



ACHIEVING THE EXCELLENCE PERFORMANCE BY USING KNOWLEDGE MANAGEMENT AND INNOVATION FRAMEWORK

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ABSTRACT

This paper focuses on how the College of Engineering at ABC (a pseudonym is given to mask the University's name) can achieve the quest of excellence by using the proposed Knowledge Management and Innovation Framework (KMIF). A previous work study by the researchers focusing on measuring Knowledge Management (KM) Enablers, KM Practices and Innovation revealed a moderate level of KM that is encouraging to propose a KMIF. That study focused on measuring personal perception and expectations for faculty staff about using the proposed KMIF. This paper contributes towards filling the gap between the previous work study results and using the proposed KMIF to achieve excellence and World Class University (WCU). The framework of this study is based on the idea of change and continuous improvement of all processes inside the College of Engineering to be more effective than its competitors. It was also based on getting feedback from stakeholders, self-assessment, benchmarking the final results achieved by the college of engineering with the higher ranks college, and hence, making the required changes to be on the road of the WCU. The study proved that the College of Engineering has significant opportunities for using the KMIF to achieve the quest of excellence.

Keywords: Knowledge Management System, Business Excellence, Innovation, World Class University.

1. INTRODUCTION

Organizations in modern societies are becoming more knowledge based. They can identify value and create and evolve their knowledge assets. Knowledge Management (KM) is one of many components of good management in a knowledge based society. KM in modern successful organizations is an important resource. That is the only resource that cannot be replicated or imitated by competitors. The global environment has changed in a way that the decision and operation processes of higher education institutions (HEI) have become more volatile and dynamic than ever and as such need carrying out new mandates for knowledge creation and innovation of implementations. The graduate skills are not fit to labor market needs, which require advanced skills and updated knowledge. HEI have significant opportunities to apply knowledge practices to support every part of their mission. In this study KMIF has been developed and proposed, consisting of two main parts: Knowledge Management System & Innovation and Self-Assessment Model. The framework of this study is based on the idea of change, or the continuous improvement of all the processes inside the College of Engineering to be more effective than its competitors. The analysis revealed that there was a positive correlation between all the criteria of the KMIF and a consensus among respondents in different departments on using the KMIF. The study proved that the College of Engineering has significant opportunities for using the KMIF to support every part of their mission, sustain quality and achieve the quest of excellence and enhance its ranking among WCUs. The modernization of higher education (HE) has forced the institutions to store, manage and use existing information and knowledge stores in a better way in order to meet new accountability, effectiveness and efficiency

requirements. This modernization helped HE to understand its stakeholders [6]. The excellence in HE is an integrated approach for self-assessment in colleges and universities. The goal of excellence is to offer continuous improvement for academic, student affairs, administrative, and service units within a college or university [12].

2. PROPOSED KNOWLEDGE MANAGEMENT AND INNOVATION FRAMEWORK (KMIF)

The purpose of this study is to provide a KM framework for administrative tasks such as students' registration, as well as leadership duties such as decision support systems to support administration and action indicating which tasks at the HEI should be supported by electronic data processing and which raw data should be collected. Decision support systems indicate how the existing reporting system should gather and process raw data and in what formats it is presented to management for decision making. For example, data from every student and labour market application are entered as raw data. A match between rapid changes in labour market requirements and higher education services helps in choosing the right syllabus and valid curriculum courses which affect students' and graduates' skills.

The KM framework refers to the integration of organizational knowledge culture, technology, structure and human resources, and effective people accomplishing higher education goals through the use of effective KM processes and procedures. The organization that effectively manages knowledge is likely to be considered a learning organization [6]. The KM framework defines the relationships between KM components (KM Enablers and KM Practices) giving

understanding about the methodology used for an appropriate development for HE. The KM framework constitutes of KM Enablers and KM Practices acting as the backbone and as guiding principles, providing directions for Innovation as a sound KM implementation. In case of the absence of any of these factors, the KM system fails to achieve its objective having difficulty to achieve advances.

The integration of KM and Self-Assessment model requires data collection at all levels of the process, and transferring the collected data into information in special quality control units throughout the organizations. These units combine all information into meaningful clusters of information where knowledge is created to feedback into the system to enhance and increase its capacity; KM, as an independent process in the framework, enables the knowledge flow and sharing across units and departments. It is essentially achieving learning in the organization, improving organizational processes and practices; and identifying the root causes of services shortages and production defects that prevent achieving organizational standards for the performance outputs [1].

