

# KNOWLEDGE MANAGEMENT STRATEGIC ENABLERS IN HIGHER EDUCATION INSTITUTIONS IN SRI LANKA

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## **Abstract**

*This paper examines the various Knowledge Management (KM) practices and strategic enablers in Higher Educational Institutions (HEIs) in Sri Lanka. Through a review of relevant literature, six knowledge-based enablers were identified. The key objective of this study was to analyze the uses and importance of the KM practices and to evaluate the influence of KM strategic enablers on the KM practices in HEIs in Sri Lanka. The instrument was developed using items from prior studies and questionnaires were distributed to the academic staff in four HEIs that are under Sri Lanka's University Grants Commission. Based on the survey 286 responses were qualified for analysis evaluate the measurement and structural models. The results revealed that the respondents from the HEIs do acknowledge the importance of the KM practices and key strategic enablers although they are seldom put to use. It was found that except one knowledge-based construct all other five constructs positively affect the KM practices of HEIs. Several identified research gaps were addressed via the utilization of the KM practices and strategic enablers. This study recommends the establishment of strategic directions that would enable HEIs managements to tackle KM practices and the key strategic enablers in a more effective manner. Top management of HEIs are recommended to support for KM infrastructure development from individuals to organizational level to strengthen both human resources and KM enablers. The results of this study enrich the body of knowledge concerning KM, particularly with regards to its importance and the utilization of its key strategic enablers.*

**Keywords:** HEIs, Academic staff, Knowledge management, Key knowledge management strategic enablers

## **1. Introduction**

Greater attention is now being given on the comprehensive implementation of knowledge management (KM) in higher education institutions (HEIs) in light of emerging findings that HEIs can undergo a smoother evolution towards becoming a more effective and vibrant educational environment. By being so, enhancements in widespread knowledge distribution and general institutional performance are hence assured. KM has been acknowledged as a highly prospective tool in tackling the various challenges faced by present-day universities (Omerzel et al., 2011). As revealed by the action research, knowledge exchange strategy and planning has been growing at a very restricted pace as does the capability of 'assimilating' and 'exploiting' new knowledge. The process of action research was repressed by the factors of individualistic academism and administrative bureaucracy, whereby not only that there is failure to inform the academic community of the comprehensive findings, there is also failure in carrying out follow-up measures on the small portion of revealed findings. There is apparently a lack of proper KM practice in a majority of Sri Lankan higher education institutions. Hence, there is a need for an empirical assessment on the matter in the HEI context. In this study, a number of prior works on KM in the context of public HEIs was reviewed to enrich the theoretical and applied aspects of this research. The following are the key study objectives:

- (1) To study the significance and utilization of key KM strategic enablers in HEIs.
- (2) To examine the influence of KM enablers on KM practices in HEIs in Sri Lanka.

## 2. Literature Review

### *The role of KM in HEIs*

A long-standing regard to HEIs is that these organizations are rigorously concentrated on agendas of knowledge whereby universities are conventionally treated as mechanisms for knowledge transfer. Apart from being the provider of knowledge, HEIs are also drivers of knowledge sharing particularly amongst scholars and educationalists who are proactively engaged in achieving competitive advantage through work partnerships. In this context, knowledge is obtained, generated and shared via their research undertakings. HEIs rely heavily on KM due to its sustainability, its ability to drive competitive advantage, and the substantial amount of complex knowledge-based resources available. Such resources may be lost without the systematic attainment, management and control of knowledge assets. There is a crucial need for HEIs to be able to discern genuine intellectual capital as well as to handle intangible assets that are beneficial for the entire education sector. At present, these HEIs are generally still in the dark about the workings and benefits of KM, which severely impacts their ability to fulfill the expectations of being in the forefront of national innovation, producing topnotch academic achievements, and creating an environment that facilitates research and innovation.

