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WHAT MOTIVATES ACADEMICIANS TO BE LIFELONG LEARNERS? A STUDY ON FACULTY MEMBERS WORKING IN HIGHER EDUCATION INSTITUTIONS IN BANGLADESH

Abstract
This paper investigates the motivational factors that drive academicians in Bangladesh to engage in lifelong learning and continuous professional development. Drawing upon Self-Determination Theory (SDT), the study identifies intrinsic and extrinsic motivators influencing faculty members' commitment to learning. Using a quantitative approach, data were collected from 105 academicians across higher education institutions through an anonymous online survey. Results indicate that intrinsic rewards and self-efficacy positively influence intrinsic and identified motivation, whereas extrinsic rewards play a significant but context-dependent role. The study highlights that in collectivist societies such as Bangladesh, extrinsic motivators, when aligned with individual values. can reinforce intrinsic motivation. Implications for institutional leadership and policy formulation to enhance academic professional development are discussed.

Keywords: Lifelong Learning, Faculty Motivation, Intrinsic and Extrinsic Factors, Self-Determination Theory, Higher Education, Bangladesh.

Introduction

The present world is characterized by fierce competition as in our modern economy and labor market, competition has become a defining and prominent phenomenon (Cristian, 2014). Another dominant feature of our time is volatility, marked by continuous and rapid change across every sector (Rehman et al., 2023). The fleeting nature of information, significant labor market fluctuations, and the changes in the life perspective of people have made continuous adult learning a necessity (Cristian, 2014; Niemi et al., 2015). In this context, investment in professional development is essential for truly fulfilling an organization's mission, vision, and goals (Cristian, 2014). It reflects a commitment to the growth and well-being of individuals, enabling them to thrive and contribute meaningfully to a shared purpose (Matiba, 2023). This is why continuous professional development and the need for lifelong learning have become major concerns for today's human resource managers.

The concept of lifelong learning extends beyond formal education and includes informal and non-formal learning activities. The domain of lifelong learning is much wider, and it is hard to have a unified definition of the concepts (Aspin et al., 2000; Duţă & Rafailă, 2014). However, for this study, continuous professional development as formal learning is going to be addressed as lifelong learning. The studies conducted on the learning and teaching behavior of primary and secondary-level teachers have identified

motivation and self-directed learning as strong influencers in seeking continuous professional development for teachers (Hein et al., 2019). Continuous learning is not obvious; rather, it depends on the individual's motivation to learn (Shulman & Shulman, 2009). Teachers must dedicate their time and intellectual resources to foster meaningful learning and boost their professional know-how. Therefore, a teacher's motivation to participate in professional learning activities plays a vital role in shaping the effectiveness of continuous professional development (Belay et. al., 2024). Therefore, motivation for learning can be a good predictor of the learning and teaching activities of university faculties (Hein et al., 2019).

This study is designed to explore the different factors or forces that influence academics' motivation for continuous professional development in the context of Bangladesh The researcher in order to gather relevant literature searched the Scopus database using the keywords "*Academicians and Motivation and Lifelong Learning*", this search found no relevant article, then again, a search was done using "*Faculty and Motivation and Lifelong Learning*", this search yielded only 7 documents but none of them were directly related with the topic. Then again using the keywords "*Teacher and Motivation and Continuous Professional development*" was done, this time 177 documents were found, among those documents a good number of articles are related to digital literacy and language learning of teachers, and also a major proportion of articles about teachers' motivation about continuous professional development have investigated the primary and high school level teachers' motivation for continuous professional development. The question is why faculty motivation is less researched in comparison to that of students and K-12 teachers (Daumiller et al., 2020). On these grounds this study intends to address the following research questions:

1) What intrinsic factors motivate academics in Bangladesh to engage in lifelong learning?
2) What extrinsic factors motivate academics in Bangladesh to pursue lifelong learning?
3) Is there any impact of gender on the relationship between motivational factors and the lifelong learning intention of academics in Bangladesh?