The Proposed Framework of Knowledge Management and Innovation Framework (KMIF) consists of two main parts, as demonstrated in figure 1:

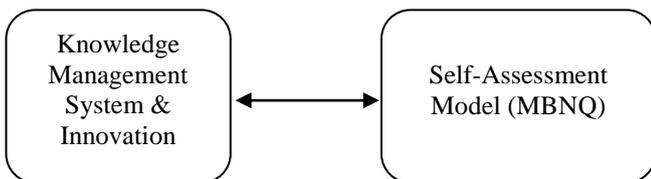


Figure 1: Components of the Proposed Framework of KMIF

The framework of this study is based on the idea of change, or the continuous improvement for all processes inside the College of Engineering and Technology at ABC University to be more effective than its competitors and based on getting feedback from stakeholders, self-assessment and benchmarking the final results with colleges that achieved higher ranks and making changes to be on the road of the world class university. This is considered as a continuous process by applying the concept of Plan, Do, Check and Act as shown in figures 2; 3 and 4.

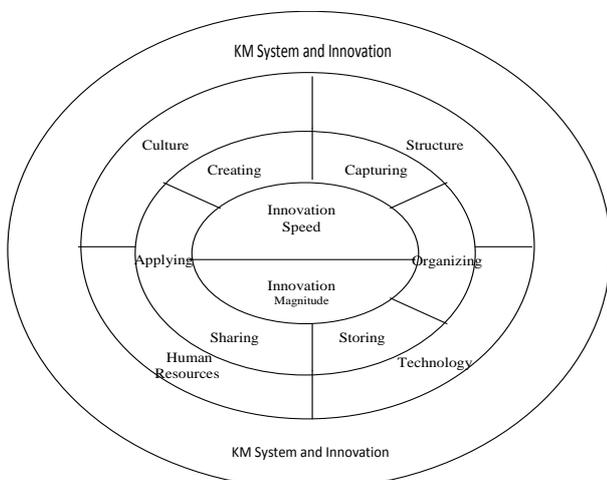


Figure 2: KM System and Innovation (KMSI)

The criteria of KMIF are hypothesized to be particularly related to each other as illustrated in figure 4. This research addressed the following questions:

- 1- Are the proposed KMIF criteria relationships valid?
- 2- Will the application of KMIF be useful to College of Engineering and Technology stakeholders?
- 3- What are the differences existing in the perceptions of faculty staff departments concerning how the College of Engineering and Technology can achieve the quest of excellence (as a World Class University) by applying the proposed framework of KMIF?

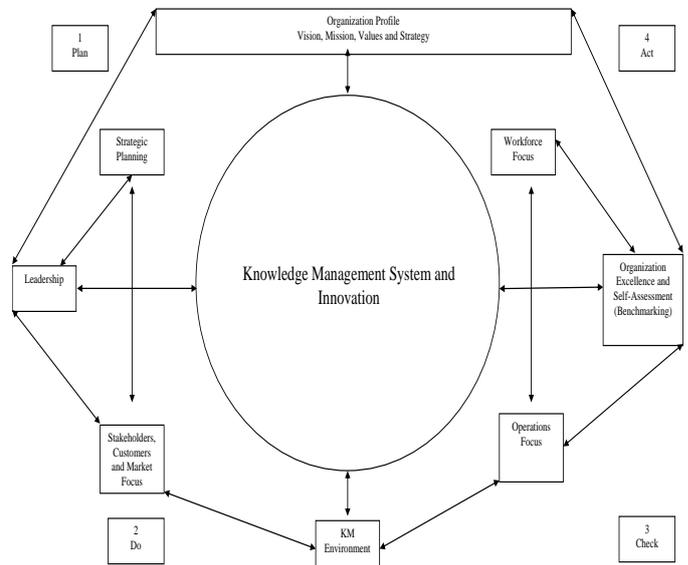


Figure 3: Proposed KM System and Innovation Framework to Enhance Organization Quality and Performance Excellence