Enhancement of intellectual capital is often associated with good KM practices, which in turn translates into improved organizational performance and greater competitive advantage (De La Vega, 2010). With innovative KM systems and activities in place, HEIs are better able to establish contemporary educational contents, improve on scientific inquiries and take advantage of their innovative findings, as well as develop the significance of aligning educational objects with certain learner features (Tikhomirova et al., 2009). HEIs that have systematic KM practices in place are able to facilitate lifelong learning and boost student-staff collaboration, apart from creating intellectual environments that drive organization-wide learning and dissemination of knowledge which ultimately lead to the preservation of tacit knowledge among the institutional community members. A proper KM system can also potentially result in enhanced decision-making abilities, enriched academic facilitations, and minimized institutional expenditures particularly with the utilization of IT and appropriate streamlining. KM engages stakeholders through the creation of meaningful interactions and interrelated systems (Perry, 2014) with the university acting as the main infrastructure of knowledge providing region-wide innovative systems and KM as the conduit in the planning of the university's business continuity (Zaghab, 2011).

This paper defines KM as the endeavor to develop and apply HEI-related knowledge practices in an orderly and thoughtful manner, with the aid of key KM strategic enablers. In this context, knowledge practices entail the processes of generating, capturing, codifying, storing, sharing and applying the knowledge of the academics. These practices are implemented using a set of key strategic enablers comprising the likes of leadership, organizational culture, communication, IT, system quality and performance assessment, which are highly crucial in ensuring effective KM implementation in HEIs. The next section presents a list of key strategic enablers which have been proven both in theory and practice.

### **KM strategic enablers**

Key KM strategic enablers need to be present in the implementation of KM practices to ensure its success (Wei Chong et al., 2011) because these enablers create a system which drives the development of knowledge and helps in overcoming challenges that might hinder the success of the implementation. Towards this end, an organizational KM model was developed by Arthur Andersen and the American Productivity and Quality Centre (APQC) (Arthur Andersen, 1998). In this model, four key KM strategic enablers were indicated as the vital support for KM practices i.e. leadership, culture, IT, and performance measurement. Coukos-Semmel (2002) endorsed the practicality of this model by highlighting its viability for use in HEIs. A further review of existing literature reveals that HEIs can also benefit from several other key KM strategic enablers namely communication, system quality, self-efficacy and research collaboration. All the aforementioned key KM strategic enablers are discussed in the subsequent subsections.

### **K-B Leadership**

Leadership entails an organization leader's capability of aligning KM behaviours with organizational strategies, identifying prospective situations, promoting KM values, communicating best strategies, facilitating the learning organization's evolution, and providing assessment metrics to measure knowledge impacts. Based on this huge scope, the aspect of leadership and commitment has been rightfully identified by numerous researchers as the top factor in ensuring successful KM implementation (Choi, et, al., 2005). The leaders represent how certain KM implementations are expected to be conducted and illustrate an inclination towards knowledge-sharing so as to drive a state of continuous learning to gain innovative knowledge and ideas. Leaders must also be competent enough to navigate the efforts for change, convey to employees about the significance of KM, retain optimism, and create an environment that stimulates the dissemination and generation of knowledge.

*H1: K-B Leadership has positive effect on KM practices in HEIs*

### **K-B Organizational culture**

Organizational culture entails identity-forming beliefs that ultimately form an outline of the organization's everyday workings. These beliefs may consist of the organization's purpose, performance criteria, authority position, actual power base, style of decision-making, type of leadership, compliance, evaluation, and motivation; all of which contributes to the significance of organizational culture in influencing a successful KM implementation. A signifier of a good organizational culture i.e. one that complements the implementation of KM practices is that when the employees willingly engage in knowledge-sharing initiatives, which leads to another crucial organizational culture for KM namely cooperation. A culture of collaboration significantly facilitates transfer of knowledge (Goh, 2002) and a highly collaborative environment is in turn fostered by trust. The issue with organizational culture in HEIs is that a majority of the members treat knowledge as exclusive properties i.e. assets that are not meant to be shared in a collaborative, trustworthy manner. Considering the fact that KM is fundamentally people-oriented, the integration of its initiatives requires changes in the organizational culture of HEIs.

