

Knowledge Management as a Determinant of Faculty Incentives and Retention: An Empirical Study of Academic Institutions

Swati Dwivedi^{1*}, Dr. P.S. Rajput², Dr. Vishal Sood³ and Dr. Satish Manwani⁴

¹Asst. Prof. Oriental college of Technology, Bhopal, Madhya Pradesh, India.

²Director General, SAGE Group, Bhopal, Madhya Pradesh, India.

³Professor, Faculty of Management Studies Sri Sri University, Cuttack, Odisha, India.

⁴Asso. Prof. FMC, LNCT Group of Colleges, Bhopal, Madhya Pradesh, India.

*Corresponding author email id: swatidwivedi210@gmail.com

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Abstract – This research investigates the impact of Knowledge Management (KM) techniques on the salaries of academicians of Bhopal. This research employs the SECI knowledge production framework with organisational learning and human capital theories to analyse the relationship between knowledge management attributes and faculty remuneration. A structured questionnaire was utilised to gather primary data from 400 faculty members in Bhopal regarding socialisation, externalisation, combination, internalisation, knowledge transfer, knowledge application, education, innovativeness, institutional culture openness, learning orientation, performance, and compensation. There are 40 questions in the questionnaire, which cover 13 different things. Factor analysis confirmed the KM dimensions, whereas descriptive statistics characterised respondents and variable distributions. The study conducted a correlation analysis to investigate the relationship between KM components and compensation. Subsequently, multiple regression was applied to evaluate the predictive accuracy of KM practices concerning compensation. Incentives, recognition, motivation, and retention advantages demonstrate that advanced knowledge management practices—such as knowledge application, institutional culture openness, innovativeness, performance, and learning orientation—enhance faculty remuneration. The research indicates that organisations fostering leadership-driven knowledge management implementation, ongoing education, and cooperative information exchange are more inclined to recognise knowledge contributions and competencies. The research implications can assist academic administrators and senior officials in enhancing faculty satisfaction and institutional performance through the implementation of compensation schemes that promote knowledge generation, dissemination, and application.

Keywords – Knowledge Management, Compensation, Higher Education Institutions, Factor Analysis, Regression Analysis.

I. INTRODUCTION

In today's information-driven economy, colleges and universities are more than just places to study; they are observed as strategic knowledge entities, with the academicians being the main creators, protectors, and sharers of intellectual property. Universities must rethink how they manage, pay, and keep their intellectual resources conserved to cater to multi-dimensional variables such as the growing global integration of higher education, the increasing competition between colleges and universities, the requirements for accreditation, and the focus on outcome-oriented educational models. In a world that is always changing, information management (KM) has become an important skill for businesses to have. It allows institutions to systematically create, share, combine, and utilise information, which contributes to long-term academic performance and faculty retention (Nonaka & Takeuchi, 2023; Alavi et al., 2024). Teachers are the main source of both private and public knowledge in schools. These teachers are well-known and respected in the field of education because they are very good at teaching, conducting research, creating curriculum, managing people, and understanding the school environment. On the

other hand, many B-schools, especially in developing countries, still pay their teachers based on traditional measures of performance, tenure, and seniority. This is not a good way to encourage the growth of new ideas, knowledge, and collaborative learning. This mismatch has led to less interest in sharing knowledge, more instructors leaving their jobs, and less ability for the organisation to learn (Felin & Hesterly, 2024; Singh & Verma, 2025).

In recent years, there has been a growing understanding that effective information management systems affect not just how well businesses do, but also how well individuals do, including their motivation, incentives, commitment, and retention. The Socialisation, Externalisation, Combination, Internalisation (SECI) model illustrates the process of knowledge acquisition as a dynamic, continuous interaction between tacit and explicit knowledge. Nonaka et al. (2024) emphasise that this paradigm is critically important in educational institutions, as learning, mentoring, collaborating with others, and reflecting across many areas of life are fundamental to daily life. When colleges and universities use SECI-based knowledge management tools like collaborative forums, documentation systems, faculty development programs, and technology-enhanced platforms, they make it clear, measurable, and recognised how much knowledge is being shared. The level of incentives given to faculty members and how much they feel recognised, treated fairly, given chances to move up in their careers, and generally happy with their jobs are all strongly linked to how well they can keep faculty members. Modern incentive systems are increasingly using non-monetary components as a form of reward. Some examples of these kinds of perks include awards for good work, recognition for new ideas, funding for research, chances to learn, means to move up to leadership roles, and incentives to keep employees for a long time. Empirical research indicates that aligning compensation structures with knowledge management strategies, including information sharing, innovation, and application, can substantially enhance faculty engagement, organisational commitment, and retention intentions (Bryson, 2024; Zhao et al., 2024).