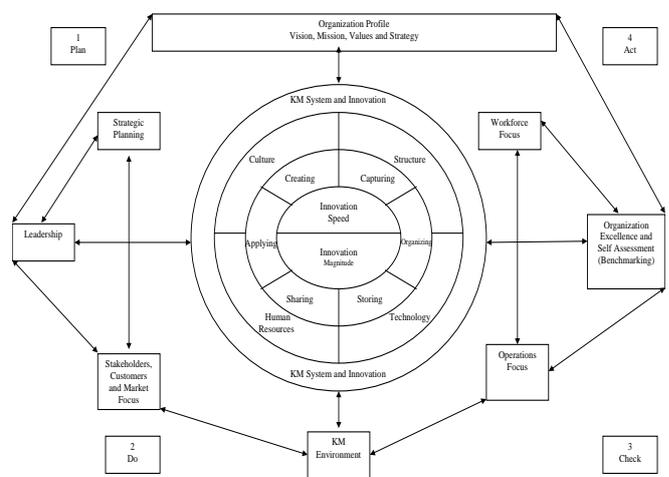


Figure 4: Proposed KM and Innovation Framework to Support Organization Quality and Performance Excellence

3. RESEARCH METHODOLOGY

3.1 RESEARCH MODEL

The research model is based on the idea of change and continuous improvement as shown in figure 4; the research model is based on the following criteria according to [6]:

- Leadership is the key driver of the proposed KMIF; without the involvement and commitment of senior leaders, the quality management becomes difficult and impossible; senior leaders should inspire and motivate the entire workforce and should encourage all faculty and staff to contribute, develop and learn, be innovative, and be creative; senior leaders should serve as role models through



their ethical behavior and personal involvement in planning, communication, coaching, development of future leaders, reviewing of organizational performance, and faculty staff recognition. This is important to achieve college quality and performance excellence.

- Strategic planning is a tool for monitoring keeping pace with marketing changes and needs, and using advanced technology for launching new products and services. The strategic planning in HE examines how the organization understands students, stakeholders and labour market requirements as input to set strategic directions. This is important to achieve college quality and performance excellence.
- Stakeholders; Customers (Students) and Market Focus are concerned with how the organization seeks to understand the needs of current and future students and stakeholders to understand the market. That is achieved by building loyalty and meeting expectations of students, stakeholders and market needs. The objective from this criteria is developing the learning process and curriculum of courses to meet labour market needs. This is important to achieve college quality and performance excellence.
- Knowledge Management System and Innovation is concerned with evaluating the data from the support systems, evaluating information analysis at different levels of business, evaluating the methods used to achieve continuous improvement through information gathered from all levels of organizations to drive improvement in operational outcomes, and keeping information up to date and current to all levels of the organization to achieve quality and performance excellence.
- Work Focus is concerned with how to support and help to achieve organizational goals, the faculty staff are adopting for change according to changes in market needs and directed towards enhancing students' and graduate skills, and aligned with the organization's strategic objectives.
- Operations Focus is concerned with how new courses (product) and services are designed to meet stakeholders' (customers and students) needs and taking into account the competitors' movements that achieves effective process management, effective learning process, effective education design and delivery and focus on student learning and taking into account changes in the market.
- Organization excellence (Results): regarding the combination of the previous criteria, the organization could achieve superior results of excellence as reflected in operational, financial indicators, student, organizational personal learning and stakeholders' satisfaction, satisfy market requirements with superior graduate skills, and should compare the results achieved with the results of international competitors (WCU) for benchmark through the feedback of information into KMSI to make the required changes in the organization process by using the process of Plan;

Do; Check and Act to achieve superior results of performance excellence.

3.2 MEASUREMENT DEVELOPMENT

The criteria of KMIF were adapted based on [6] and [5] and the instrument of expected outcomes of proposed KMIF were also adapted based on [6]; [9]; [11]; [7].

3.3 HYPOTHESIS

A previous work study by researchers; which focused on measuring Knowledge Management (KM) Enablers, KM Practices and Innovation revealed a moderate level of KM that's encouraging to propose a KMIF and the importance of critical success factors of KM in relation to enhancing KM practices and innovation to sustain HE quality and performance excellence. The analysis revealed that KM enablers positively affect KM practice, and that KM practices were shown to have a positive impact on its innovation speed. Organizational culture was also found to positively influence KM practices. Furthermore, there was a weak positive correlation between KM based technology and KM practices; there was also a weak positive correlation between KM practices and innovation magnitude. Furthermore, the study proved that there was a moderate level of KM practices, ABC University need to improve Information Technology system to spread knowledge for faculty staff and everyone has access to it. Therefore, ABC University has significant opportunities to apply KM practices to sustain education quality and performance excellence to achieve competitive advantages.

