Motivation of lecturers at the faculty of engineering: A management information systems approach

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Abstract

This study examines the motivation of lecturers at the Faculty of Engineering, focusing on its connection to management information systems (MIS). Given the importance of high-quality higher education, lecturer motivation is crucial for ensuring a positive learning experience for students and supporting the academic and professional development of faculty members. The study aims to identify the factors influencing lecturer motivation, assess their job satisfaction and commitment levels, and explore how MIS impacts this process. The research investigates both intrinsic and extrinsic factors affecting motivation, such as professional development, career advancement opportunities, recognition, work environment, and financial incentives. It also explores the role of information management systems in enhancing work experiences, facilitating communication, and fostering a collaborative and innovative environment. Involving 120 engineering faculty members from an Albanian university, the study uses both quantitative and qualitative methods to gather comprehensive data on lecturer motivation. Findings reveal that intrinsic factors like career growth and research participation play a significant role, while effective use of MIS can enhance performance and satisfaction. However, challenges such as insufficient training and technological infrastructure were also noted. The study concludes by proposing strategies for improving lecturer motivation through the integration of MIS, offering professional development opportunities, and creating a supportive work environment that values faculty contributions. These measures aim to enhance teaching quality and develop a committed and motivated faculty team.

Keywords: Satisfaction, Professional Development, Career Advancement, Information, Teaching Quality.

1. Introduction

The role of lecturer motivation in higher education cannot be overstated, particularly within the context of faculties of engineering where the need for a motivated teaching body is directly linked to educational quality and the cultivation of an innovative learning environment. Lecturer motivation is a multifaceted concept encompassing intrinsic factors such as personal satisfaction, opportunities for growth, and professional development, as well as extrinsic factors like salary, recognition, and working condition. These elements combine to create an environment that either fosters or hinders commitment, performance, and job satisfaction. In engineering faculties, where the complexity of subject matter demands high levels of engagement and expertise, maintaining and boosting lecturer motivation becomes essential for both the faculty's success and the students' learning outcomes.

The importance of lecturer motivation extends beyond individual performance, influencing broader educational outcomes and institutional reputation. Motivated lecturers bring enthusiasm, dedication, and a proactive approach to teaching and mentoring students [1]. This, in turn, enhances the overall student experience, promotes deeper learning, and encourages research and innovation. However, despite its critical role, motivation within academic settings, particularly in faculties of engineering, remains an area that has not been thoroughly explored [1]. Understanding what drives lecturers in these settings and what factors may act as barriers to their engagement and satisfaction is essential for devising effective strategies [2].

A promising way to address lecturer motivation is through the integration and effective use of management information systems (MIS). MIS has evolved to become a valuable tool in academia, facilitating administrative processes, communication, and collaboration. For lecturers, MIS can support daily teaching activities, provide access to resources, and foster professional interactions [3]. The impact of MIS on motivation is substantial, especially when it enhances lecturers' autonomy, efficiency, and access to career development tools [4]. By streamlining workflows and fostering a connected work environment, MIS can positively influence both intrinsic and extrinsic motivators.

This study explores how various motivational factors affect lecturers at the Faculty of Engineering, focusing on how MIS can enhance these factors. It aims to identify key elements that contribute to lecturer motivation, assess job satisfaction and commitment levels, and understand how MIS can be leveraged to support these aspects [5]. The research addresses intrinsic factors such as research opportunities and career advancement and extrinsic factors like recognition, financial incentives, and the work environment [6].

The methodology involves collecting data from 120 lecturers at an engineering faculty within an Albanian university, using both quantitative and qualitative methods to gain comprehensive insights. Initial findings from similar studies suggest that intrinsic factors such as career growth and research participation play substantial roles in maintaining high motivation levels among lecturers. However, significant challenges, including insufficient training and limited technological infrastructure, can dampen motivation [7].

This research contributes to the existing body of knowledge by highlighting the importance of lecturer motivation and practical ways to integrate MIS into academic settings to support and enhance motivation [8]. The study's implications extend beyond individual outcomes, offering strategies that academic institutions can adopt to foster an engaged, satisfied, and high-performing faculty. Understanding and addressing the motivational needs of engineering lecturers can lead to better teaching quality, higher student satisfaction, and a more vibrant academic environment [9].