In India, higher education institutions, especially those in rapidly growing educational hubs like Bhopal, are facing multiple challenges in ensuring retention. These include high rates of teacher turnover, inconsistent pay, a lack of recognition for scholarly work, and no systems in place to encourage collaborative knowledge projects. The emphasis of lawmakers on faculty development programs (FDPs), research productivity, and innovation has created a large gap between the quantity of knowledge generated and the salary that goes along with it. It is important to do an empirical study to thoroughly examine how the attributes of knowledge management convert into tangible incentives for teachers and tactics for retention (Ramesh, 2024; Liao et al., 2024). This method is necessary to fix this problem. The objective of this study is to examine the influence of Knowledge Management as a variable promoting motivation and retention of teachers within educational institutions. The study examines thirteen facets of knowledge management, using primary data collected from 400 faculty attempts to analyse academicians of higher education institutions in Bhopal. These factors include socialisation, externalisation, combination, internalisation, knowledge transfer, knowledge application, human capital repository experience, education, innovativeness, institutional culture openness, learning orientation, performance, and remuneration.

The research employs stringent statistical techniques, including reliability analysis, descriptive statistics, factor analysis, correlation, and multiple regression, to ascertain empirical relationships between knowledge management strategies and compensation. This study experimentally corroborates the relationship between knowledge management (KM) and faculty incentives, so augmenting the current literature that positions KM as a strategic

human resource and governance instrument in higher education, rather than merely a technological or process-oriented intervention. The paper offers evidence-based recommendations for academic administrators and lawmakers to revise compensation and retention frameworks that promote knowledge creation, innovation, and continuous learning, therefore enhancing institutional sustainability and academic achievement.

II. LITERATURE REVIEW

Knowledge management has changed a lot since it first started as a way for companies to plan their strategies. Now, it is an important part of making organisations work well in many disciplines, including higher education. The literature on contemporary knowledge management characterises knowledge as a strategic asset that confers a competitive advantage when systematically developed, transmitted, preserved, and utilised (Grant, 2023; Davenport & Prusak, 2024). Knowledge management has gained prominence in academic institutions because faculty members are tasked with generating, interpreting, and sharing knowledge. The SECI framework is a well-known paradigm in the business world since it shows how knowledge is created. Socialisation is very important in schools that encourage student engagement and peer learning since it focuses on sharing implicit knowledge via networking, mentoring, and working together. Externalisation is the process of turning implicit information into clear forms, such as formal presentations, research papers, and institutional reports. Internalisation is the opposite of externalisation. It is the process of incorporating information into personal skills and the way an organisation works (Nonaka et al., 2024; Chen et al., 2025). Amalgamating brings together information from different departments and systems, whereas internalisation gives companies more knowledge.

A significant corpus of empirical research has repeatedly shown that the use of knowledge management systems significantly improves teacher effectiveness, stimulates creativity, and boosts the efficiency of educational activities. According to a study by Floridi (2024) and Uddin (2021), schools that encourage collaborative knowledge cultures have higher levels of research production and new ways of teaching. Vadavadagi and Joshi (2024) reached similar conclusions: their results show that learning environments supported by knowledge management significantly improve the level of engagement instructors have with their students and increase the responsiveness of the institution. The human capital theory framework has been extensively used to examine professor wages. This notion asserts that investing in workers' knowledge and abilities produces lasting advantages for the organisation. This scenario has led to further scrutiny of how much teachers are remunerated against the efforts they put to uplift educational excellence.

Welsh et al. (2023) and Walker et al. (2024) contend in their research that remuneration frameworks acknowledging cognitive contributions enhance teacher participation in knowledge-intensive activities. These efforts include working together on research, coming up with new ways to teach, and providing mentoring in their efforts towards collaborating for joint research. On the other hand, compensation structures that are too rigid make it harder to share knowledge quickly and may cause workers to quit the institution frequently. Recent research demonstrates that keeping faculty members is closely related to organisational cultures that are improved by knowledge management and sharing. Verma et al. (2024) and Wilson et al. (2023) found that schools that create an environment that values learning and new ideas, as well as those that promote openness, usually have lower teacher turnover rates. The reason for this is that the faculty members believe that becoming a part of these institutions would help them improve their professional reputation and get more recognition. These relationships are made stronger by the availability of performance-based incentives and involvement in knowledge management

initiatives. This kind of incentive encourages good actions.

The lack of empirical data from Indian higher education institutions explains the prevalence of knowledge management compensation research centred on business or Western academic contexts. This happens even when a lot of progress has been made towards their upliftment and making them responsible for contributing towards research publication and sharing. Thakur (2023) and Uddin (2015) assert that a substantial segment of contemporary research in India mostly utilises qualitative approaches or is only focused on research productivity. As a result, important parts of knowledge management and structured compensation results are being missed. To rectify this deficiency, it is essential to do comprehensive and quantitative research that elucidates the correlation between the characteristics of knowledge management and the methods for faculty remuneration and retention. This study seeks to investigate the complex notion of knowledge management using experimental methodologies, analysing its predictive influence on the incentives and retention of educators in academic institutions. This study seeks to elucidate the influence of knowledge management on the pay dynamics in higher education by including SECI methodology, elements of organisational culture, and performance results.