The hypotheses of this study are as the following:-

- H1: KMS and Innovation has a significant positive influence on college quality and performance excellence (Results).
- H2: There is a significant positive relationship between the criteria of KMIF.
- H3: There are significance differences in the perceptions of faculty staff members from different department's

3.4 QUESTIONNAIRE

The questionnaire was used and contained quantitative questions, which required closed-ended responses. It was used to collect and measure the personal perceptions of faculty staff and expectations about the efforts of quality and excellence performance in the case of using the proposed KMIF. The quantitative section used a five point Likert scale to record responses with the definitions of 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree.

3.5 POPULATION, SAMPLE AND DATA COLLECTION

The questionnaire used was oriented towards faculty staff and consultants at the College of Engineering department level. These represented a stratified disproportional random sample and met the conditions stated for the purpose of this study which is to examine the perceptions of faculty staff members of the College of Engineering and Technology at ABC University to determine how well they feel if the KMIF is implemented to sustain College quality and performance excellence to be on



the road of WCU. The sample was designed to include faculty staff for selected seven departments were: Electronics & Communications Engineering, Electrical and Control Engineering, Construction and Building Engineering, Computer Engineering, Architectural Engineering & Environmental Design, Industrial & Management Engineering and Basic and Applied Science. The questionnaire was conducted over a period of two months and the results ended up with 103 respondents from 134 questionnaires sent, giving a response rate of 76.87% (Table 1).

This study was oriented towards faculty staff that are more familiar, knowledgeable, able and willing to report the strategic plan of the college and have sufficient awareness to predict the overall policies. Two other departments (Architectural Engineering & Environmental Design and Industrial & Management Engineering) were added within the data collection to reduce the sampling error rate. The study with a low sampling error results in a high degree of generalizability, thus increasing the likelihood that the results can be extrapolated for use at similar colleges [8]; [3]; [13]; [4].

Table 1: Response of Data Collection: Measuring the Personal Perception in the Case of Using the Proposed KMIF

Departments	Sent	Received	Percentage (%)
Basic and applied science	30	25	83.33
Electrical and Control Engineering	20	17	85.00
Construction and Building Engineering	17	13	76.47
Computer Engineering	17	13	76.47
Electronics & Communications	20	16	80.00
Architectural Engineering & Environmental Design	20	13	65.00
Industrial & Management Engineering	10	6	60.00
Total	134	103	76.87

The collected data were analyzed by using the Statistical Package for Social Sciences (SPSS) 16.0. The analysis involved descriptive statistics which include mean and standard deviation. In addition, the findings of the study and presentation of the data were supported by the illustration of tables. The data were also analyzed by using Pearson Correlation to identify the relationship and to test hypotheses between variables; Analysis of Variance (ANOVA) was also used to compare the mean between the College of Engineering departments to understand the fitness of the proposed KMIF. All of the research study results were tested at a 5% significance level.

4. RESEARCH ANALYSIS AND RESULTS

4.1 RELIABILITY AND VALIDITY ANALYSES

To ensure the reliability and validity of the instruments, several criteria were considered when designing a questionnaire survey. The selection of question wording; questionnaire design and layouts were adopted. Attention was paid to the choice of wording since the language of questionnaires is an important attribute of their effectiveness and should reflect the respondent's own language usage. It was also considered that question wording should be consistent with the wording and definitions. Items in the questionnaire were designed to be simple, clear, short, and technically accurate and at an appropriate reading level. The questionnaire instrument and variable elements were developed through an extensive literature review. The questionnaire items were adopted and chosen from previous studies [6]; [5]. Table 2 describes the Cronbach's alpha for all items of instruments which represent reliability. It was 0.956. The closer the alpha value to 1 means the data is more reliable. Cronbach's alpha attests to a good measuring reliability of the instruments; therefore, the data collected in this research are reliable. The validity for all items together is described by the Communalities-Extraction. All factors have Communalities-Extraction values higher than the 0.50 cutoff values; it shows the Communalities-Extraction ranges from 0.601 to 0.862 so all the variables were retained. Relatively high values of reliability and validity imply that the instruments used in the study are adequate. The value of the KMO Measure of Sampling Adequacy for this set of variables was 0.770, which would be labeled as 'middling'.