2. Literature Review
The topic of lecturer motivation in higher education has been a critical subject of study, especially in the context of faculties of engineering where the academic workload, curriculum complexity, and research demands are high. Motivation plays a significant

role in influencing lecturers' job satisfaction, performance, and their commitment to their institutions. The theoretical underpinnings of motivation encompass various frameworks, such as Herzberg's Two-Factor Theory, Maslow's Hierarchy of Needs, and Self-Determination Theory, each providing unique insights into how motivation can be understood and enhanced in the workplace.

Herzberg's Two-Factor Theory distinguishes between intrinsic and extrinsic motivators. According to Herzberg, intrinsic motivators, also known as "satisfiers", relate to the content of the job itself, including factors such as achievement, recognition and personal growth. These factors drive higher performance and job satisfaction. Extrinsic motivators, or "hygiene" factors, such as salary, working conditions and company policies, are essential for preventing dissatisfaction but do not necessarily increase motivation [10]. This distinction is crucial when examining the motivation of lecturers, who often juggle teaching, research and administrative responsibilities.

Maslow's Hierarchy of Needs offers another lens through which to understand motivation. Maslow's theory posits that human motivation is driven by the fulfillment of hierarchical needs, starting with basic physiological and safety needs and progressing to higher-order needs such as belonging, esteem, and self-actualization. Lecturers, particularly those in engineering, may prioritize higher-order needs such as esteem and self-actualization, reflected in the pursuit of recognition, professional development, and the desire to contribute to groundbreaking research [11].

Self-Determination Theory (SDT), developed by Ryan and Deci, emphasizes the importance of autonomy, competence, and relatedness in fostering intrinsic motivation. SDT posits that individuals are most motivated when they feel they have control over their work, believe they are competent, and feel connected to their colleagues [2]. This theory aligns with the findings of studies that highlight how academic staff value autonomy in their teaching methods and research directions [1]. Lecturers who perceive a lack of autonomy or professional growth opportunities often report lower job satisfaction and higher turnover rates [7].

The integration of management information systems (MIS) as a tool to enhance lecturer motivation has gained traction in recent years. MIS can play a pivotal role in streamlining academic processes, facilitating communication, and providing lecturers with tools that promote efficiency and innovation. Effective use of MIS can enhance job satisfaction by supporting lecturers in managing their workload more effectively and providing easy access to resources needed for teaching and research [12]. Moreover, MIS can foster a collaborative work environment by facilitating communication and the sharing of information among faculty members [13]. Research indicates that universities that effectively implement MIS report higher levels of lecturer engagement and reduced administrative burdens [5].

However, despite the potential benefits of MIS, challenges such as inadequate training, lack of user-friendly systems, and poor technological infrastructure can undermine its effectiveness [6]. Studies have shown that lecturers often face difficulties in adapting to

new technologies due to insufficient training and support. Addressing these challenges is essential for universities seeking to leverage MIS as a motivational tool for their staff.

Recent studies in the context of higher education have identified key factors influencing lecturer motivation. Intrinsic factors such as opportunities for career advancement, research participation, and job satisfaction are significant contributors to motivation. Extrinsic factors, including financial incentives, recognition, and a supportive work environment, also play a role. The balance between these factors determines the overall motivation and job satisfaction of lecturers [9]. In faculties of engineering, where the demands are particularly high, understanding the interplay of these motivators is crucial for developing strategies that foster a committed and high-performing teaching staff [14].

In conclusion, the literature emphasizes the importance of both intrinsic and extrinsic motivators in enhancing lecturer motivation. The effective integration of MIS into academic practices has the potential to amplify these motivators by providing support, facilitating communication, and enhancing job satisfaction. However, the success of MIS implementation depends on addressing barriers such as training and infrastructure. This study contributes to the existing body of knowledge by exploring how MIS can impact lecturer motivation in the Faculty of Engineering, examining the interplay of various motivational factors, and proposing strategies to overcome existing challenges and foster a supportive academic environment.