III. RESEARCH GAP

Even while more people in higher education are becoming aware of Knowledge Management, there are still big gaps in research, as most contemporary studies assess knowledge management outcomes via the lenses of organisational success, research output, or student happiness. While the research contributions overlooked faculty-centric metrics such as incentives, recognition, motivation, and retention. Second, empirical research seldom utilises a holistic approach to knowledge management components, including SECI procedures, institutional culture, learning orientation, and knowledge application, within a unified analytical framework. Third, quantitative data are scarce from Indian academic institutions, especially from Tier-II educational undertakings such as Bhopal, where institutional variety and wage variation are apparent. Additionally, previous research seldom utilises robust multivariate methodologies, like component analysis and regression, to ascertain causal links between knowledge management practices and compensation results towards enhancing academicians efficiency. The lack of context-specific empirical models hinders policymakers and administrators from developing evidence-based incentive systems. This study rectifies these shortcomings by delivering a statistically verified, thorough examination of knowledge management and its impact on teacher incentives and retention within leading education institutions.

IV. RESEARCH METHODOLOGY

This study employs a quantitative, descriptive, and explanatory methodology to comprehensively examine Knowledge Management techniques, incentives for instructors, and retention rates. A carefully crafted questionnaire with forty questions with a five-point Likert scale ranging from "strongly agree" to "strongly disagree," was used to collect primary data. The questionnaire employs thirteen aspects of Knowledge Management, derived from the literature on organisational learning, human capital theory, and SECI theory. A stratified random sample of 400 academicians from both public and private universities in Bhopal was chosen. The reliability study using Cronbach's alpha revealed a very high value of 0.923, indicating robust internal consistency of data across the findings. The Kaiser-Meyer-Olkin (KMO) and Bartlett's tests confirmed the sample's sufficiency and the data's factorability, while descriptive statistics assessed central tendency and

dispersion. The Exploratory Factor Analysis (EFA) found 13 variables that made up 77.84% of the overall variance. A study using multiple regression looked at how different aspects of knowledge management affected teachers' compensation, while a correlation analysis looked at how different knowledge management parameters were related to each other. We used SPSS 26 for all of our analyses to make sure that our techniques were strong and reliable to reveal results and discussion.

Research Objectives

1. To investigate the impact of Knowledge Management strategies on faculty incentives inside academic institutions.
2. To examine the correlation between KM aspects and faculty retention results.
3. To identify essential KM elements that substantially forecast compensation-related results among academicians of higher education.

Research Hypothesis

- H1: Knowledge Management approaches provide a substantial, favourable influence on faculty compensation.
- H2: Knowledge management strategies significantly enhance faculty retention.
- H3: The application of knowledge is a major predictor of teacher salary.
- H4: The openness of institutional culture positively affects performance-related incentives.
- H5: Learning orientation serves as a mediator in the interaction between knowledge management strategies and teacher retention.

V. RESULT AND DISCUSSION

Table 1. Explaining reliability analysis based on Cronbach's Alpha Calculated using SPSS 26.

		N	%			
Cases	Valid	396	99	Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
	Excluded	4	1	0.923	0.923	40
	Total	400	100			

Table 2. Explaining descriptive statistics calculated using SPSS 26.

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance
Item Means	2.794	2.346	3.179	0.833	1.355	0.056
Item Variances	1.867	1.562	2.531	0.969	1.621	0.037
Inter-Item Covariances	0.432	-0.045	2.01	2.055	-44.175	0.065
Inter-Item Correlations	0.231	-0.025	0.835	0.86	-33.961	0.018

Table 3. Explaining Kaiser-Meyer-Olkin measure calculated using SPSS 26.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.71
Bartlett's Test of Sphericity	Approx. Chi-Square	12645.37

	df	780
	Sig.	0

Table 4. Explaining communalities calculated using SPSS 26.

Communalities		
	Initial	Extraction
Engagement	1	0.866
Exchange	1	0.835
Collaboration	1	0.709
Expression	1	0.827
Interpretation	1	0.837
Documentation	1	0.754
Convergence	1	0.914
Transmission	1	0.679
Internalization	1	0.846
Modeling	1	0.868
Assessment	1	0.867
Propagation	1	0.824
Retention	1	0.752
Stewardship	1	0.748
Capacity-Building	1	0.78
Optimization	1	0.76
Digitization	1	0.828
Competence	1	0.692
Insight	1	0.608
Proficiency	1	0.639
Diagnosis	1	0.693
Discernment	1	0.694
Judgment	1	0.711
Adaptability	1	0.837
Creativity	1	0.826
Innovation	1	0.656
Consultation	1	0.864
Deliberation	1	0.847
Perception	1	0.724

Communalities		
	Initial	Extraction
Agility	1	0.902
Openness	1	0.745
Synergy	1	0.816
Dedication	1	0.809
Transformation	1	0.835
Responsiveness	1	0.76
Evolution	1	0.793
Incentivization	1	0.716
Recognition	1	0.735
Motivation	1	0.687
Retention	1	0.851

Table 5. Explaining total variance calculated using SPSS 26.