Research Gap and Rationale

Daumiller et al. (2020) argue that the limited research on faculty motivation for learning may stem from the assumption that faculty members are already highly motivated. As a result, researchers may overlook this population, believing that no underlying problem requires investigation. Considering the substantial effort and time needed to earn a PhD (and its prerequisite degrees), the limited availability of academic positions (Woolston, 2015), and the generally low levels of salary satisfaction reported in the academic profession (Cyranoski et al., 2011), it is reasonable to assume that those who manage to become faculty members are highly driven individuals (Daumiller et al., 2020). Another factor contributing to the scarcity of research is the reluctance of scholars to involve their colleagues as participants. Also, methodological constraints, particularly the difficulty of

securing large and representative samples, pose challenges for conducting and generalizing findings on faculty motivation (Daumiller et al., 2020).

However, understanding faculty motivation remains important, as evidence suggests several concerning trends in faculty research and teaching despite their recognized value. Although research funding has increased in the USA, the number of articles published in frontline peer-reviewed journals has declined (Daumiller et al., 2020; Litwin, 2014). Also, institutions with high reputations are in jeopardy of balancing teaching quality and research goals (Daumiller et al., 2020; Eagan et al., 2014). This workload contributes to the high levels of stress and burnout frequently reported by academic staff members in studies conducted in the United Kingdom, Australia, Canada and the United States (Catano et al., 2010; Daumiller et al., 2020; Kinman & Kinman., 2006; Winefield et al., 2008).

Research on teacher motivation is well established in the field of educational psychology, and several studies have examined teachers' engagement in lifelong learning. However, teachers' motivation for lifelong learning remains an underexplored topic (Goldsmith et al., 2014). Therefore, research initiative is needed to investigate the personal motivational factors that lead teachers to engage in lifelong learning for their professional development. Also, the quality of higher education in Bangladesh has yet to reach international standards as none of her universities are among the top one thousand universities at the QS world ranking or Times Higher Educational Ranking. This research might contribute to the understanding of their motivation for continuous professional development and how the situation can be improved.

Literature Review and Hypothesis Development

Academics' motivation to engage in professional learning or lifelong learning is a multifaceted construct, as individuals may participate for a variety of reasons. Previous studies have identified and highlighted a range of factors that drive teachers' motivation for continuous professional development and lifelong learning (Belay et al., 2024), and these motives are typically classified as either intrinsic or extrinsic (Zhang et al., 2021). These forces range from intellectual curiosity and professional development to institutional demands and societal expectations (Abakah, 2023; Belay et al., 2024; Zhang et al., 2021).

The rapid advancement of technology has made digital learning resources more accessible and expanded opportunities for global collaboration for academics. However, as mentioned earlier, the success of continuous learning and the intention to engage in lifelong learning depend on learners' underlying motivation to learn (Islam et al., 2015; Matiba, 2023). Motivation is crucial as it determines the success and the sustainability of learning engagement (McMillan et al., 2016).

Studies involving both faculty and schoolteachers have found that individuals who are strongly driven by external rewards are less likely to choose the teaching profession. At the same time, teachers tend to derive a sense of ego enhancement and personal fulfillment from their students' success, which in turn motivates them to engage in continuous learning and professional development to improve their performance (Appova & Arbaugh, 2018; Gopang, 2016; Hildebrandt & Eom, 2011; Nassar, 2018).

McMillan et al. (2016) also found that schoolteachers in Ireland enjoy participating in professional development activities when they perceive them as important for their personal and professional growth and when these activities meet their corresponding needs. In their study, personal curiosity, career advancement, and the desire to address a perceived need for improved performance were identified as key intrinsic factors for motivation to engage in professional development (Matiba, 2023; McMillan et al., 2016). In their study conducted on schoolteachers in China, Zhang et al. (2021) found that intrinsic motivators play a crucial role in the success of professional development. Factors such as teaching experience, self-efficacy, and conceptions of learning have been shown to influence teachers' motivation to participate in continuous professional development (Zhang et al., 2021).

Although teachers can be motivated by intrinsic motivators, they are not free from external influence (Hildebrandt & Eom, 2011; Matiba, 2023). In addition, studies have found that teachers are motivated by various workplace conditions, including interactions with coworkers, administrative support, opportunities for career advancement, and the desire for recognition from students, peers, and the broader community. They are also motivated by the professional autonomy that allows them to make decisions based on their expertise (Hirschhorn, 1993; Hildebrandt & Eom, 2011; Johnson, 1990; McMillan et al., 2016; Zhang et al., 2021).