Table 2: Reliability Statistics for Propose KMIF

Cronbach's Alpha α	N of Items
.956	49

4.2 QUANTITATIVE RESULTS

Correlation analysis and one-way analysis of variance (ANOVA) were used to understand the relationship between dimensions in the framework and test fitness of the rest of the hypotheses. The mean scores for the seven categories assumed Knowledge Management System and Innovation (Category 4), as an independent variable affect Organizational Performance Excellence (Results) (Category 7) and all other categories are held constant. The mean scores for all criteria of KMIF range from 3.6117 to 4.3689; on the other hand, the standard deviation scores for all criteria of KMIF range from 0.61021 to 0.88368. The finding describes that the mean rating for all criteria in descending order from high to low were: Positives from Applying KMIF (M = 4.3689, SD = 0.61021), Category 2: Strategic Planning & Deployment (M = 4.2233, SD = 0.71307), Knowledge Management System and Innovation (M = 4.0680, SD = 0.73113), Category 1: Leadership (M = 4.0583, SD = 0.88368), Category 6: Operations Focus (M = 4.0194, SD = 0.74070), Category 7: Organization Performance Excellence (Results) (M = 3.9029, SD = 0.82265), Category 5: Faculty and Staff Focus (M = 3.9020, SD = 0.65264) and Category 3: Student, Stakeholder & Market Focus (M = 3.6117, SD = 0.83117). From the previous analysis, the standard deviation scores for the variables which were below one imply that the respondents have consistently rated all the elements. When standard



deviation is somewhat small then, there is small variability and the data are clustered around the mean.

The relationship between the criteria of KMIF was investigated using Pearson Correlation coefficient (r). The Bivariate correlation was subjected to two-tailed test of significance from two difference levels. If significance value (P-Value) less than 0.05 is considered as significant, so null hypotheses are accepted when P-Value is less than 0.05. Table 3 presents the relationship between the KMIF criteria, relationship between KMS & Innovation and expected positives from Applying KMIF. KMS & Innovation is significantly and moderate positively correlated with organization performance excellence (Results), $R(103) = 0.419$, $P < 0.000$ two-tailed, KMS & Innovation is significantly and weak positively correlated with positives from Applying KMIF, $R(103) = 0.251$, $P < 0.011$ two-tailed, P-value ≤ 0.05 Therefore, hypothesis 1 (KM System and Innovation has a significant positive influence on organization quality and performance excellence and achieve positive results from applying KMIF) is accepted.

The study revealed the relationship between the categories of the KMIF as follows:-