Total Variance Explained								
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance
1	10.244	25.61	25.61	10.244	25.61	25.61	4.263	10.658
2	3.175	7.937	33.547	3.175	7.937	33.547	2.969	7.424
3	2.759	6.897	40.444	2.759	6.897	40.444	2.914	7.284
4	2.332	5.831	46.274	2.332	5.831	46.274	2.367	5.917
5	1.92	4.799	51.073	1.92	4.799	51.073	2.325	5.812
6	1.76	4.4	55.473	1.76	4.4	55.473	2.146	5.364
7	1.63	4.074	59.547	1.63	4.074	59.547	2.14	5.349
8	1.508	3.769	63.316	1.508	3.769	63.316	2.13	5.324
9	1.361	3.401	66.718	1.361	3.401	66.718	2.023	5.057
10	1.201	3.001	69.719	1.201	3.001	69.719	2.019	5.047
11	1.141	2.853	72.572	1.141	2.853	72.572	1.987	4.966
12	1.095	2.737	75.309	1.095	2.737	75.309	1.952	4.88
13	1.011	2.528	77.837	1.011	2.528	77.837	1.902	4.754
14	0.976	2.439	80.277					
15	0.909	2.272	82.549					

16	0.816	2.041	84.59
17	0.793	1.983	86.573
18	0.746	1.864	88.437
19	0.567	1.417	89.854
20	0.511	1.278	91.132
21	0.467	1.168	92.3
22	0.37	0.925	93.225
23	0.354	0.884	94.109
24	0.315	0.787	94.896
25	0.284	0.711	95.607
26	0.253	0.632	96.239
27	0.198	0.496	96.734
28	0.177	0.443	97.177
29	0.156	0.391	97.568
30	0.138	0.344	97.912
31	0.134	0.334	98.246
32	0.12	0.299	98.545
33	0.11	0.276	98.821
34	0.097	0.242	99.063
35	0.079	0.198	99.262
36	0.077	0.193	99.455
37	0.068	0.171	99.625
38	0.062	0.155	99.78
39	0.053	0.134	99.913
40	0.035	0.087	100

Table 6. Explaining Rotated Component Matrix Calculated Using SPSS 26.

Rotated Component Matrix											
	Component										
	1	2	3	4	5	6	7	8	9	10	11
Stewardship	0.767	0.18	-0.045	0.037	-0.016	0.195	-0.067	-0.103	0.202	0.084	-0.015
Incentivization	0.763	-0.093	-0.026	0.02	0.005	0.123	0.032	0.19	0.128	0.114	-0.039
Capacity-Building	0.761	0.301	0.146	0.102	0.085	0.164	-0.116	0.041	-0.005	-0.114	0.043
Recognition	0.746	0.047	0.139	0.087	0.091	0.068	-0.022	0.342	-0.059	-0.089	0.004
Optimization	0.68	0.306	0.052	-0.027	0.058	-0.037	0.065	-0.177	-0.035	0.121	0.254