Self-Determination Theory (SDT) has been applied in the past to investigate volunteer motivational elements and faculty motivation in their job (Daumiller et al., 2020; Lam et al., 2010; Oostlander et al., 2014; Zhang et al., 2021). In Self-Determination Theory, human motivation is explained as a spectrum extrinsic to intrinsic (Urhahne et al., 2023). When people's basic psychological needs are met, intrinsic motivation naturally arises and works due to the internal drive for self-development. On the other hand, when as individual works to attain a goal due to external influence like money or regulations it is termed as extrinsic motivation (Daumiller et al, 2020; Urhahne et al., 2023; Zhang et al., 2022). Therefore, analyzing how social circumstances support or impede individuals' experiences of autonomy, competence, and relatedness, all of which are connected, can provide an important understanding of academics' motivation for lifelong learning (Daumiller et al., 2020). Using Self-Determination Theory (SDT) as a theoretical framework, this research explores how intrinsic and extrinsic factors shape different forms of motivation—ranging from autonomous (intrinsic, identified) to controlled (external) regulation. The findings have implications for institutional policy, faculty support systems, and the design of professional development programs in Bangladesh and similar contexts.

In their study, McMillan et al. (2016) identified *"self-efficacy, conceptions of learning, prior learning experience and teaching experience"* at the individual level which are responsible for teachers' motivation to be lifelong learners (McMillan et al., 2016; Urhahne et al., 2023; Wigfield et al., 2000; Zhang et al., 2021). In this study, we classify these variables as intrinsic motivational factors. "*Self-efficacy*" refers to an individual's belief in their ability to perform a specific task successfully (Schwarzer & Jerusalem, 1995; Wigfield et al., 2000). Research indicates that teachers with high self-efficacy are more

likely to be enthusiastic about engaging in continuous learning (Zhang et al., 2021 In their study, Leech et al. (2015) developed a scale to measure the motivation of faculty members for conducting research, from which the present study adopted the construct of "*intrinsic reward*" as an intrinsic motivational factor for learning. "*Conception of learning"* explains how learners perceive the intellectual process and accumulation of knowledge and learning. If educators perceive "*intelligence as fixed",* they are less likely to engage in learning, and if they perceive it as flexible or developable through learning, they are more likely to be motivated for continuous professional development (Zhang et al., 2021).

In their study, Zhang et al. (2021) identified *"collegial support, principal leadership, work pressure, emotional pressure and task autonomy"* as school-level motivational factors. These factors operate outside the individual and can elicit identified, introjected or externally regulated forms of motivation and drive for continuous learning; therefore, in this study, they are treated as extrinsic motivational variables. However, in Self-Determination Theory, autonomy and relatedness are termed as intrinsic factors for motivation. However, "*task autonomy*" and "*collegial support*" or "*peer support*" are studied as external factor in this study, as they are regarded as how the educator perceived the support and regulations of their workplace (Zhang et al., 2021). The extrinsic rewards variable is adopted from Leech et al. (2015) and Matiba (2023). Matiba (2023) conducted a study on faculties in Nigeria and found financial support as a variable for motivation. In this study, the term "*opportunities*" refers to financial and non-financial forms of institutional support, which are treated as extrinsic motivational factors given Bangladesh's status as a developing economy with an evolving higher education system.

Drawing on the existing literature, the present study examined the following research hypotheses using the research framework shown in Figure 1.

H_1: Intrinsic motivational factors positively influence academics' motivation for lifelong learning.

We divided the main hypothesis into H_{1a}-H_{1i} , sub-hypotheses to investigate the relationship between each factor and the different levels of motivation described in STD. So, H_{1a}-Sense of Efficacy influences controlled motivation for lifelong learning; H_{1b} Conception of learning influences controlled motivation for lifelong learning; H_{1c} Intrinsic rewards influence controlled motivation for lifelong learning; H_{1d} Sense of Efficacy influences identified regulation for lifelong learning; H_{1e} Conception of learning influences identified regulations for lifelong learning; H_{1f} Intrinsic rewards influence identified regulations for lifelong learning; H_{1g} Sense of Efficacy influences intrinsic motivation for lifelong learning; H_{1h} Conception of learning intrinsic motivation for lifelong learning; and H_{1i} Intrinsic rewards influence intrinsic motivation for lifelong learning.