- Category 1: Leadership and other categories shown in table 3 is explained as follows: Category 1: leadership is significantly and moderate positively correlated with Category 2: Strategic Planning, $R(103) = 0.461$, $P < 0.000$ two-tailed, Category 1: leadership is significantly and strong positively correlated with Category 3: Market Focus, $R(103) = 0.632$, $P < 0.000$ two-tailed, Category 1: leadership is significantly and moderate positively correlated with Category 4: KMS & Innovation, $R(103) = 0.495$, $P < 0.000$ two-tailed, Category 1: leadership is significantly and moderate positively correlated with Category 5: Faculty staff focus, $R(102) = 0.356$, $P < 0.000$ two-tailed, Category 1: leadership is significantly and moderate positively correlated with Category 6: Operation Focus, $R(103) = 0.433$, $P < 0.000$ two-tailed, Category 1: leadership is significantly and strong positively correlated with Category 7: Organization Performance Excellence (Results), $R(103) = 0.615$, $P < 0.000$ two-tailed, Category 1: leadership is significantly and moderate positively correlated with Positives from Applying KMIF, $R(103) = 0.451$, $P < 0.000$ two-tailed.
- The relationship between Category 2: Strategic Planning and other categories is explained as follows: Category 2: Strategic Planning is significantly and moderate positively correlated with Category 3: Market Focus, $R(103) = 0.396$, $P < 0.000$ two-tailed, Category 2: Strategic Planning is significantly and moderate positively correlated with Category 4: KMS & Innovation, $R(103) = 0.403$, $P < 0.000$ two-tailed, Category 2: Strategic Planning is significantly and weak positively correlated with Category 5: Faculty staff focus, $R(102) = 0.158$, $P < 0.113$ two-tailed, Category 2: Strategic Planning is significantly and moderate positively correlated with Category 6: Operation Focus, $R(103) = 0.419$, $P < 0.000$ two-tailed, Category 2: Strategic Planning is significantly and moderate positively correlated with Category 7: Organization Performance Excellence (Results), $R(103) = 0.489$, $P < 0.000$ two-tailed, Category 2: Strategic Planning is significantly and weak positively correlated with Positives from Applying KMIF, $R(103) = 0.282$, $P < 0.004$ two-tailed.
- The relationship between Category 3: Market Focus (Students & Stakeholders) and other categories is explained as follows: Category 3: Market Focus is significantly and moderate positively correlated with Category 4: KMS & Innovation, $R(103) = 0.528$, $P < 0.000$ two-tailed, Category 3: Market Focus is significantly and weak positively correlated with Category 5: Faculty staff focus, $R(102) = 0.349$, $P < 0.000$ two-tailed, Category 3: Market Focus is significantly and moderate positively correlated with Category 6: Operation Focus, $R(103) = 0.458$, $P < 0.000$ two-tailed, Category 3: Market Focus is significantly and moderate positively correlated with Category 7: Organization Performance Excellence (Results), $R(103) = 0.460$, $P < 0.000$ two-tailed, Category 3: Market Focus is significantly and weak positively correlated with Positives from Applying KMIF, $R(103) = 0.208$, $P < 0.035$ two-tailed.
- KMS & Innovation has another relationship with other two categories is explained as follows: Category 4: KMS & Innovation is significantly and weak positively correlated with Category 5: Faculty staff focus, $R(102) = 0.350$, $P < 0.000$ two-tailed, Category 4: KMS & Innovation is significantly and moderate positively correlated with Category 6: Operation Focus, $R(103) = 0.450$, $P < 0.000$ two-tailed.
- The relationship between Category 5: Faculty Staff Focus and other categories is explained as follows: Category 5: Faculty Staff Focus is significantly and weak positively correlated with Category 6: Operation Focus, $R(102) = 0.212$, $P < 0.033$ two-tailed, Category 5: Faculty Staff Focus is significantly and moderate positively correlated with Category 7: Organization Performance Excellence (Results), $R(102) = 0.441$, $P < 0.000$ two-tailed, Category 5: Faculty Staff Focus is significantly and weak positively correlated with Positives from Applying KMIF, $R(102) = 0.122$, $P < 0.220$ two-tailed.
- The relationship between Category 6: Operation Focus and other categories is explained as follows: Category 6: Operation Focus is significantly and strong positively correlated with Category 7: Organization Performance Excellence (Results), $R(103) = 0.598$, $P < 0.000$ two-tailed, Category 6: Operation Focus is significantly and weak positively correlated with Positives from Applying KMIF, $R(103) = 0.353$, $P < 0.000$ two-tailed.
- The relationship between Category 7: Organizations Performance Excellence (Results) and Positives from applying KMIF is explained as follows: Category 7: Organizations Performance Excellence (Results) is significantly and weak positively correlated with Positives from Applying



KMIF, $R(103) = 0.287$, $P < 0.003$ two-tailed.

- Therefore, hypothesis 2 (There is a significant positive relationship between the criteria of KMIF) is accepted. The Strategic Planning is significantly and weak positively correlated with Category 5: Faculty staff focus, $R(102) = 0.158$, $P < 0.113$ two-tailed, $P\text{-value} > 0.05$ so this both criteria are not supported, Category 5: Faculty Staff Focus is significantly and weak positively correlated with Positives from Applying KMIF, $R(102) = 0.122$, $P < 0.220$ two-tailed; $P\text{-value} > 0.05$ so both criteria are not supported.

Table 3: Correlations

		Leadership	Strategic Planning	Market Focus	KMS & Innovation	Faculty Staff Focus	Operation Focus	Organization Performance Excellence (Results)	Positives from Applying KMIF
Leadership	Pearson Correlation	1	.461**	.632**	.495**	.356**	.433**	.615**	.451**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	103	103	103	103	102	103	103	103
Strategic Planning	Pearson Correlation	.461**	1	.396**	.403**	.158	.419**	.489**	.282**
	Sig. (2-tailed)	.000		.000	.000	.113	.000	.000	.004
	N	103	103	103	103	102	103	103	103
Market Focus	Pearson Correlation	.632**	.396**	1	.528**	.349**	.458**	.460**	.208*
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.035
	N	103	103	103	103	102	103	103	103
KMS & Innovation	Pearson Correlation	.495**	.403**	.528**	1	.350**	.450**	.419**	.251*
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.011
	N	103	103	103	103	102	103	103	103
Faculty Staff Focus	Pearson Correlation	.356**	.158	.349**	.350**	1	.212*	.441**	.122
	Sig. (2-tailed)	.000	.113	.000	.000		.033	.000	.220
	N	102	102	102	102	102	102	102	102
Operation Focus	Pearson Correlation	.433**	.419**	.458**	.450**	.212*	1	.598**	.353**
	Sig. (2-tailed)	.000	.000	.000	.000	.033		.000	.000
	N	103	103	103	103	102	103	103	103