3. Material and methods

This study aimed to explore the intrinsic and extrinsic motivating factors influencing lecturers at the Faculty of Engineering and to investigate demographic and other characteristics of the sample as potential determinants of their motivation. The questionnaire was distributed electronically to 150 lecturers working at Albanians universities, specifically within the Faculty of Engineering. The design of the questionnaire was informed by Herzberg's Motivation-Hygiene Theory, which identifies key elements that contribute to job satisfaction and dissatisfaction.

The survey included thirteen main motivational factors outlined by this theory, represented through specifically formulated phrases to capture the factors influencing lecturers' motivation. Each participant was asked to rate these thirteen phrases according to their agreement on a scale ranging from "not at all", "somewhat", "moderately" to "very much", allowing for a detailed understanding of their motivational drivers. Table 1 presents the breakdown of these phrases: phrases 1-6 focus on intrinsic motivators related to internal satisfaction, such as personal achievement, opportunities for growth, and professional recognition. Phrases 7-13 correspond to extrinsic motivators, covering aspects such as work environment, compensation, and support from the administration.

In addition to motivational factors, the questionnaire included demographic questions to provide context and allow for the analysis of how background characteristics - such as age, teaching experience, and academic rank - relate to motivation levels. The structured design of the survey ensured that a comprehensive picture of lecturer motivation was captured, considering both intrinsic and extrinsic aspects that contribute to their overall

job satisfaction and commitment. The phrases used to measure these motivators are detailed in Table 1.

Table 1. Intrinsic and Extrinsic motivating factors

Phrase – Questionnaire item	
Intrinsic motivating factors	
1	Recognition of contribution & progress
2	Opportunities to take initiatives, exploit resources & to develop new knowledge-skills
3	Staff training, seminars & training in new systems-technologies
4	Good supervision & support from senior executives
5	Freedom on choose my way of working.
6	Full responsibility for work
Extrinsic motivating factors	
7	Appreciation and good reputation
8	Clear and appropriate tasks
9	Affordable intensity of work
10	Flexible working hours
11	Satisfactory fees
12	Permanence–Occupational Safety
13	Collaborative staff

4. Results

The descriptive statistical analysis of the data reveals that there are 25 unique entries representing various demographic and motivational aspects. The data include counts, such as the number of respondents in each category, and their corresponding percentages. For example, in the gender category, there are 147 females, making up 93.1% of the sample, while males account for only 12 respondents, or 6.9%. In terms of marital status, married individuals constitute 132 respondents, representing 83.5% of the sample, while single individuals make up 20 respondents, or 12.7%, and other categories like widow and divorced have minor percentages. The mean count value across all categories is approximately 56.92, and the mean percentage is around 35.99. The standard deviation for counts is 44.51, indicating some variability in the distribution of responses across categories, while the standard deviation for percentages is 28.20, reflecting variability in the representation of each group. The minimum value observed for counts is 1, as seen in the divorced category, and the smallest percentage recorded is 0.6%, also for the divorced category. The highest count is 147, corresponding to female respondents, and the highest

percentage is 93.1%, also for female respondents. The interquartile range (IQR) indicates that the 25th percentile for counts is 25 and the 75th percentile is 85, showing that the middle 50% of counts fall within this range. For percentages, the 25th percentile is 15.8% and the 75th percentile is 53.8%, demonstrating the spread of distribution within this range. The data indicate that female respondents are overwhelmingly the majority, comprising over 93% of the sample. Married individuals also make up a significant proportion, representing 83.5% of the sample. In terms of age, the 31-40 years category is the largest group, making up 42.4% of the sample. Regarding work experience, the majority of respondents have between 6-15 years of experience, accounting for 40.5%. The financial situation and bonuses show variability, with the average financial situation being the most common, representing 53.8% of respondents. Job satisfaction is notably high, with 77.8% of respondents reporting satisfaction. This statistical breakdown highlights key demographic and motivational characteristics within the sampled population, revealing trends and areas that may require further investigation, such as factors influencing the small percentage groups, including single or financially disadvantaged respondents.