Rotated Component Matrix											
Component											
Motivation	0.651	0.031	0.045	-0.035	0.082	-0.121	0.143	0.152	-0.028	0.147	0.213
Competence	0.57	0.357	0.288	0.17	-0.005	-0.033	-0.035	-0.135	0.009	0.209	0.194
Diagnosis	0.205	0.679	0.151	0.117	0.134	0.093	0.158	0.038	0.009	0.046	0.105
Proficiency	0.324	0.632	0.211	-0.038	0.053	-0.108	0.092	0.07	0.129	0.121	-0.092
Discernment	0.107	0.586	-0.074	0.298	0.233	0.144	0.016	0.136	-0.072	0.003	0.362
Insight	0.104	0.509	0.006	0.127	-0.211	0.111	0.175	-0.014	-0.085	0.103	0.109
Transmission	0.135	0.436	-0.12	0.255	0.015	0.268	-0.077	0.319	0.404	0.175	0.126
Propagation	0.079	0.163	0.851	0.056	0.029	0.051	0.034	0.027	0.124	0.099	0.16
Judgment	0.039	0.021	0.762	0.063	0.046	0.114	0.054	-0.223	0.195	0.079	0.004
Responsiveness	0.093	-0.036	0.723	0.012	0.079	-0.01	0.085	0.403	0.074	0.085	0.157
Retention	0.148	0.471	0.505	0.02	0.149	0.248	-0.04	0.24	0.14	-0.078	0.288
Engagement	0.02	0.22	0.088	0.868	0.123	-0.023	0.08	-0.046	0.016	0.119	0.1
Adaptability	0.071	0.039	0.1	0.82	0.155	-0.016	0.13	0.249	0.028	0.121	0.093
Documentation	0.316	0.126	-0.159	0.444	0.006	0.362	0.356	-0.112	0.209	-0.276	0.074
Exchange	0.019	0.164	0.095	0.105	0.827	0.104	0.104	-0.14	0.064	0.12	0.147
Creativity	0.079	-0.082	0.089	0.061	0.802	0.084	0.171	0.211	0.043	0.129	0.117
Innovation	0.154	0.191	0.029	0.261	0.516	0.019	0.257	0.386	0.143	0.098	-0.121
Collaboration	0.092	0.452	0.027	0.358	0.506	0.065	0.159	0.032	0.203	0.121	-0.152
Internalization	0.101	0.155	0.111	0.002	0.06	0.88	0.023	-0.007	0.051	0.133	0.001
Synergy	0.127	-0.016	0.118	-0.001	0.114	0.839	0.061	0.21	0.035	0.126	-0.009
Consultation	-0.021	0.032	0.078	0.094	0.186	0.032	0.88	0.148	0.039	0.085	0.062
Expression	-0.065	0.179	0.07	0.112	0.135	0.03	0.858	-0.086	0.051	0.052	0.064
Perception	0.342	-0.135	-0.089	0.379	0.082	0.312	0.391	0.185	0.177	-0.246	0.049
Openness	0.141	0.109	-0.067	0.206	0.028	0.193	0.058	0.677	0.337	0.175	0.071
Evolution	0.168	0.2	0.455	-0.004	0.163	0.171	0.008	0.607	0.087	-0.087	0.249
Modeling	0.051	0.128	0.279	0.052	0.087	0.067	0.049	0.008	0.84	0.068	0.203
Dedication	0.082	-0.068	0.242	0.007	0.13	0.017	0.11	0.278	0.773	0.04	0.156
Interpretation	0.064	0.147	0.089	0.109	0.132	0.126	0.026	-0.04	0.065	0.864	0.064
Deliberation	0.127	0.024	0.095	0.075	0.139	0.121	0.09	0.144	0.069	0.861	0.052
Assessment	0.117	0.223	0.234	0.129	0.038	-0.002	0.067	-0.057	0.233	0.066	0.807
Transformation	0.144	-0.008	0.213	0.085	0.108	-0.013	0.109	0.251	0.205	0.084	0.774
Convergence	0.095	0.193	0.089	0.056	0.057	0.002	0.026	-0.071	-0.043	0.026	0.122

Rotated Component Matrix											
Component											
Agility	0.119	0.078	0.109	0.07	0.098	0.013	0.055	0.132	-0.016	0.025	0.064
Retention	0.225	0.018	0.1	0.114	0.17	0.038	0.018	0.262	0.038	0.02	-0.007
Digitization	0.207	0.329	0.108	0.133	0.202	0.084	-0.121	-0.105	0.069	-0.01	0.087

Table 6. Explaining Regression Analysis; ANOVA & Coefficients Calculated using SPSS 26.

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	0.82	0.673	0.663	0.61539	1.899	
ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	301.196	12	25.1	66.278	0
	Residual	146.559	387	0.379		
	Total	447.755	399			
Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.315	0.137		2.301	0.022
	Socialisation	-0.099	0.06	-0.103	-1.658	0.098
	Externalisation	-0.088	0.048	-0.085	-1.823	0.069
	Combination	-0.157	0.058	-0.136	-2.718	0.007
	Internalisation	-0.187	0.051	-0.176	-3.662	0
	Knowledge Transfer	-0.11	0.061	-0.114	-1.81	0.071
	Knowledge Application	0.708	0.041	0.701	17.098	0
	Hum Cap Rep Exp	0.038	0.042	0.039	0.905	0.366
	Education	-0.016	0.053	-0.015	-0.303	0.762
	Innovativeness	0.105	0.06	0.112	1.746	0.082
	Ins.Cul. Open	0.299	0.078	0.235	3.81	0
	Lrng. Open	0.272	0.06	0.249	4.552	0
	Performance	0.144	0.059	0.15	2.45	0.015

