted to know the complex relationship among predictive mediating and outcome variables. Accordingly,

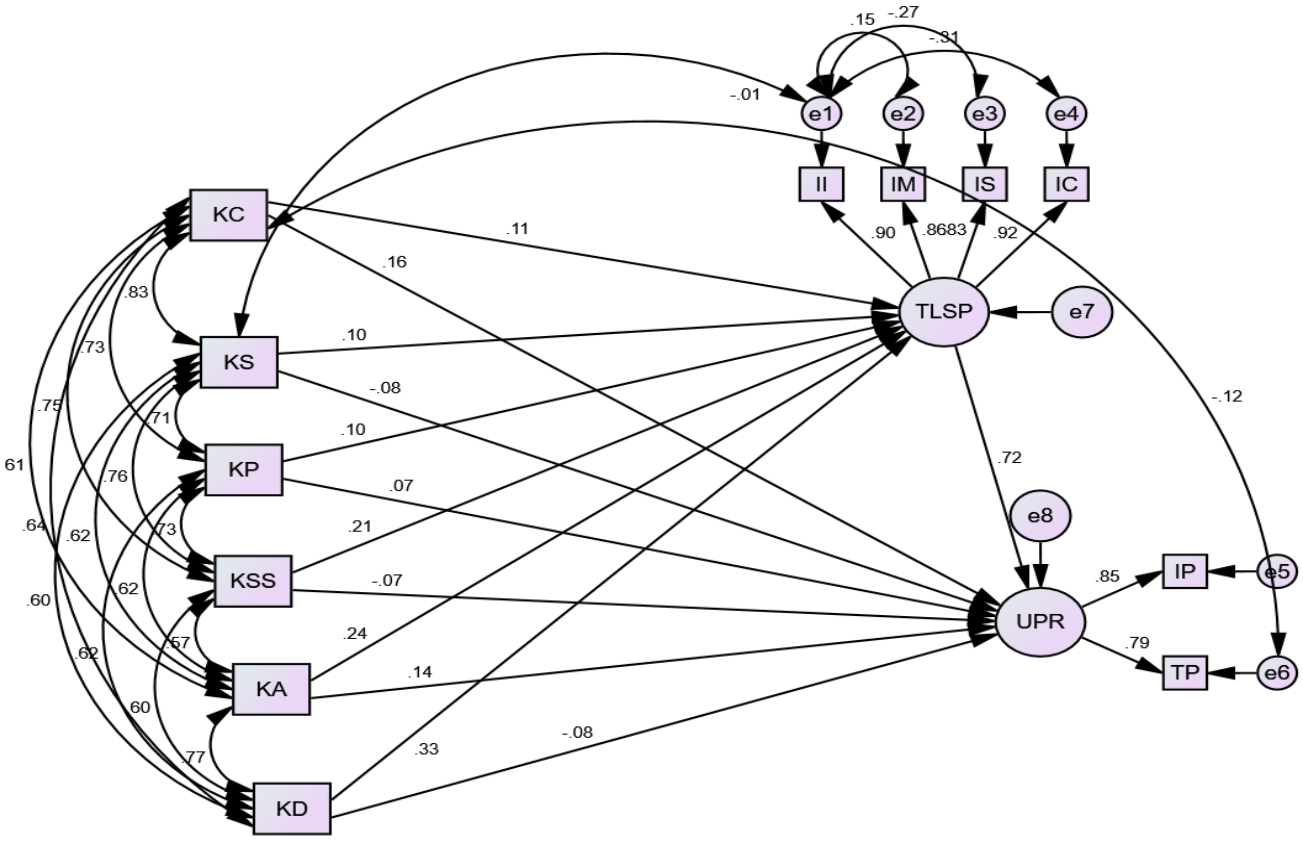


Figure 2: The Path Analysis

The significance level of the regression loadings was computed as follows:

Regression			Estimate	S.E.	C.R.	P
TLSP	<---	KC	.089	.045	1.980	.048
TLSP	<---	KS	.099	.058	1.721	.085
TLSP	<---	KP	.089	.042	2.100	.036
TLSP	<---	KSS	.182	.041	4.410	***
TLSP	<---	KA	.229	.042	5.384	***
TLSP	<---	KD	.321	.045	7.071	***

Regression			Estimate	S.E.	C.R.	P
UPR	<---	KC	.100	.072	1.393	.164
UPR	<---	KS	-.061	.079	-.776	.438
UPR	<---	KP	.055	.063	.865	.387
UPR	<---	KSS	-.050	.065	-.765	.444
UPR	<---	KA	.107	.070	1.530	.126
UPR	<---	KD	-.065	.081	-.804	.421
UPR	<---	TLSP	.576	.154	3.733	***

Table 2: Significance of Latent Variables' Regression Loadings

In the same manner, the standardized regression lodgings were computed as follows

Standardized Regression Weights			
			Estimate
TLSP	<---	KC	0.111
TLSP	<---	KS	0.104
TLSP	<---	KP	0.095
TLSP	<---	KSS	0.212
TLSP	<---	KA	0.244
TLSP	<---	KD	0.328
UPR	<---	KC	0.157
UPR	<---	KS	-0.08
UPR	<---	KP	0.073
UPR	<---	KSS	-0.073
UPR	<---	KA	0.143
UPR	<---	KD	-0.083
UPR	<---	TLSP	0.721

Table 3: Standardized Regression Loadings

In the same manner, the direct [non-mediated] & indirect [being mediated] regressions loading were given below:

Standardized Direct							Standardized Indirect Effects					
	KC	KS	KP	KSS	KA	KD	KC	KS	KP	KSS	KA	KD
UPR	0.157	-0.08	0.073	-0.073	0.143	-0.083	0.08	0.075	0.069	0.153	0.176	0.237

Table 4: *Direct & Indirect effects*

As it can be inferred from the figure 2, there are four paths. The first path is from predictive [KM, KS, KP, KSS, KA, and KD] to the outcome variable [UPR]. The estimated loadings are negative and positive; but insignificant at 0.05 confidence interval. The 2nd path is from the predictive variables to the mediating variable. The regression loading of variables on this very path are positive and significant. The 3rd path is from the mediating variable to the outcome variables. The regression loading values are positive and significant.