*H2: K-B Organisational Culture has positive effect on KM practices in HEIs*

### **K-B Information Technology**

Information Technology plays an integral role in the effective and efficient implementation of KM practices as it facilitates the dissemination, pursuit and utilization of structural knowledge. Likewise, KM enablers including knowledge databases and platforms as well as performance evaluation and integration systems serve as IT infrastructures that facilitate KM activities. Although many HEIs have been supporting e-learning initiatives by taking part in the development and utilization of computer-based collaborative work systems and applications for instructional software, the effectiveness of such initiatives is still wanting. In their review of 15 contemporary studies, Alazmi and Zairi (2003) found IT to be the second most critical factor to the success of KM implementation. Hence, HEIs need to take IT into consideration in the development of their KM system (KMS) with particular focus on the elements of technology straightforwardness, ease of use, user suitability, content relevancy and structural consistency.

*H3: K-B Information Technology has positive effect on KM practices in HEIs*

### **K-B Research collaboration**

HEIs play a crucial role in promoting KM to ensure its success, and at the same time, the power of their knowledge needs to be harnessed. Both can be achieved by transforming and emphasizing on the individual, organizational, technological and communication aspects of the HEIs. The management is responsible in establishing policies and practices that would motivate and facilitate its faculty members to systematically share and organize knowledge. Common knowledge, whether planned or unplanned, can be shared by faculty members through a method called research collaboration which, according to Cornelissen et al. (2011), entails casual dialogues, support or counsel amongst the academic staff in which

the sharing of methods, materials, ideas or joint research take place. It is high time for faculty members to acknowledge the benefit of well-organized interactive research collaborations in enhancing individual value and in generating research capabilities that are crucial for university performance. According to Seonghee and Boryung (2008), although HEIs have the tendency to create new knowledge from existing ones, there is still a lack of a systematic structure in knowledge sharing and effective collaborations among their members.

*H4: K-B Research Collaboration has positive effect on KM practices in HEIs*

**K-B Communication**

In the context of HEIs, knowledge can be cultivated and appraised through the supportive culture of open communication amongst the faculty members, teams of researchers, and departments/faculties/schools. Kotlarsky and Oshri (2005) recommended the elimination of information confidentiality and multi-tiered red tapes, and the establishment of more collaborative research teams or centers. Panteli and Sockalingam (2005) indicated that open communication in HEIs would better serve the clear dissemination of information regarding work requirements, mutual accomplishments and collaborative efforts amongst the faculty staff, in the endeavor to implement KM initiatives and strategies.

*H5: K-B Communication has positive effect on KM practices in HEIs*

**K-B System Quality**

Lin (2011) defines KM system quality as the highly valued qualities of knowledge derived from the KM process including how accurate, relevant, exchangeable, reliable and accessible the knowledge is. A highly accessible KM system is needed by HEIs so as to enable faculty members to easily leverage on the KM practices. High quality and proper functions are also desirable for the KM system to drive more KM practices (Alavi and Tiwana, 2002). Enhanced KM system quality may entail the elements of accessibility, user friendliness, stability, and speed of response. A better disposition to a KM system and greater KM system quality may facilitate the sustainable growth of an HEI and its pursuit of best KM practices. *H6: K-B System Quality has positive effect on KM practices in HEIs*