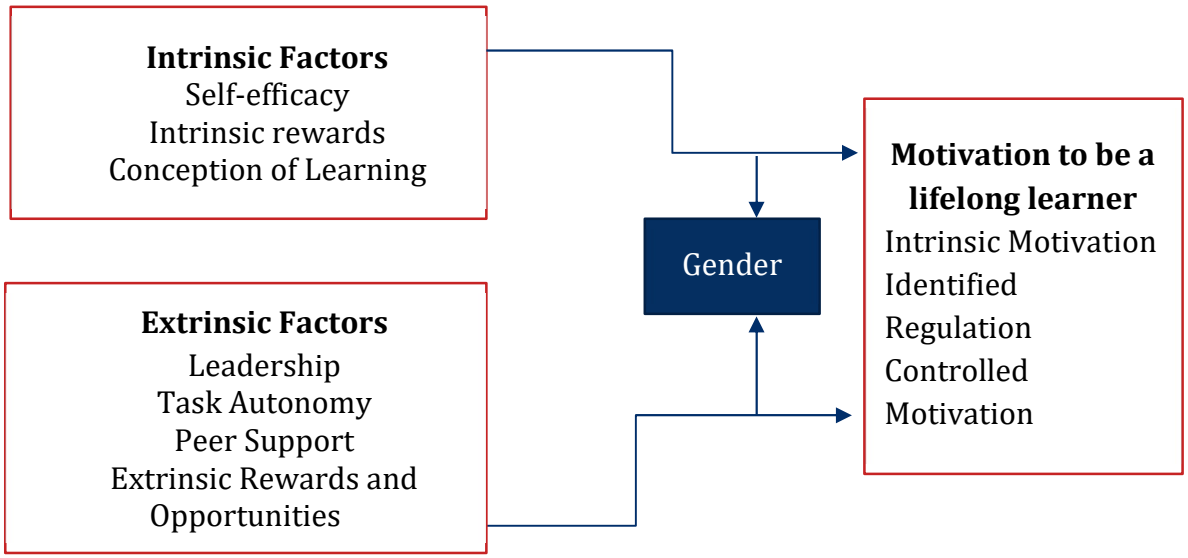
H_2: Extrinsic motivational factors positively influence academics' motivation for lifelong learning.

The sub-hypotheses about the relation between extrinsic factors and level of motivation are the following: H_{2a}-Leadership influences controlled motivation for lifelong learning; H_{2b} Extrinsic rewards influence controlled motivation for lifelong learning; H_{2c} Peer

support influences controlled motivation for lifelong learning; H_{2d} Leadership influences identified regulations for lifelong learning; H_{2e} Extrinsic rewards influence identified regulations for lifelong learning; H_{2f} Peer support influences identified regulations for lifelong learning; H_{2g} Leadership influences intrinsic motivation for lifelong learning; H_{2h} Extrinsic rewards influence intrinsic motivation for lifelong learning; H_{2i} Peer support influences intrinsic motivation for lifelong learning.

H_3: Gender has no impact on academics' motivation for lifelong learning.

Figure 1: Research Framework to study academics' motivation for continuous professional development in Bangladesh



Source: Authors' elaboration

Methodology

Sampling

According to Bangladesh Education Statistics (2021), 30,976 faculties are working in tertiary-level education in Bangladesh. From the sample frame 30 institutions were selected, and 500 faculties were selected through stratified random sampling. The selected faculties were sent the questionnaire via email but after one week, only 7 responses were recorded. The researcher was then forced to change the sampling technique, and the snowball sampling technique was employed. So, 105 faculties responded who are working in 22 different higher education institutions in Bangladesh.

Instrumentation

A structured questionnaire as given at Appendix 1, was developed based on validated scales. All items used a 5-point Likert scale.

Data Analysis

Data were analyzed using SPSS 25.0. To assess the validity and internal consistency of the measurement scales, an Exploratory Factor Analysis (EFA) using Principal Axis Factoring with Varimax rotation was conducted. As the sample size is 105, factor loadings above 0.5 are acceptable and values above 0.60 are more acceptable (Samuels, 2017), the values above 0.60 have been accepted. Also, the test for sample adequacy was done using the Kaiser-Meyer-Olkin Measure of Sampling Adequacy, the value is 0.792, which is above the reference value of 0.5 (Kaiser, 1974; Samuels, 2017); and Bartlett's test of sphericity was significant (*p* < .001), confirming the suitability of the data for factor analysis. Factor loadings and reliability statistics are summarized in Appendix 2.