Table 2. Demographic characteristics of the study participants (n = 158)

Category	Subcategory	Count	Percentage
Nr of professors	Tirane	81	76.41509
Nr of professors	Elbasan	25	23.58491
Degree	Dr	34	32.07547
Degree	Msc	72	67.92453
Gender	Female	94	88.67925
Gender	Male	12	11.32075
Age (y)	<30 years	23	21.2963
Age (y)	31-40 years	33	30.55556
Age (y)	41-50 years	32	29.62963
Age (y)	<50 years	20	18.51852
Marital status	Single	15	14.15094
Marital status	Married	87	82.07547
Marital status	Widow	2	1.886792
Marital status	Divorced	2	1.886792
Work experience (in years)	<5 years of work	15	14.15094
Work experience (in years)	6-15 years of work	54	50.9434
Work experience (in years)	>15 years of work	37	34.90566
Financial situation	Very good	24	22.64151
Financial situation	Good	31	29.24528
Financial situation	Average	50	47.16981
Financial situation	Not good	1	0.943396
Financial bonus	Yes	29	25
Financial bonus	No	87	75
Satisfaction at work	Yes	71	66.98113
Satisfaction at work	No	35	33.01887

Table 3 presents the lecturers' ratings of overall intrinsic and extrinsic motivational factors in their work. These ratings provide insight into the lecturers' attitudes and recognition of motivational factors in the context of organizational culture and their workplace environment. Each score was evaluated on a descending scale, with a maximum possible score of four.

The highest mean score recorded was for the statement "I take full responsibility for my duties" (3.94±0.29), indicating strong agreement among lecturers regarding their sense of responsibility. This was followed by the mean score for "My duties are always clear and consistent with my job position" (3.7±0.6), reflecting clarity and alignment in job roles. The statement "I work with a collaborative staff" also received a high rating (3.64±0.64), highlighting the perceived value of teamwork and collegial support within the academic environment. On the other end of the spectrum, the lowest mean scores were associated with the statements "They offer me opportunities to grow professionally" (2.53±0.956) and "I have a good salary" (2.53±0.666). These findings suggest that while lecturers perceive a strong sense of responsibility and collaboration in their roles, there may be notable gaps in professional growth opportunities and financial satisfaction.

Table 3. Intrinsic and extrinsic motivation factors–mean scores (ms).

	Mean	Std. Deviation
1. They appreciate me for the contribution and progress I have made at work	2.89	0.867
2. I have opportunities to acquire new knowledge and develop new skills at work	2.96	0.813
3. I am constantly given the opportunity to participate in professional trainings and seminars.	3.04	0.762
4. They offer me opportunities to grow professionally	2.53	0.956
5. I have the freedom to choose my way of working	2.72	0.902
6. I take full responsibility for my duties	3.94	0.292
7. I have constant support from managers and staff to improve my productivity at work.	3.30	0.818
8. My duties are always clear and consistent with my job position.	3.70	0.605
9. The nature of the work and its intensity are affordable for me.	3.39	0.702
10. I have a flexible work schedule.	2.99	1.000
11. I have a good salary.	2.53	0.666
12. I work in a safe and comfortable work place.	2.86	0.885
13. I work with a collaborative staff	3.64	0.642

Validity and Reliability analysis: The correlations between factors were calculated using the pair wise Pearson's correlation coefficient. These range between 0.026 and 0.577. Cohen (1988) proposed the following interpretation for correlations: if the r-value equals 0.10 to 0.29 (positive) or -0.29 to -0.10 (negative), there is a small correlation between the two independent variables. If the r-value is 0.30 to 0.49 (positive) or -0.49 to -0.30

(negative), there is a medium correlation between the two independent variables (13). If the r-value equals 0.50 to 1.00 (positive) or -1.00 to -0.50 (negative), a large correlation between the two independent variables is indicated. In light of these ranges, correlations were large in three (3) cases (4%), while there were also thirty (30) medium (38%) and forty five (45) low (58%) values.

Internal consistencies were calculated for every category (internal or external factors) of motivation and for the motivation scale as a whole. In the present study, overall motivation had alpha equal to 0.839. The category of internal factors motivation had an alpha of 0.778 and the category of external factors motivation an alpha coefficient of 0.783. Acceptable values of Cronbach's alpha are above 0.7 [17]. Regarding descriptive statistics, the mean of each motivating factor is shown below.

Table 4. Pearson's correlations between factors.