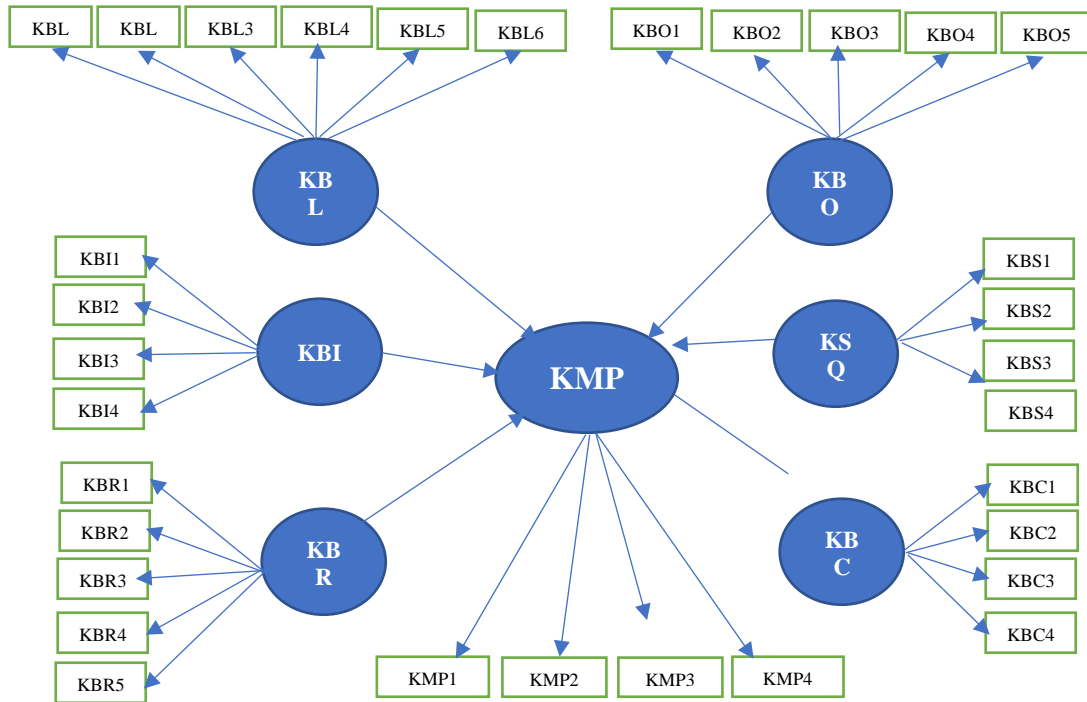


Figure 1: Conceptual model of enables of Knowledge Management

### 3. Methodology

In assessing the effect of inhibiting factors using PLS-SEM, a conceptual model is required. This model is explained in the relations between variables. In this study, the conceptual model was developed based on six independent variables with 28 inhibiting factors and a dependent variable with four factors named as Knowledge-based Leadership (KBL), Knowledge-based Organizational Culture (KBO), Knowledge-based Information Technology (KBI), Knowledge-based Research Collaboration (KBR), Knowledge-based Communication (KBC) and Knowledge-based System Quality (KBSQ), and Knowledge Management Process (KMP) accordingly. Conceptual model showing relation between variables is shown in Figure 1 above. The description of each variable is presented in path diagrams for each construct shown in Figures 2 below.

Method of data collection is governed by the conceptual model that was developed earlier. For this study, the data was gathered using structured questionnaire survey. The survey was conducted amongst the academic staff in four Higher Education Institutions (HEIs) that are under the University Grants Commission of Sri Lanka. Based on the probability sampling random method was used to collect data. There were 286 completed responses qualified for analysis. The analysis used 286 completed questionnaire sets which are sufficient based on Hair et al. (2017) rule of thumb for sample size required in PLS-SEM. Based on the completed questionnaire sets, demography of the respondents is presented. To validate the measurements and test hypotheses, Partial Least Square Structural Equation Modelling (PLS-SEM) technique was employed using SmartPLS 3 software. The causal model was estimated using PLS approach.

### 4. Data Analysis and Results

The analysis of the final sample profile showed that the respondents were mainly senior lecturers and professors (66% and 20%, respectively). The majority of the respondents have been working in their institution for almost 11-25 years. The 68% males and 32% females were in the total respondents. 62% of respondents had completed their PhD and 38% had completed Master degree. 61% of respondents were at their 50-59 age and the rest of 39% were 30-49.

The relationship between indicators of variables specified in the outer measurement model in the conceptual framework. The convergent and discriminant validity are assessed in the measurement model. Internal consistency is measured by means of convergent validity. In order to assess the convergent validity, Cronbach Alpha, Composite Reliability (CR) and Average Variance Extracted (AVE) are used in PLS path modelling. However, it makes use of outer loadings of the indicators for calculation.

Table 1 shows that Cronbach alpha for all constructs are above the threshold of 0.7, CR values of all constructs are greater than 0.7 and AVE values of all constructs are more than 0.5. Further, Dijkstra's Rho\_A values that are satisfactorily above the threshold point of 0.7. Hence, the convergent validity of the model is established.