Items with factor loadings below .50 were excluded from further analysis. The EFA resulted in a clear factor structure for most constructs. Notably, the Task Autonomy construct was removed from the model due to consistently low factor loadings across all items. Cronbach's alpha coefficients for the retained constructs ranged from .595 to .928, with most exceeding the acceptable threshold of .70 (Hair & Tatham, 1995), indicating adequate to strong internal consistency.

Findings and Discussion

A total of 105 faculty members from higher education institutions in Bangladesh participated in the study. The demographic profile of the participants is presented in Table 1. The sample comprised 60 males (57.1%) and 45 females (42.9%). The majority of respondents belonged to the 31–40 age group (n = 73, 69.5%), followed by the 21–30 age group (n = 20, 19.0%). In terms of academic rank, most participants held positions as lecturers (n = 41, 39.0%) or assistant professors (n = 39, 37.1%). This demographic profile indicates that the sample primarily consisted of early- to mid-career academicians.

Table 1: Participant Information *(N = 105)*

	Participants	**N**
Gender	Male	60
	Female	45
Age Groups	21-30	20
	31-40	73
	41-50	11
	51-60	1
Designation	Lecturer	41
	Assistant Professor	39
	Associate Professor	17
	Professor	8

Source: Data analysis of the current study

The hypothesis testing results (Summarized in Table 2) revealed distinct patterns of influence among intrinsic and extrinsic predictors across three motivational outcomes derived from Self-Determination Theory. For intrinsic predictors, Conception of Learning

was the only significant predictor of Controlled Motivation (β = .232, *p* = .033). Sense of Efficacy uniquely predicted Identified Regulation (β = .243, *p* = .025), while Intrinsic Rewards significantly predicted Intrinsic Motivation (β = .198, *p* = .049). Sense of Efficacy and Conception of Learning did not significantly predict Intrinsic Motivation (*p* > .05).

For extrinsic predictors, Extrinsic Rewards emerged as the most consistent significant predictor, positively influencing Controlled Motivation (β = .283, *p* = .012), Identified Regulation (β = .281, *p* = .012), and Intrinsic Motivation (β = .231, *p* = .041). Leadership and Peer Support were non-significant across all three outcome variables (*p* > .05). Finally, gender did not moderate the relationship between motivational factors for lifelong learning intention (*p* > .05), supporting the null hypothesis.

Table 2: Summary of Hypothesis Testing Results

Hypothesis	Predictor	Dependent Variable	B	β	*p*	Decision
H_{1a}	Sense of Efficacy	CM	-0.042	-0.046	.673	Rejected
H_{1b}	Conception of Learning	CM	0.243	0.232	.033	Accepted
H_{1c}	Intrinsic Rewards	CM	-0.110	-0.077	.451	Rejected
H_{1d}	Sense of Efficacy	IR	0.179	0.243	.025	Accepted
H_{1e}	Conception of Learning	IR	0.016	0.020	.854	Rejected
H_{1f}	Intrinsic Rewards	IR	0.023	0.020	.842	Rejected
H_{1g}	Sense of Efficacy	IM	0.163	0.187	.079	Rejected
H_{1h}	Conception of Learning	IM	-0.001	-0.002	.989	Rejected
H1i	Intrinsic Rewards	IM	0.265	0.198	.049	Accepted
H_{2a}	Leadership	CM	-0.039	-0.114	.332	Rejected
H_{2b}	Extrinsic Rewards	CM	0.203	0.283	.012	Accepted
H_{2c}	Peer Support	CM	-0.051	-0.058	.586	Rejected
H_{2d}	Leadership	IR	-0.005	-0.020	.863	Rejected
H_{2e}	Extrinsic Rewards	IR	0.160	0.281	.012	Accepted
H_{2f}	Peer Support	IR	-0.075	-0.108	.309	Rejected
H_{2g}	Leadership	IM	-0.019	-0.058	.624	Rejected
H_{2h}	Extrinsic Rewards	IM	0.156	0.231	.041	Accepted
H_{2i}	Peer Support	IM	-0.059	-0.072	.506	Rejected
H_3	Gender	LLM	—	—	> .05	Accepted