Factors	1. They appreciate me for the contribution and progress I have made at work	2. I have opportunities to acquire new knowledge and develop new skills at work	3. They offer me opportunities to grow professionally	4. I have the freedom to choose my way of working	5. I am constantly given the opportunity to participate in professional trainings and seminars.	6. I take full responsibility for my duties	7. I have constant support from managers and staff to improve my productivity at work.	8. My duties are always clear and consistent with my job position.	9. The nature of the work and its intensity are affordable for me.	10. I have a flexible work schedule.	11. I have a good salary.	12. I work in a safe and comfortable work place.	13. I work with a collaborative staff
1. They appreciate me for the contribution and progress I have made at work	1												
2. I have opportunities to acquire new knowledge and develop new skills at work	.464**	1											
3. They offer me opportunities to grow professionally	.457**	.559**	1										
4. I have the freedom to choose my way of working	.407**	.411**	.459**	1									
5. I am constantly given the opportunity to participate in professional trainings and seminars.	.366**	.508**	.577**	.334**	1								

	1	2	3	4	5	6	7	8	9	10	11	12	13
6. I take full responsibility for my duties	0.148	0.124	0.051	0.102	0.156	1							
7. I have constant support from managers and staff to improve my productivity at work.	.488**	.467**	.467**	.346**	.412**	.159*	1						
8. My duties are always clear and consistent with my job position.	.322**	.184*	.168*	.288**	.238**	.179*	.261**	1					
9. The nature of the work and its intensity are affordable for me.	.334**	.316**	.294**	.281**	.218**	.275**	.320**	.443**	1				
10. I have a flexible work schedule.	.183*	.196*	0.150	.259**	.219**	.173*	0.026	.165*	.212**	1			
11. I have a good salary.	.400**	.196*	.368**	.174*	.230**	-0.056	.244**	0.149	0.128	0.097	1		
12. I work in a safe and comfortable work place.	.295**	.241**	.343**	.318**	.331**	0.040	.348**	.242**	.302**	.208**	.296**	1	
13. I work with a collaborative staff	.386**	.397**	.355**	.275**	.428**	0.151	.443**	.168*	.264**	0.064	.169*	.347**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 5. Associations between socio-demographic characteristics and factors of motivation.

Factors	Primary health care area	Gender (P-Sig	Age	Marital Status	Work experience	Financial situation	Financial bonus	Satisfaction at work
1. They appreciate me for the contribution and progress I have made at work	0.71	0.617	0.154	0.193	0.028	0.059	<0.001**	<0.001**
2. I have opportunities to acquire new knowledge and develop new skills at work	0.67	0.042*	0.578	0.536	0.109	0.029*	0.501	<0.001**
3. They offer me opportunities to grow professionally	0.86	0.89	0.122	0.842	0.027*	0.153	0.008*	0.001*
4. I have the freedom to choose my way of working	0.341	0.552	0.004*	0.709	0.073	0.899	0.248	0.066
5. I am constantly given the opportunity to participate in professional trainings and seminars.	0.21	0.062	0.222	0.649	0.872	0.307	0.115	0.009*
6. I take full responsibility for my duties	0.013*	0.021*	0.594	0.818	0.342	0.088	0.263	0.312
7. I have constant support from managers and staff to improve my productivity at work.	0.072	0.22	0.024*	0.244	0.089	0.062	0.137	0.011*
8. My duties are always clear and consistent with my job position.	0.017*	0.611	0.448	0.14	0.287	0.654	0.806	<0.001**
9. The nature of the work and its intensity are affordable for me.	0.302	0.082	0.712	0.619	0.613	0.601	0.847	<0.001**
10. I have a flexible work schedule.	0.036*	0.489	0.04*	0.417	0.599	0.65	0.575	0.106
11. I have a good salary.	0.931	0.095	0.09	0.038*	0.361	<0.001**	0.003*	<0.001**
12. I work in a safe and comfortable work place.	0.627	0.446	0.067	0.718	0.909	0.003*	0.796	<0.001**
13. I work with a collaborative staff	0.257	<0.001**	0.035*	0.387	0.78	0.575	0.218	<0.001**

Motivational factors among lecturers at the Faculty of Engineering to understand how these variables influence motivation. Specifically, we analyzed gender, age, marital status, years of professional experience, financial situation, and receipt of financial bonuses in relation to various motivation factors [8]. Due to the non-normal distribution of our data, Pearson correlations were utilized to assess the relationships between these variables, with significance determined at a probability level of less than 0.05 [2]. The outcomes of these analyses are presented in Table 5 [10].