4.3 ANALYSIS OF VARIANCE

To determine whether the proposed KMIF differed between departments or not, one-way analysis of variance (ANOVA) was employed to identify differences in means between respondents of College of Engineering departments and to understand the fitness of the proposed KMIF between departments. If a difference existed, that fact provides evidence that no relationship existed between departments about a specific category of KMIF. An ANOVA was conducted for all criteria of the proposed KMIF to determine

whether differences existed in the perceptions of faculty staff members of the seven college departments, as provided in table 4. Analysis of Variance (ANOVA) indicated that:

- For Category 1: Leadership, ($F=1.671$, $P=0.136$), the high p-value (>0.05) suggests that the difference in mean scores is not a statistically significant variable. That indicates that there is no significant difference between perceptions of faculty staff members from different departments about leadership. F Value: Fisher value, a statistical distribution, used here to indicate the probability that an ANOVA of KMIF is good. In the ANOVA calculations, it is the ratio of squared variances. A large number translates to confidence in the KMIF [30]; [31].
- For Category 2: Strategic Planning, ($F=.684$, $P=0.663$), the high p-value (>0.05) suggests that the difference in mean scores is not a statistically significant variable. That indicates that there is no significant difference in perceptions of faculty staff members from different departments about Strategic Planning.

Table 4: ANOVA: Test Results for KMIF and Positives from Applying KMIF

		Sum of Squares	df	Mean Square	F	Sig.
Leadership	Between Groups	7.532	6	1.255	1.671	.136
	Within Groups	72.118	96	.751		
	Total	79.650	102			
Strategic Planning	Between Groups	2.127	6	.355	.684	.663
	Within Groups	49.737	96	.518		
	Total	51.864	102			
Market Focus (Students & Stakeholders)	Between Groups	8.707	6	1.451	2.256	.044
	Within Groups	61.759	96	.643		
	Total	70.466	102			
Knowledge Management System and Innovation	Between Groups	4.988	6	.831	1.611	.152
	Within Groups	49.536	96	.516		
	Total	54.524	102			
Faculty Staff Focus	Between Groups	2.613	6	.435	1.024	.415
	Within Groups	40.407	95	.425		
	Total	43.020	101			
Operation Focus	Between Groups	2.619	6	.437	.786	.583
	Within Groups	53.342	96	.556		
	Total	55.961	102			
Organization Performance Excellence (Results)	Between Groups	3.135	6	.522	.761	.602
	Within Groups	65.895	96	.686		
	Total	69.029	102			
Positives from Applying KMIF	Between Groups	2.728	6	.455	1.238	.294
	Within Groups	35.252	96	.367		
	Total	37.981	102			

- For Category 3: Market Focus (Students & Stakeholders), ($F=2.256$, $P=.044$), the low p-value (<0.05) suggests that the difference in mean scores is a statistically significant variable. That indicates that there is a significant difference in perceptions of faculty staff members from different



departments about Market Focus. The Levene test is used to test if samples have equal variances. Equal variance across samples is called homogeneity of variances. The test for homogeneity of variances has a p-value 0.059, which is not significant enough to say that the variances are different, so it cannot be reasonably certain that the variance of the Market focus score differs across the perceptions of faculty staff members from different departments (equal variances assumed) presented in table 5.