The 4th path is concerned with the mediating role of transformational leadership.This path is from the predictive variables [KM, KS, KP, KSS, KA, KD] to mediating variable [TLRP] to outcome variable [UPR]. As seen from table 4, the indirect effect [when mediated] is greater than the direct effect [when not mediated]. This in turn reaves the mediating power of internal process.

The last issue is the issue of model fit validation. To test the robustness of the model, the following statistical tools were used:

Model Fit Testing Tools	**Calculated values**	**Cut points**	**Implications**	**Reference**
RMR	0.014	≤ 0.08	Good fit	Hu & Bentler (1999)
GFI	0.971	≥ 0.95	Good fit	
AGFI	0.915		Good fit	
PGFI	0.697	≥ 0.50	Good fit	
The Baseline Comparison tools				
NFI	0.983		Good fit	Anderson & Gerbing (1984)
RFI	0.959	≥ 0.95	Good fit	
IFI	0.998		Good fit	
TLI	0.983		Good fit	
CFI	0.993	≥ 0.90	Good fit	
The parsimony adjusted measures				
PRATIO	.0.539		Fit	
PNFI	0.578	≥0.50	Fit	Fan & Sivo (2007)
PCFI	0.687		Fit	

The RMSEA tools				
RMSEA	0.053	≤ 0.05	Good fit	
LO 90	0.022		Good fit	
HI 90	0.080		Good fit	Fan and Sivo (2005)
PCLOSE	0.491	≥ 0.05	Tolerable	
HOELTER	245	≥200	Good fit	Anderson & Gerbing (1984)

Table 5: *Values of Fit Indices*

As indicated in the table above, all the computed values are acceptable in comparison to the criteria suggested by scholars. This indicates that there is no serious problems' of model size, measurement errors, covariance misspecification, and correlation errors. Hence the model is fit enough to be practice in Ethiopian higher education institutions.

6 CONCLUSION

Empirical evidences disclosed that the synergetic effect of knowledge management practices and transformational leadership values are important for universities' survival being competent in the turbulent socio-economic and socio-political conditions. Transformational leadership models, values and principles are there to activate the effective implementation of knowledge management practices for the betterment of universities' performance. The same is true for the evidence from statistical analysis. The indirect effects [being mediated] of knowledge management practices such as knowledge creation, storage, protection, sharing, application, and disposal on performance are greater than that of their direct effect [when not mediated]. The rejected hypotheses imply that the knowledge management practices in Ethiopian universities are passive to directly influence performance unless supplemented by transformational leadership. On the other hand, the accepted hypotheses indicate that transformational leadership significantly mediates between knowledge management and universities' performance.

Accordingly, the very claim that knowledge management practices in Ethiopian universities are passive to directly & significantly influence their performance lest supported by effective transformational leadership values is justified. The last point is the robustness of the model. From the statistical values of the model fit testing tool, it can be inferred that the model is fit enough to be implemented in Ethiopian universities for performance beyond expectations.

7 RECOMMENDATION

Firstly, I suggest that there should be clear awareness on the very notions on knowledge management, and transformational leadership. Secondly, there should be reasonable transformation to inculcate the ideas of

knowledge management & transformational leadership in to their strategic vision, mission and goal/s. My third suggestion is that university administrators, academicians and authorized stakeholder should at least mitigate any forms of weak links in the policies, strategies; and system so that they can exploit the synergetic effects of knowledge management, transformational leadership and performance.

8 PRACTICAL IMPLICATION

The findings of this very investigation have enormous practical implications in that it:

1) Be a signal for universities in Ethiopia in that it inspires them to rethink the way their particular university is designed.
2) Awakens them to undertake fundamental reformulations in a way that all organization designs, internal processes and knowledge management practices complement each other.
3) Motivates Ethiopian higher education institutions to think about these three things whenever they desire to change the institutional philosophies, models, values, visions, missions, and goals.
4) Suggests that universities should focus on implementing effective knowledge management strategies.
5) Highlight the importance of transformational leadership in mediating the relationship between knowledge management and university performance.
6) Suggest that universities should invest in appropriate technology and infrastructure to support knowledge management efforts.
7) Highlights the importance of aligning knowledge management initiatives with the strategic goals of the university.
8) Implies the need for universities to establish metrics and evaluation mechanisms for assessing the effectiveness of knowledge management initiatives.
9) Suggests that universities should involve students in the knowledge-sharing process.
10) Gives detail awareness that cultivating a resilient and adaptive organizational culture is essential. Universities should be open to change, responsive to emerging trends, and willing to adapt their knowledge management practices accordingly.

By considering these practical implications, universities can not only strengthen their knowledge management practices but also foster conducive environment for growth, innovation, and continuous improvement, ultimately enhancing their overall performance in the academic landscape.

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