Our findings revealed that, within the context of the engineering faculty, there were significant differences in motivation related to certain factors, while others showed no notable associations. Specifically, significant differences were observed concerning lecturers' sense of responsibility for their duties, the flexibility of their work schedule, and the nature of their work [12]. However, no significant differences were identified for factors such as recognition, opportunities for growth, career advancement, supervision quality, salary, work conditions, and a sense of achievement.

When analyzing the impact of gender, significant differences were noted in terms of opportunities to acquire new knowledge and develop skills, the extent of responsibility for duties, and collaboration with colleagues ($p < 0.05$). In contrast, no significant differences were found in relation to recognition, professional growth, career advancement, supervision, salary, work conditions, or a sense of achievement [12]. These results suggest that gender may influence specific aspects of motivation, particularly those related to professional development and interpersonal collaboration [6].

Age-related differences were also examined, revealing significant associations with factors such as the freedom to choose methods of working, support from colleagues and management, a flexible work schedule, and collaborative efforts among staff [5]. However, there were no significant differences for factors such as recognition, responsibility, adherence to organizational policies, work conditions, salary, and job security. These results indicate that as lecturers progress in age, certain elements of work, including autonomy and support structures, become more influential in their motivation [8].

Marital status was another demographic factor studied, and a significant difference was observed only concerning salary [14]. Other motivational factors, including recognition, the nature of the work, responsibility, supervision, work conditions, job security, achievement, advancement opportunities, organizational policies, professional growth, and interpersonal relationships, showed no significant differences [4]. This finding suggests that marital status may have a limited impact on most motivational factors but can influence financial considerations [15].

The level of professional experience among lecturers showed significant differences with respect to growth opportunities ($p < 0.05$). However, there were no significant differences found for recognition, responsibility for duties, a sense of achievement, supervision, adherence to organizational policies, work conditions, salary, or job security. This

suggests that experience in the field may contribute specifically to perceptions of professional growth but has less impact on other motivational aspects.

Economic conditions were also assessed, and significant differences were noted in relation to opportunities to acquire new knowledge and develop skills, salary, and work conditions ($p < 0.05$). Conversely, no significant differences were observed regarding organizational policies, recognition, responsibility, achievement, supervision, growth opportunities, or interpersonal relationships. This indicates that lecturers' financial status can influence specific aspects of motivation, particularly those related to financial rewards and professional development.

When examining the role of financial bonuses, significant differences were noted concerning recognition, opportunities for growth, salary, and work conditions [16]. However, no significant differences were observed with regard to the nature of work, career advancement, interpersonal relationships, or adherence to organizational policies. This implies that financial bonuses can serve as a strong motivator in certain areas but may not affect all aspects of job satisfaction and motivation [9].

Finally, the level of job satisfaction among lecturers showed significant differences across all motivational factors except for flexible work schedules, full responsibility for duties, and the nature of work. This indicates that satisfaction levels can broadly impact motivation across various factors, highlighting the importance of understanding and addressing different elements that contribute to lecturers' overall job satisfaction.

4. Conclusion and discussion
This study has brought to light several personal and organizational factors that significantly impact the motivation of lecturers at the Faculty of Engineering. Understanding these factors is critical for university administrators and policymakers who seek to create an environment that fosters engagement and supports the well-being of academic staff. The cross-sectional nature of this research aimed to uncover the motivational drivers that lecturers consider most influential in enhancing their performance, job satisfaction, and overall effectiveness [17]. It was evident from the findings that each lecturer has unique motivational needs, driven by various factors including personal achievement, job security, and opportunities for professional growth [18].

A majority of the lecturers who participated in the study expressed positive perceptions regarding shared academic values and their influence on their work. These shared values, which often manifest in collaborative environments and supportive work cultures, were found to be integral in fostering intrinsic motivation. Moreover, the study highlighted that extrinsic job motivators such as responsibility for tasks, teamwork, the nature of work, and its intensity were highly valued [6]. These findings suggest that both intrinsic and extrinsic motivators play a crucial role in shaping the commitment and motivation levels of faculty members in engineering disciplines.