Table 1: Validity Measures

Constructs	Cronbach's Alpha	Rho_A	CR	AVE
KBC	0.885	0.886	0.92	0.743
KBI	0.883	0.885	0.92	0.741
KBL	0.889	0.893	0.918	0.693
KBO	0.898	0.9	0.925	0.712
KBR	0.872	0.896	0.911	0.72
KBSQ	0.802	0.835	0.882	0.715
KMP	0.905	0.907	0.934	0.779

Discriminant validity is established to confirm that the hypothesized structural paths results are real and not the result of statistical discrepancies. Fornell-Larcker's criterion shown in Table 2 confirms that the square root values of AVE are greater than their correlations between latent constructs. And, the HTMT values shown in Table 3 confirm that the maximum value in the matrix is 0.716 which is well below the criterion of 0.85. All these three assessments confirm that the discriminant validity of the model is established.

Table 2: Fornell-Larcker's criterion values

Constructs	KBC	KBI	KBL	KBO	KBR	KBSQ	KMP
KBC	<b>0.862</b>						
KBI	0.434	<b>0.861</b>					
KBL	0.558	0.404	<b>0.832</b>				
KBO	0.596	0.498	0.594	<b>0.844</b>			
KBR	0.549	0.503	0.532	0.518	<b>0.849</b>		
KBSQ	0.506	0.419	0.465	0.487	0.474	<b>0.845</b>	
KMP	0.643	0.53	0.6	0.621	0.606	0.537	<b>0.882</b>

Table 3: Heterotrait-Monotrait Ratio of Correlations (HTMT) Values

Constructs	KBC	KBI	KBL	KBO	KBR	KBSQ	KMP
KBC							
KBI	0.488						
KBL	0.629	0.457					
KBO	0.667	0.558	0.663				
KBR	0.619	0.569	0.597	0.570			
KBSQ	0.589	0.496	0.543	0.560	0.555		
KMP	0.716	0.593	0.667	0.687	0.667	0.616	

**Structural model analysis and hypotheses testing**

After establishing the reliability and validity of the measurement model, the structural model was assessed. The goodness of the model was estimated using the R<sup>2</sup> value that measures the coefficient of determination and path coefficients' level of significance ( $\beta$  value) (Hair et al., 2017). The R<sup>2</sup> value showcases the predictive strength of the proposed model and at the same time the impact of exogenous variables on the endogenous variable is characterized by the path coefficients. Table 4 shows the results of the structural model analysis with path coefficients and significance level.

Table 4: Path Coefficients with Significance

Relationship	Beta	Standard Deviation	T Statistics	P Values	Results
KBC -> KMP	0.234	0.069	3.379	0.001	Supported
KBI -> KMP	0.141	0.050	2.804	0.005	Supported
KBL -> KMP	0.166	0.065	2.566	0.011	Supported

KBO -> KMP	0.163	0.098	1.662	0.097	Not Supported
KBR -> KMP	0.178	0.049	3.639	0.000	Supported
KBSQ -> KMP	0.118	0.037	3.150	0.002	Supported

As shown in Table 4, all independent constructs except KBO were significantly influencing KMP. The path coefficients of the structural model are used to evaluate their statistical significance, for this purpose the Bootstrapping algorithm was run in the software. The statistical significance of them are also shown in the same Table with t-values and p-values. Accordingly, KBC ( $\beta=0.234$ ,  $t=3.379$ ,  $p<0.05$ ), KBI ( $\beta=0.141$ ,  $t=2.804$ ,  $p<0.05$ ), KBL ( $\beta=0.166$ ,  $t=2.566$ ,  $p<0.05$ ), KBR ( $\beta=0.178$ ,  $t=3.639$ ,  $p<0.001$ ), and KBSQ ( $\beta=0.118$ ,  $t=3.150$ ,  $p<0.05$ ) were impacting the KMP statistically significantly whereas the construct KBO did not show a statistically significant impact on KMP. Hence, it can be seen that KBC, KBI, KBL, and KBR influenced the KMP whereas KBO was not significant to KMP.