Source: Data analysis of the current study

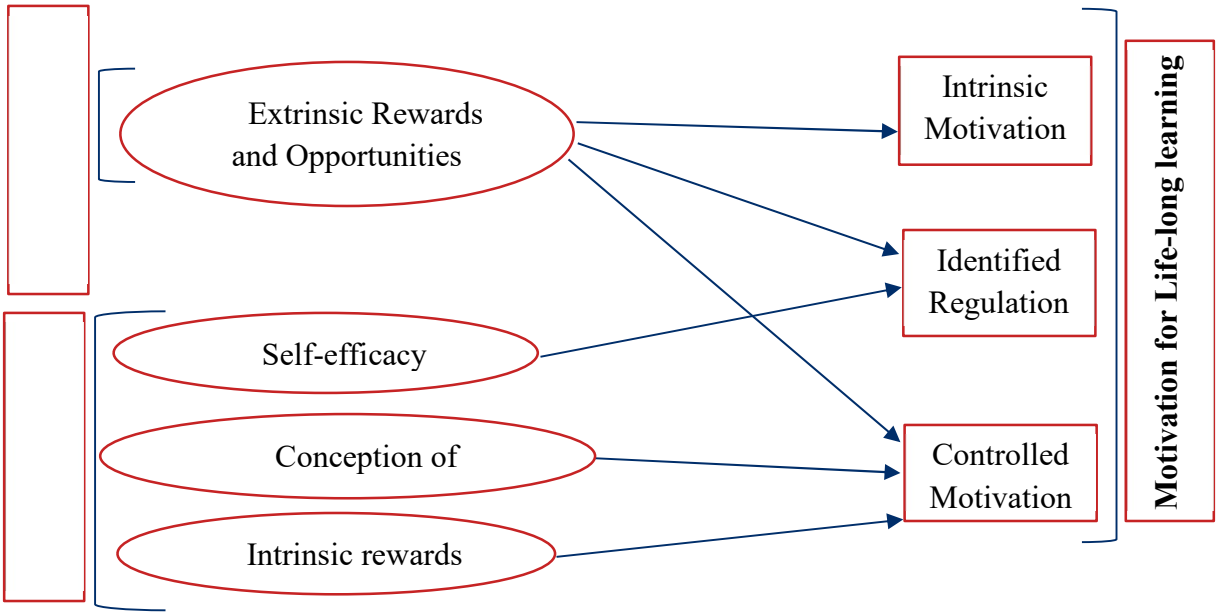
Note: CM=Controlled Motivation; IR= Identified Regulation; IM= Intrinsic Motivation; LLM=Lifelong Learning Motivation; *B* = unstandardized coefficient; β = standardized coefficient. Significance level α = .05. For H3, gender showed no significant moderation effect (*p* > .05 for both male and female subgroups).

The findings of the study (summarized in Table 2 and Figure 2) indicate that external rewards and opportunities are the only extrinsic factor that plays a role in shaping different forms of motivation among Bangladeshi academics. The results suggest that these extrinsic rewards and opportunities are significant in influencing the intrinsic and controlled motivation (Ryan & Deci, 2000). Findings revealed that intrinsic factors,

particularly intrinsic rewards and self-efficacy, were strong predictors of academics' motivation for lifelong learning. Intrinsic rewards were significantly correlated with intrinsic motivation ($p < .05$), while self-efficacy was positively associated with identified regulation ($p < .05$). Leadership and peer support, though valued qualitatively, did not exhibit significant quantitative effects. The socio-cultural, political, and economic condition of Bangladesh is quite different from the Western world and thus is suggested by the findings as well. In Bangladesh, politicians have a strong interest in higher education institutions as a source of youthful energy, so they often attempt to control universities through their affiliated student political organizations and also influence youth for their interests. In this complex environment, the leadership role is challenging, as suggested by the findings that the academics find the role of leaders insignificant in motivating them for professional development in Bangladesh. Also, the cultural stigma of face value might have been hindering peer collaboration and support for professional development (Zhang et al., 2021).