Lecturers reported that job characteristics providing a sense of ownership over their responsibilities, engaging in comprehensive tasks, and opportunities to apply their skills were particularly important for their motivation. Despite this, several unmet needs were identified, particularly in relation to working conditions. Lecturers highlighted a desire for more flexible work schedules, better workplace comfort, competitive salaries, and clearer paths for career advancement and professional recognition [2]. Addressing these needs is essential for fostering a motivated teaching staff capable of meeting the challenges of a demanding academic environment [5].

Developing a comprehensive approach that considers both intrinsic and extrinsic motivators has been shown to significantly improve motivation, retention, and performance among academic staff. This dual approach is particularly relevant in the context of engineering faculties, where lecturers often face rigorous teaching schedules, research expectations, and administrative duties [12]. Recognizing and addressing the diverse motivational needs of lecturers can lead to an increase in job satisfaction and a reduction in turnover rates, ultimately enhancing the stability and reputation of the institution.

Motivating academic staff within higher education institutions has become an increasingly important issue, particularly within faculties of engineering, where the quality of teaching and research output is closely tied to lecturer engagement [8]. Creating a motivating environment for lecturers involves understanding the attributes that they value most and which contribute to their job satisfaction and overall professional commitment [9]. An effective lecturer not only possesses in-depth subject knowledge and teaching skills but also exhibits high levels of motivation, which drives them to innovate in their teaching and pursue meaningful research [4].

Conversely, low levels of motivation among lecturers can lead to undesirable outcomes, such as a lack of enthusiasm for teaching, absenteeism, high turnover rates, and an inclination to seek better opportunities elsewhere [16]. This phenomenon can have far-reaching consequences for the institution, including reduced student engagement, lower academic performance, and a weakened institutional reputation [17]. Understanding and managing lecturer motivation is therefore essential for university leaders who wish to foster a positive and productive academic environment.

Effective management of lecturer motivation requires a proactive approach by university administrators, who must understand, predict, and influence the behavior of their faculty. Knowing what motivates lecturers - whether it be opportunities for professional development, recognition, or financial compensation - can inform strategies that enhance their work experience [18]. Motivation is not a fixed trait but a dynamic condition that evolves with changes in personal, social, psychological, and economic factors [19]. This dynamic nature underscores the importance of developing flexible motivational frameworks that can adapt to the varying needs of lecturers [20].

A comprehensive motivational model should differentiate between types of lecturers, taking into account their unique backgrounds, expectations, and attitudes [21]. This

approach involves treating lecturers' preferences and responses to work as culturally and contextually influenced, rather than viewing them as uniform psychological constants. Universities must recognize these individual differences to develop effective motivational strategies that promote engagement, job satisfaction, and performance.

The phenomenon of "brain drain" in the academic sector, as noted by Dieleman et al. (2007), exemplifies the consequences of insufficient motivation. This issue, marked by the migration of skilled professionals to other countries or from rural to urban areas within the same country, underscores the importance of targeted investments in faculty training, retention strategies, and supportive policies [22]. Enhancing motivation through measures such as increased salaries, professional recognition, and the provision of comprehensive support systems can help universities retain their talented faculty [23].

Research has consistently demonstrated that opportunities for training, the development of personal and professional skills, and clear career advancement pathways are strongly linked to motivation levels. In engineering faculties, where the workload can be substantial and complex, the integration of management information systems (MIS) can be particularly impactful. MIS can streamline administrative tasks, reduce the time burden of non-teaching duties, and foster better communication among staff. This integration not only supports lecturers in their day-to-day roles but also enhances their satisfaction by providing resources that facilitate research and teaching.

However, for MIS to be effective as a motivational tool, challenges such as insufficient training and inadequate technological infrastructure must be addressed. Without proper support, the potential benefits of MIS can be diminished, resulting in frustration rather than motivation. A strategic approach that combines the benefits of MIS with robust professional development programs and responsive administrative support can greatly improve motivation and job satisfaction among lecturers [24].

In conclusion, a balanced framework that combines intrinsic and extrinsic motivators, supported by effective MIS integration, is essential for fostering a motivated and engaged faculty . Such an approach can enhance teaching quality, boost research productivity, and contribute to the overall excellence and reputation of the institution.

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