The prediction accuracy of constructs in a proposed model is signified by the coefficient of determination ( $R^2$ ) value. The adjusted  $R^2$  values cuts down the values of  $R^2$  in order to compensate the inclusion of independent variables, to increase the variance explained by  $R^2$ , that are non-significant as can be seen from the Figure 2, the  $R^2$  value of this model is 0.598 ( $R^2_{Adj}=0.589$ ) meaning the moderate level of variance is explained by the model.

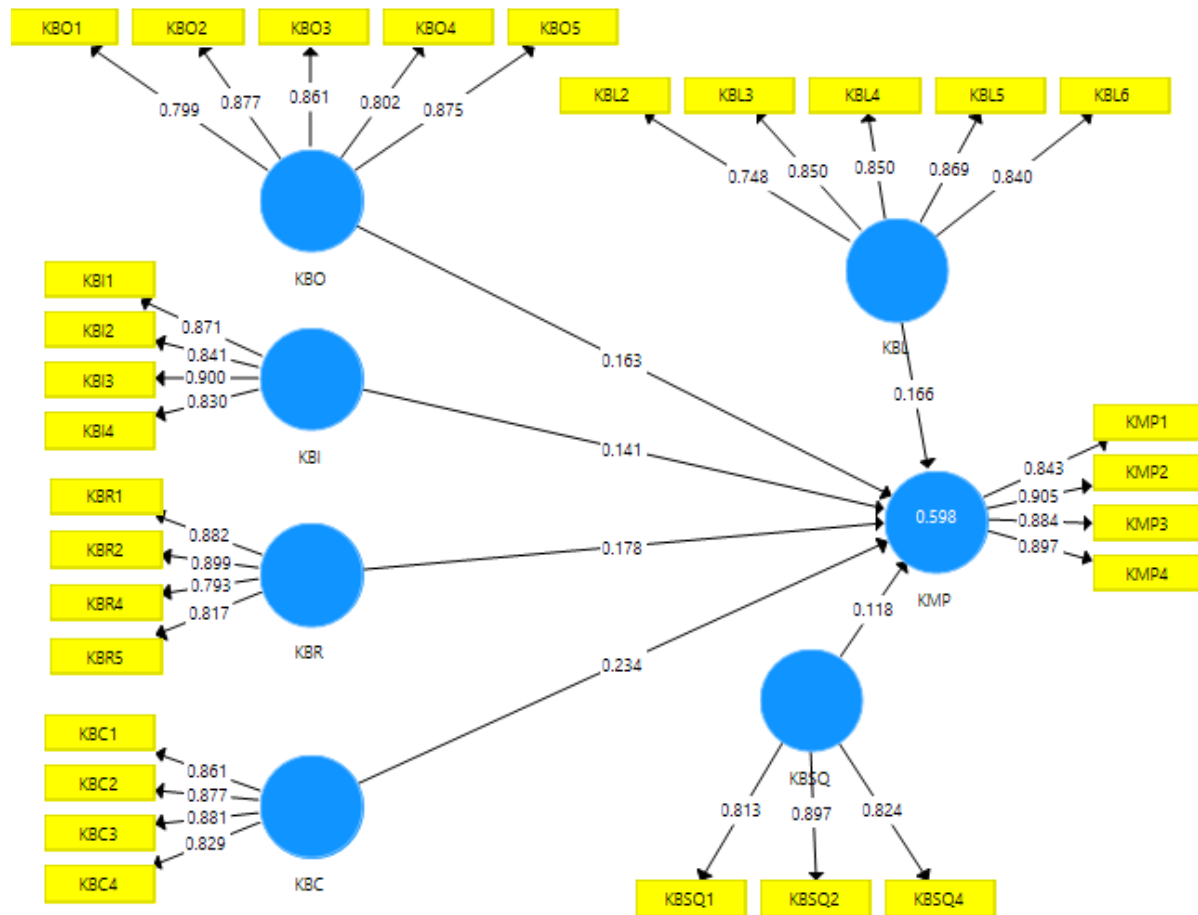


Figure 2: Path Coefficients with  $R^2$