The results of the study challenge earlier assumptions that conceptions of learning function as an intrinsic factor predicting intrinsic motivation (Zhang et al., 2021). Instead, the findings show that they act as a significant factor for controlled motivation. The analysis also shows that self-efficacy is a significant predictor of identified regulation but not for intrinsic motivation. This suggests that academics do not perceive learning to be natural and enjoyable but rather coercive. This also might be the reason for their self-efficacy of learning to be positively related to identified regulation but not significantly related with intrinsic motivation.

Figure 2: Findings of the study



Source: Data analysis of the current study

Conclusion

The findings from this study have several practical and theoretical implications. Firstly, they highlight the importance of extrinsic rewards in shaping different types of motivation among Bangladeshi academics. While extrinsic rewards are often thought to weaken intrinsic motivation, they might be useful in certain socio-cultural environments, and the findings indicate that well-designed external incentives can enhance motivation when they align with individuals' values, interests, and needs. Policymakers, the government of Bangladesh, and university authorities should consider implementing reward structures that support faculty members' needs, thereby encouraging both intrinsic and identified motivation. The system should include performance- and learning-based rewards, such as providing additional pay rise for additional professional learning, which is currently absent. Although some universities offer salary increments for obtaining a PhD, this practice is not consistent across institutions. In addition to financial incentives, non-financial rewards tailored to faculty members' personal values and intrinsic interests should also be introduced. Secondly, academics seem to hold a negative perception of the conception of learning and display comparatively low levels of self-efficacy. This raises important concerns for professional development within higher education. Authorities should address these issues by strengthening pedagogical development at schools and tertiary level education. Thirdly, the non-significant role of leadership and peer support suggests that these factors may not directly impact motivation within the existing socio-cultural and political context of Bangladesh. However, leadership styles and peer interactions are complex constructs, and future research should investigate whether different types of leadership (e.g., transformational vs. transactional) or varying levels of peer support (e.g., collaborative vs. competitive environments) influence motivation differently. Additionally, qualitative studies could explore individuals' subjective experiences of leadership and social support to gain deeper insights.

Despite the above important findings, this study has several limitations. First, the sample size was relatively small, and the participants lacked diversity, which limits the generalizability of the results. Second, the use of self-reported survey data may have introduced some biases, as participants might have provided socially desirable responses rather than accurately reflecting their actual perceptions. Third, the study focuses primarily on formal learning among academics, which limits its ability to study and understand other forms of lifelong learning such as non-formal and informal learning, which encompasses a substantial portion of adult learning and life-long learning. Fourth, the study focused exclusively on higher education institutions, which may limit its ability to fully capture lifelong learning motivations in other academic or professional contexts, such as independent research organizations of the country. Fifth, external factors such as the influence of culture and social setting were not examined in the study.

Lastly, the relatively modest R^2 values across models indicate that additional variables likely contribute to motivation beyond those examined in this study. Future research should examine additional factors influencing motivation, such as personal goal-setting and emotional engagement. By expanding the scope of investigation, researchers can

provide a more comprehensive understanding of how motivation operates across different settings in Bangladesh. Furthermore, longitudinal studies and qualitative studies might shed more light on academics' experience in Bangladesh.

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Appendices

Appendix 1

Questionnaire of the Study

Statements	SD	D	N	A	SA
Teachers' Motivation for Learning					
I participated in learning because it was the requirement from the institution					
I participated in learning because I could demonstrate to others my willingness to accept new things.					
I participated in learning because I would feel uncomfortable if I refused to get involved.					
I participated in learning because I would like to strive for good performance.					
I participated in learning because I don't want others to think that I am incapable of doing it.					
I participated in learning because it involves important things that I should learn.					
I participated in learning because it is worthwhile to be promoted.					
I participated in learning because I am interested in it.					
I participated in learning because learning new teaching approaches is enjoyable.					
I participated in learning because I feel satisfied when I can overcome the obstacles in the process					
Self-efficacy					
I can always manage to solve difficult problems if I try hard enough					
It is easy for me to stick to my aims and accomplish my goals.					
Thanks to my resourcefulness, I know how to handle unforeseen situations.					
If I am in trouble, I can usually think of a solution.					
I can usually handle whatever comes my way.					
Conception of learning					
Learning is something we continue to do as long as we live					
Learning is actively exploring interests.					
Learning is accurately memorizing the content of materials.					
Learning means absorbing a wide range of knowledge.					