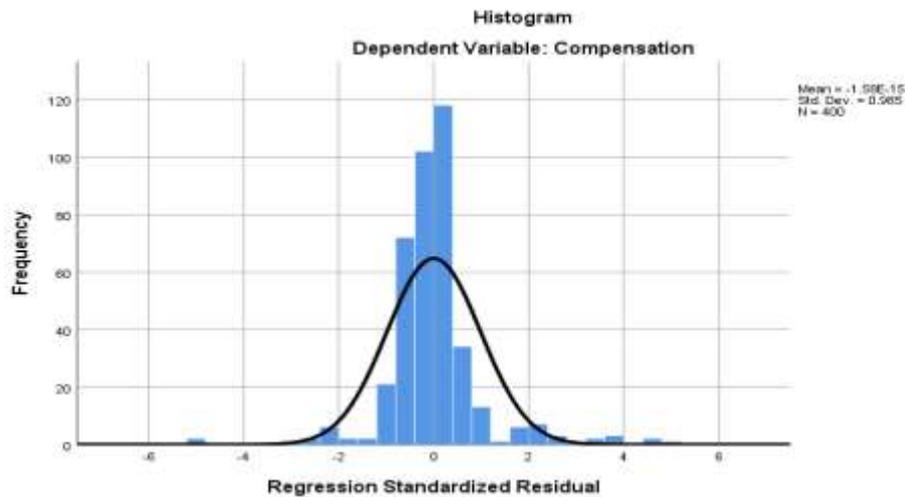


Fig. 1. Graphical Representation of Histogram calculated using SPSS 26.

The empirical investigation begins with assessing the reliability and internal consistency of the measurement instrument used to examine Knowledge Management (KM) practices and faculty compensation outcomes. As shown in Table 1, the reliability analysis conducted using SPSS 26 reveals a Cronbach's Alpha value of 0.923 based on 396 valid responses out of 400 cases, representing a 99% inclusion rate. This value significantly exceeds the acceptable threshold of 0.70, indicating excellent internal consistency among the forty questionnaire items. The strong alpha coefficient confirms that the constructs measuring socialisation, externalisation, combination, internalisation, knowledge transfer, knowledge application, institutional culture openness, learning orientation, performance, incentivisation, recognition, motivation, and retention are cohesively structured and statistically reliable. The robustness of the reliability results establishes confidence in the measurement scale and supports the validity of subsequent factor and regression analyses.

Descriptive statistics presented in Table 2 provide insight into the central tendencies and distributional characteristics of the variables. The overall mean of 2.794, with item means ranging between 2.346 and 3.179, indicates moderate agreement among faculty respondents regarding the prevalence and effectiveness of KM practices and compensation frameworks in their institutions. The narrow variance in item means (0.056) and relatively low dispersion in inter-item correlations suggest consistency in perceptions across respondents. These statistics indicate that faculty members share similar views regarding knowledge-sharing environments, innovation practices, institutional openness, and performance-linked incentives. The absence of extreme variability strengthens the suitability of the data for multivariate analysis and suggests that the institutional KM environment exhibits stable characteristics across different respondents.

Before proceeding with factor extraction, the adequacy of the dataset was verified through the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's Test of Sphericity, as shown in Table 3. The KMO value of 0.71 exceeds the minimum acceptable level of 0.60, confirming adequate sampling adequacy. Bartlett's Test of Sphericity produces a Chi-square value of 12645.37 with 780 degrees of freedom and a significance level below 0.001, demonstrating that correlations among variables are sufficiently strong for factor analysis. These results validate the use of Exploratory Factor Analysis (EFA) to uncover the underlying KM dimensions influencing faculty incentives and retention outcomes. The communalities reported in Table 4 reveal strong extraction values ranging from 0.608 to 0.914, indicating that a substantial proportion of each variable's variance is explained by the

extracted components. Notably, convergence (0.914), agility (0.902), modelling (0.868), engagement (0.866), consultation (0.864), and internalisation (0.846) exhibit high communalities, suggesting that these constructs are strongly embedded within the KM framework. Compensation-related constructs such as incentivisation (0.716), recognition (0.735), motivation (0.687), and retention (0.851) also demonstrate strong communal representation, reinforcing the structural linkage between KM practices and faculty reward mechanisms. The high communalities collectively indicate that knowledge creation, sharing, application, and compensation elements operate within an integrated institutional structure.

The total variance explained, presented in Table 5, shows that thirteen components with eigenvalues greater than one collectively account for 77.837% of the total variance. The first component alone explains 25.61% of the variance, indicating a dominant latent factor likely representing leadership-driven KM integration combined with reward alignment and capacity-building mechanisms. The cumulative variance exceeding 70% is considered highly satisfactory in social science research and confirms the multidimensional strength of the KM construct in academic settings. The extracted components capture behavioural, cognitive, cultural, procedural, and performance-related dimensions, demonstrating the complex and comprehensive nature of KM within higher education institutions.

The rotated component matrix in Table 6 provides deeper clarity regarding factor structure and variable clustering. Component 1 loads heavily on stewardship, incentivisation, capacity-building, recognition, optimisation, and motivation, signifying that leadership support and reward alignment form the central axis linking KM and faculty incentives. Component 2 clusters diagnostic capability, proficiency, discernment, and insight, representing intellectual capital and experiential knowledge. Component 3 captures propagation, judgment, and responsiveness, reflecting dynamic knowledge dissemination processes. Component 4 groups engagement and adaptability, highlighting behavioural commitment and flexibility within learning environments. Component 5 loads strongly on exchange, creativity, and innovation, indicating innovation-driven knowledge cultures. Other components reflect internalisation, synergy, consultation, openness, modelling, dedication, interpretation, deliberation, assessment, and transformation. The structured loading patterns validate the SECI framework within the academic context and demonstrate that compensation and retention variables are not isolated but integrated into broader KM dimensions.