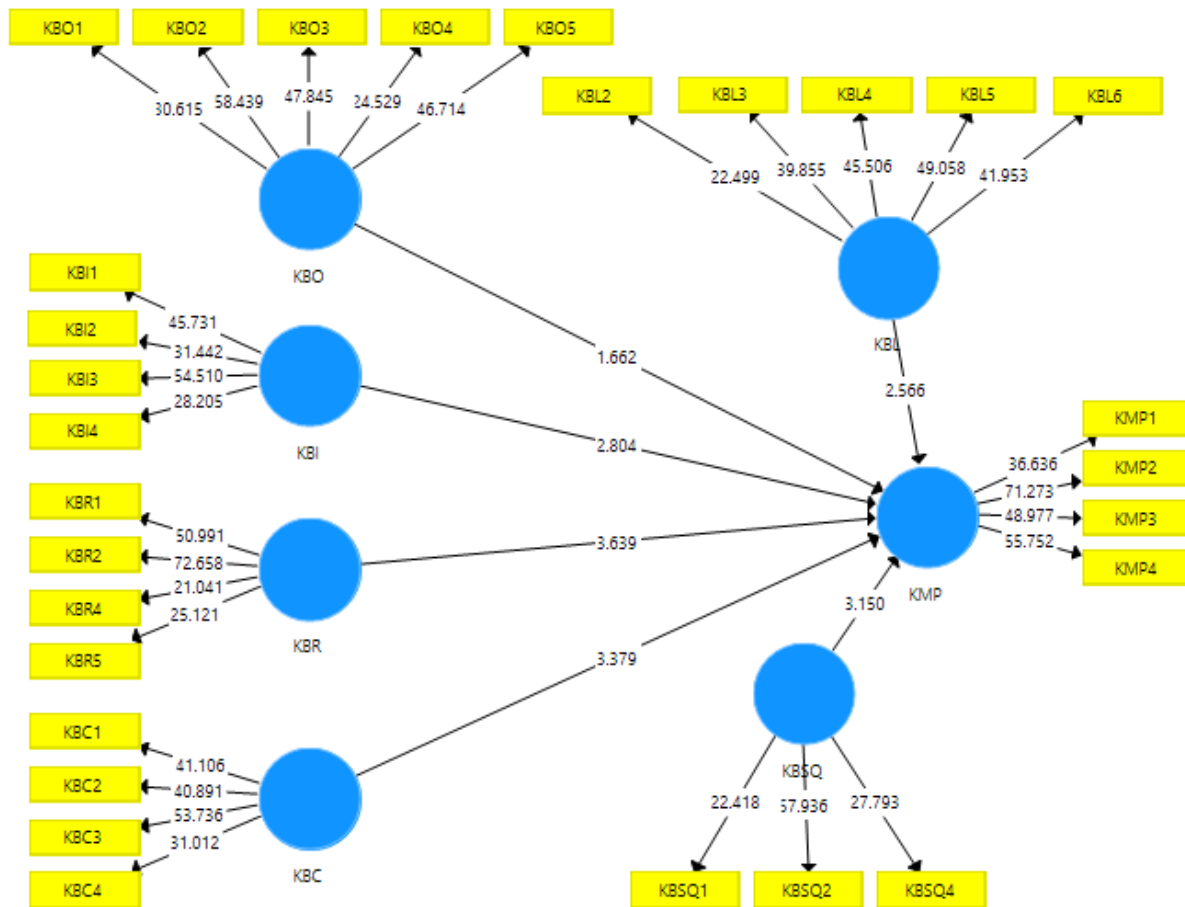


Figure 1: Significance Test with T-Statistics

### 5. Conclusion and Recommendations

The research carried out the investigation to study the influence of knowledge management strategic enablers in higher education institutions in Sri Lanka. In order to realize this objective, KBC, KBI, KBL, KBO, KBR, and KBSQ. The analysis revealed that all these five hypothesized propositions are supported in higher education institutions Sri Lankan context except KBO. The relationship between propositions are consistent with prior studies.