Learning takes much time and effort					
Intrinsic Rewards					
Conducting research and participating in learning provides me with feelings of satisfaction					
I feel great pleasure when I've learned something new through research and participation in different learning programs					
I participate in different learning programs and conduct research for the joy of it					
I enjoy doing research and learning for its own sake					
Leadership					
Shows appreciation when a teacher takes the initiative to improve teaching or to engage in other forms of professional development					
Helps teachers to put their emotions into words					
The administration helps teachers to reflect on new experiences that they have gained on the job					
Engages individual teachers in ongoing discussions about their personal and professional goals					
Encourages teachers to experiment with new teaching methods					
Creates sufficient opportunities for teachers to work on their professional development					
Extrinsic Rewards and Opportunities					
I want to receive awards for my scientific accomplishments and teaching excellence					
I participate in different learning programs as they are required for career advancement-promotion					
I participate in different learning programs as they are required to gain financial incentives and salary increases					
I participate in different learning programs as these provide non-monetary support for activities outside working hours (e.g. reduced teaching time, day off or study leave)					
I participate in different learning programs as scholarships are provided for them					
I participate in different learning programs as my family supports that					
Task Autonomy					
I have the freedom to determine my work priorities manage my workload					
I have the authority to allocate resources to accomplish my work tasks.					
I am trusted to solve problems and find innovative solutions					
My organization provides training and support to enhance my skills and abilities					
My organization recognizes and values my expertise and contributions					
Relatedness or Peer Support					
I am supported by the people whom I care about (students, colleagues, etc.) which motivates me to learn					
I experience warm feelings with the people I spend time with (students, colleagues, etc.) which encourages me to continue learning					
It is possible to take part in collaborative professional learning and research with colleagues (TALIS, 2018)					
My colleagues encourage me for different professional learning and continuous professional development					

My senior colleagues and or mentors believe in my abilities and push me for continuous professional development					

Source: Motivation Types-Adapted from "Teacher Motivation Inventory" (Lam et al., 2010; Zhang et al., 2021); Self-efficacy: Adapted from "Generalized Self-Efficacy Scale" (Schwarzer & Jerusalem, 1995); Conceptions of Learning: Adapted from Conception of learning Scale by Yokoyama et al. (2020); Intrinsic/Extrinsic Rewards: Adapted items from Leech et al. (2015). Leadership and Peer Support: Adapted from Zhang et al. (2021). Extrinsic Rewards and Opportunity- Two items were adapted from Leech et al. (2015) and 6 items were adapted from TALIS, 2018 questionnaire by OECD; Task Autonomy- Adapted from Wu et al. (2020); Peer Support- Adapted from Stupnisky et al. (2018) used three items to measure relatedness from these three items two were chosen for this study and three items was adopted from TALIS, (2018).

Note: SD=Strongly Disagree, D=Disagree, N=Neutral, A=Agree, SA=Strongly Agree

Appendix 2

Results of Exploratory Factor Analysis

Variables	Factor Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted [AVE]
CM2	0.763	0.736	0.424	0.540
CM3	0.706			
IR1	0.771	0.710	0.443	0.569
IR2	0.738			
IM1	0.669	0.728	0.610	0.457
IM2	0.675			
IM3	0.686			
SE2	0.719	0.772	0.510	0.432
SE3	0.662			
SE4	0.585			
CL3	0.520	0.595	0.234	0.334
CL4	0.631			
IR1	0.838	0.757	0.558	0.502
IR2	0.582			
IR3	0.682			
L1	0.751	0.928	0.903	0.610
L2	0.831			
L3	0.838			
L4	0.786			
L5	0.719			
L6	0.755			
ER3	0.791	0.807	0.479	0.478
ER4	0.717			
ER6	0.543			
PS2	0.610	0.776	0.624	0.447
PS3	0.668			

PS4	0.808			
PS5	0.563			

Source: Data analysis of the current study

Note: KMO = .792. Items with loadings < .50 were excluded. Task Autonomy was removed due to low loadings.CM=Controlled Motivation; IR= Identified Regulation; IM= Intrinsic Motivation; SE=Sence of Self-efficacy; CL=Conception of Learning; L=Leadership; ER=Extrinsic Rewards; PS= Peer Support.