To examine predictive relationships, multiple regression analysis was performed, and the results are summarised in Table 7. The model demonstrates strong explanatory power, with an R value of 0.82 and an Adjusted R² of 0.663, indicating that approximately 66.3% of the variance in faculty compensation is explained by the KM variables included in the model. The ANOVA results show a significant F-statistic of 66.278 at $p < 0.001$, confirming the overall statistical significance of the model. The Durbin-Watson statistic of 1.899 suggests no autocorrelation issues, thereby satisfying regression assumptions.

The coefficient analysis reveals that knowledge application emerges as the strongest positive predictor of faculty compensation ($\beta = 0.701, p < 0.001$). This finding underscores that institutions primarily reward faculty when knowledge is effectively implemented and generates measurable outcomes rather than merely created or documented. Institutional culture openness ($\beta = 0.235, p < 0.001$) and learning orientation ($\beta = 0.249, p < 0.001$) also significantly predict compensation outcomes, indicating that transparent and supportive learning environments strengthen incentive alignment. Performance ($\beta = 0.150, p = 0.015$) further contributes positively

to remuneration, reinforcing the alignment between measurable performance outcomes and financial rewards. In contrast, certain SECI dimensions, such as combination ($\beta = -0.136$, $p = 0.007$) and internalisation ($\beta = -0.176$, $p < 0.001$), show negative coefficients, implying that knowledge conversion processes alone do not translate into compensation unless they lead to practical application.

The normality of residuals was confirmed through the histogram illustrated in Figure 1, which demonstrates an approximately normal distribution. This supports the validity of regression assumptions and strengthens confidence in the inferential conclusions derived from the model. Collectively, the findings strongly support the stated research objectives. Knowledge Management strategies significantly influence faculty incentives and retention, confirming the primary hypothesis. Knowledge application stands out as the most critical determinant of compensation outcomes, while institutional culture openness and learning orientation enhance performance-based incentives and retention alignment. The results demonstrate that KM in academic institutions must extend beyond knowledge generation processes to include structured implementation, performance integration, and reward alignment mechanisms. Institutions that institutionalise knowledge application and foster open, learning-oriented cultures are more likely to enhance faculty motivation, recognition, and long-term retention. The study, therefore, positions Knowledge Management not merely as an academic process, but as a strategic governance mechanism directly shaping compensation systems and institutional sustainability.

Implications and Specific Suggestions

The findings of this study carry substantial implications for higher education institutions at the theoretical, managerial, and policy levels. From a theoretical perspective, the research extends the SECI framework by empirically demonstrating that knowledge creation processes—such as socialisation, externalisation, combination, and internalisation—do not automatically translate into improved compensation or retention outcomes unless they culminate in effective knowledge application. In other words, the mere generation or documentation of knowledge is insufficient to influence incentive systems; it is the strategic utilisation and measurable institutional impact of knowledge that drives compensation alignment. This insight underscores the necessity of integrating Knowledge Management (KM) theory with human capital theory and organisational learning perspectives to better understand how intellectual contributions evolve into tangible rewards. By merging these theoretical domains, institutions can develop a more comprehensive explanation of how knowledge assets shape motivation, incentives, professional commitment, and long-term faculty retention within academic ecosystems.

From a managerial standpoint, the study highlights the critical role of institutional leadership in embedding KM into governance and human resource systems. Leadership must move beyond rhetorical support for knowledge sharing and actively institutionalise KM practices within performance appraisal frameworks, promotion policies, and compensation structures. Incentives, recognition mechanisms, and retention benefits should be explicitly linked to measurable contributions in areas such as pedagogical innovation, interdisciplinary collaboration, research commercialisation, community engagement, and knowledge dissemination. Faculty members who successfully convert their expertise into improved teaching methodologies, impactful research outcomes, funded projects, institutional rankings, or societal contributions should be systematically rewarded through performance-based bonuses, merit increments, research grants, sabbatical opportunities, and accelerated career progression pathways. Such alignment ensures that intellectual capital is recognised not only as an academic value but also as an economic and strategic asset.

Furthermore, universities should prioritise the development of open and collaborative organisational cultures that foster mutual learning, mentoring relationships, and constructive dialogue. Knowledge sharing should be normalised through structured platforms such as faculty learning communities, interdisciplinary research networks, innovation incubators, and digital knowledge repositories that capture and disseminate best practices. Regular academic colloquia, peer-review workshops, cross-departmental seminars, and collaborative curriculum design initiatives can create sustainable knowledge flows within institutions. Integrating well-designed Faculty Development Programs (FDPs) aligned with institutional KM objectives can deepen learning orientation, enhance professional competencies, and strengthen intrinsic motivation. FDPs should not be treated as isolated training events, but as continuous developmental frameworks that nurture research skills, digital fluency, leadership capabilities, and innovation competencies.