This study reinforced the understanding of KM enablers and use and importance of KM practices within the context of faculty members at Higher Education Institutions in Sri Lanka. therefore, from the managerial perspective, higher education institutes should create an environment that strengthens knowledge-based research collaboration, technology, communication among staff, improve system quality and develop effective leadership. This consequently enforces members to actively share knowledge and take measures to practice KM more effectively at their HEIs. When the KM enablers are in place, intention of faculty members to share useful knowledge will enhance and positive relationship among academic staff will be maintained. HIEs can enhance the perception of academic staff indicating that universities could enrich KM practices and use of it by capacity building of members through training and communication. HEIs faculty members tend to contribute more when there is a higher level of motivation and availability of KM enablers. Hence, top management of HEIs should support for KM infrastructure development from individuals to organizational level to strengthen both human resources and KM enablers.



Future research may further explore more on specific type of KM enablers, knowledge creations process and individuals' abilities to share useful knowledge with colleagues within the HEIs.

## References

1. Alavi, M., & Tiwana, A. (2002). Knowledge integration in virtual teams: The potential role of KMS. *Journal of the American Society for Information Science and Technology*, 53(12), 1029-1037.
2. Alazmi, M., & Zairi, M. (2003). Knowledge management critical success factors. *Total Quality Management & Business Excellence*, 14(2), 199-204.
3. Anderson, A. (1998). *The knowledge management practices book*. The Global Best Practices Research Team.
4. Choi, C. J., Cheng, P., Hilton, B., & Russell, E. (2005). Knowledge governance. *Journal of knowledge Management*.
5. Cornelissen, F., van Swet, J., Beijgaard, D., & Bergen, T. (2011). Aspects of school–university research networks that play a role in developing, sharing and using knowledge based on teacher research. *Teaching and Teacher Education*, 27(1), 147-156.
6. Coukos-Semmel, E. D. (2002). *Knowledge management: processes and strategies used in United States research universities* (Doctoral dissertation, Florida Atlantic University).
7. De La Vega, A. F. R., & Stankosky, M. (2010). Knowledge management and innovation: What must governments do to increase innovation? *Search of Knowledge Management: Pursuing Primary Principles*, 275.
8. Goh, S. C. (2002). Managing effective knowledge transfer: an integrative framework and some practice implications. *Journal of knowledge management*, 6(1), 23-30.
9. Hair, J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2nd Ed., Sage: Thousand Oaks.
10. Kotlarsky, J., & Oshri, I. (2005). Social ties, knowledge sharing and successful collaboration in globally distributed system development projects. *European Journal of Information Systems*, 14(1), 37-48.
11. Lin, H. F. (2011). Antecedents of the stage-based knowledge management evolution. *Journal of Knowledge Management*, 15(1), 136-155.
12. Omerzel, Doris & Biloslavo, Roberto & Trnavcevic, Anita. (2011). Knowledge management and organisational culture in higher education institutions. *Journal for East European Management Studies*. 16. 111-139.
13. Panteli, N., & Sockalingam, S. (2005). Trust and conflict within virtual inter-organizational alliances: a framework for facilitating knowledge sharing. *Decision support systems*, 39(4), 599-617.
14. Perry, M. (2014). HEIs-regions engagement using knowledge management strategy. *Modern Economy*, 5(07), 742.
15. Seonghee, K., & Boryung, J. (2008). An analysis of faculty perceptions: Attitudes toward knowledge sharing and collaboration in an academic institution. *Library & Information Science Research*, 30(4), 282-290.
16. Tikhomirova, N., Tikhomirov, V., Telnov, Y., & Maksimova, V. (2009). The University's Integrated Knowledge Space in Knowledge Management. In *Search of Knowledge Management: Pursuing Primary Principles*, 147.
17. Wei Chong, C., Choy Chong, S., & Chew Gan, G. (2011). Inter-organizational knowledge transfer needs among small and medium enterprises. *Library Review*, 60(1), 37-52.
18. Zaghaf, R. W. (2011). *Has Knowledge Management Missed the Business Continuity Boat? A Study of Vulnerable University Knowledge Assets*.