- For Category 4: Knowledge Management System and Innovation, (F=1.611, P=0.152), the high p-value (>0.05) suggests that the difference in mean scores is not a statistically significant variable. That indicates that there is no significant difference in perceptions of faculty staff members from different departments about Knowledge Management System and Innovation.
- For Category 5: Faculty Staff Focus, (F=1.024, P=0.415), the high p-value (>0.05) suggests that the difference in mean scores is not a statistically significant variable. That indicates that there is no significant difference in perceptions of faculty staff members from different departments about Faculty Staff Focus.
- For Category 6: Operation Focus, (F=.786, P=0.583), the high p-value (>0.05) suggests that the difference in mean scores is not a statistically significant variable. That indicates that there is no significant difference in perceptions of faculty staff members from different departments about Operation Focus.
- For Category 7: Organization Performance Excellence (Results), (F=.761, P=0.602), the high p-value (>0.05) suggests that the difference in mean scores is not a statistically significant variable. That indicates that there is no significant difference in perceptions of faculty staff members from different departments about Organization Performance Excellence (Results).
- For Positives from Applying KMIF, (F=1.238, P=0.294), the high p-value (>0.05) suggests that the difference in mean scores is not a statistically significant variable. That indicates that there is no significant difference in perceptions of faculty staff members from different departments about Positives from Applying KMIF.

Therefore, hypothesis 3 (There is a significance difference in the perceptions of faculty staff department) was rejected.

The quantitative results revealed cohesion between the perceptions of faculty staff members about KMIF and positive correlations between all criteria of KMIF.

Table 5: Test of Homogeneity of Variances Market Focus (Students & Stakeholders)

Levene Statistic	df1	df2	Sig.
2.106	6	96	.059

5. CONCLUSIONS

ANOVA revealed that there are no significant differences in the perceptions of faculty staff among departments participants for Leadership; Strategic Planning; Knowledge Management System and Innovation; Faculty Staff Focus; Operation Focus; Organization Performance Excellence (Results) and Positives from using KMIF but the ANOVA analysis of Market Focus (Students & Stakeholders) indicated that there was a significant difference in perceptions among faculty staff members from different departments. The test for homogeneity of variances indicated that there was no significance enough to say the variances are different.

There was cohesion between the perceptions of faculty staff members about using the KMIF and there were positive correlations between all criteria of the KMIF. The faculty staff perceptions indicates the following outcomes if using the proposed KMIF: improving services for students; enhancing student's skills; enhancing customer Experience management and stakeholders; improving decision-making power to the managers of responsibility centers that achieves a good impact on the regularity and effectiveness of the educational process, sustaining College of Engineering to achieve their own vision in terms of excellence and achieving an advance in World Class University (Advanced ranking), achieving communication with stakeholders (Students, Faculty members, industry and Labor market), developing courses according to labor market requirements, achieving continuous improvement and development, improving the college capacity to achieve its mission towards community service and achieving its social responsibility, stimulating innovation and development, improving the student's ability to learn and improving their skills.

The College of Engineering and Technology could achieve the quest of excellence (as a World Class University) by applying the proposed KMIF and identifying core concepts and values that are beliefs and behaviors of high performing organizations for achieving performance excellence and to be on the road of excellence by strong leadership, a clear vision of the institution's mission and goals, and a clearly articulated strategic plan to translate the vision into strategic objectives, set new sharp goals, and design and implement a renewal plan that would lead to enhancing performance; Reducing the performance gap, compared with competitors by benchmarking, depends on an ambitious vision to future and continuous development.

The research significance could be summarized in the following points:

- Gain competitive advantage in the business and increase global competition.
- Keep pace with World Class Universities by applying knowledge management.
- KM provides a set of tools and actions to change management; successful innovation is described as an example of change management that is being used to accelerate learning and performance.
- Knowledge Management improves academic services (teaching and learning processes).

The following recommendations could be made in light of the findings of the study:

- The results indicate that the College of Engineering at ABC University has a positive perception about



using the proposed KMIF in the seven departments of the College. Therefore, it is recommended to implement the proposed KMIF in one department and replicate the idea at another college in the ABC University. However the framework needs more investigation and exploration in the future to be generalized and to build up a more complete picture.

- According to the consensus in the perception of faculty staff about using KMIF, the college should be given opportunities to implement the KMIF to achieve continuous improvement efforts and to achieve the quest of excellence to keep pace with WCU. The results also revealed that KMSI has a significant impact on the enhancement of the College of Engineering excellence performance and keeping pace with WCU. Based on such findings, the study did not take into consideration which one of KMIF categories has a more positive significant effect on organizational quality and performance excellence. Therefore, further research should be conducted to investigate the weakest categories of KMIF at the College of Engineering to improve it.

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