At the policy level, regulatory bodies and university administrations must reconsider traditional, seniority-based pay structures that often overlook intellectual contributions. Flexible and performance-sensitive remuneration frameworks are essential to recognise the creation, sharing, and application of institutional knowledge assets. Such frameworks should combine financial rewards-such as research funding support, innovation grants, consultancy incentives, and performance-linked increments-with non-financial incentives, including public recognition, academic leadership roles, conference sponsorships, professional autonomy, and opportunities for international collaboration. A holistic retention strategy must therefore incorporate both extrinsic and intrinsic motivators, ensuring that faculty members perceive fairness, growth potential, and professional acknowledgement within their institutions. Implementing these comprehensive measures would not only enhance faculty satisfaction and organisational commitment but also strengthen institutional competitiveness in an increasingly knowledge-driven higher education environment. By aligning KM practices with reward systems and governance mechanisms, universities can cultivate sustainable knowledge ecosystems that promote innovation, academic excellence, and long-term institutional resilience.

Conclusion and Scope for Future Study

This study demonstrates that Knowledge Management (KM) functions as a pivotal strategic mechanism shaping both incentive structures and faculty retention within higher education institutions. The empirical findings clearly establish that KM is not merely an administrative or technological support function, but a core determinant of how academic institutions recognise, reward, and retain intellectual capital. By employing rigorous statistical techniques-including reliability analysis, factor analysis, correlation, and multiple regression-the research systematically illustrates the substantial influence of knowledge application, institutional cultural openness, learning orientation, and performance orientation on compensation outcomes. Among these, knowledge application emerges as the most decisive predictor, reinforcing the argument that the true institutional value of knowledge lies in its effective implementation and measurable impact rather than in its mere creation or documentation.

The results empirically validate all the proposed hypotheses and successfully address the identified research gap by offering quantitative evidence from Indian higher education institutions, particularly within a context where structured KM-compensation linkages have historically been underexplored. By grounding the analysis in measurable constructs and multivariate validation, the study advances the discourse beyond conceptual discussions and provides a statistically substantiated framework for understanding how KM practices influence

incentive and retention dynamics. In doing so, it contributes meaningfully to the existing body of literature by shifting the analytical focus from knowledge generation processes alone to the strategic alignment between knowledge utilization and reward systems. The findings underscore that the way institutions formally acknowledge, evaluate, and reward intellectual achievements significantly shapes faculty motivation, professional commitment, and long-term retention intentions. When educators perceive that their contributions—such as innovative teaching methods, impactful research outputs, interdisciplinary collaborations, or institutional development initiatives—are transparently assessed and rewarded, they are more likely to exhibit higher engagement, stronger organisational attachment, and sustained productivity. Conversely, when knowledge contributions remain unrecognised or disconnected from compensation structures, the motivational potential of KM diminishes substantially. Therefore, aligning knowledge management strategies with performance appraisal and compensation policies enables institutions to cultivate sustainable knowledge ecosystems that reinforce both intrinsic and extrinsic motivation.

Strategically integrating KM into compensation frameworks allows academic institutions to build resilient intellectual environments where knowledge sharing, innovation, and continuous learning are systematically encouraged. Such alignment supports not only faculty satisfaction and career progression but also institutional competitiveness, research excellence, and long-term academic sustainability. In essence, KM becomes a governance instrument that strengthens the reciprocal relationship between institutional growth and faculty development. While the study offers robust cross-sectional evidence, future research may enhance these findings by adopting longitudinal research designs to examine causal relationships over time. Tracking KM practices and compensation reforms across multiple years would allow scholars to better assess how sustained knowledge alignment influences retention patterns and institutional performance trajectories. Additionally, comparative studies across different states, institutional types, or international contexts would improve generalisability and reveal contextual variations in KM–incentive linkages. Further investigation may also explore the moderating and mediating roles of leadership style, digital infrastructure capability, institutional governance structures, and policy autonomy in shaping the relationship between KM dimensions and remuneration outcomes. Examining these contextual and organisational variables would deepen theoretical understanding and provide more nuanced guidance for policymakers and administrators seeking to optimize knowledge-driven compensation systems.

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AUTHOR'S PROFILE

First Author

Swati Dwivedi, Asst. Prof. Oriental college of Technology, Bhopal, Madhya Pradesh, India.

Second Author

Dr. P.S. Rajput, Director General, SAGE Group, Bhopal, Madhya Pradesh, India.

Third Author

Dr. Vishal Sood, Professor, Faculty of Management Studies SriSri University, Cuttack, Odisha, India.

Fourth Author

Dr. Satish Manwani, Asso. Prof. FMC, LNCT Group of Colleges, Bhopal, Madhya Pradesh, India.