

## Stochastic Modelling and Computational Sciences

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### SUSTAINING EDUCATION IN SMALL ISLAND NATIONS: TEACHER MOTIVATION AND RETENTION IN THE MALDIVES

N.V. Deepak Nandan<sup>1</sup> and Dr. M. Sulaipher<sup>2</sup>

<sup>1</sup>Research Scholar, Noorul Islam Centre for Higher Education, Kanyakumari, Tamil Nadu

<sup>2</sup>Associate Professor, Marian Institute of Management, Marian College, Kuttikanam, Kerala

#### ABSTRACT

*Motivating and retaining teachers is fundamental to the stability of any education system, and the challenge becomes even greater in Small Island Developing States (SIDS), where resources are limited and reliance on expatriates is high. The Maldives illustrates this reality, as secondary schools continue to struggle with high turnover and uneven workforce stability. This study explores the factors that influence teacher motivation and their impact on retention in the Maldivian secondary sector. Guided by established theories of motivation, including Maslow's hierarchy of needs, Herzberg's two-factor model, McClelland's achievement theory, and Self-Determination Theory, data were collected from 400 secondary school teachers through stratified random sampling. A structured questionnaire was used to measure multiple dimensions of motivation and retention, and the responses were analysed using descriptive statistics, independent-samples t-tests, and Structural Equation Modeling (SEM). Results show that recognition, autonomy, and professional development and career growth are the most powerful motivators, while job security and cultural or social factors appear less influential. Expatriate teachers reported consistently higher levels of motivation than their Maldivian counterparts, particularly in areas such as autonomy, opportunities for professional growth, recognition, and working conditions. The SEM confirmed that motivation has a strong positive effect on retention ( $\beta = 0.631$ ,  $p < 0.001$ ). These findings suggest that policies should prioritize career advancement opportunities for local teachers, strengthen recognition and leadership support, and embed motivation-focused strategies into retention efforts. Such measures are vital for reducing dependency on expatriates and building a more sustainable education workforce in the Maldives, with implications for other small island nations.*

**Keywords:** Teacher motivation; Teacher retention; Small Island Developing States (SIDS); Maldives; Education workforce sustainability

#### INTRODUCTION

Education has been universally recognized as a key element of sustainable development, especially in those areas where human resources are scarce and societal progress depends to a large extent on knowledge transfer and capacity building. A stable, motivated teacher corps is at the very core of the delivery of educational quality and equity. However, the majority of education systems remain beset by issues such as teacher attrition, low teacher morale, and uneven distribution of staff. These concerns are most keenly felt in Small Island Developing States (SIDS), where geographic isolation, limited resources, and reliance on expatriate teachers make workforce sustainability an especially formidable challenge.

The Maldives, a spread-out island nation, provides an example of such hurdles. Secondary schools in rural and urban areas face continuous challenges in retaining qualified, motivated educators. Excessive turnover, particularly of expatriate staff, hinders continuity of learning and strains policy efforts at building a resilient education system. While governmental responses have focused on teacher training, recruitment, and pay schemes, uncertainty remains regarding the underlying motivational determinants that cause teachers to remain in or leave teaching.

Contemporary teacher motivation literature overwhelmingly draws on general models such as Maslow's hierarchy of needs, Herzberg's two-factor theory, and Self-Determination Theory. Although the theories provide valuable insights, there has been little empirical research in island contexts, where the cultural, economic, and geographical

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conditions intersect uniquely. Addressing this lacuna, the present study explores motivational factors affecting teacher retention in Maldivian secondary education.

This study pursues three objectives: (i) to identify the key motivational factors for secondary school teachers in the Maldives, (ii) to compare motivational and retention patterns between local and expatriate teachers, and (iii) to examine the influence of motivation on teacher retention. In seeking these goals, the research contributes to a more detailed understanding of how motivation and retention intersect with the sustainability of education systems in small island nations.

### **RESEARCH HYPOTHESES**

Based on these objectives, the study tested the following hypotheses:

**H<sub>01</sub>:** There are no significant differences in motivational factors between local and expatriate teachers.

**H<sub>02</sub>:** Teacher motivation does not significantly influence teacher retention.

### **LITERATURE REVIEW**

Teacher motivation has been widely studied using classical organizational and psychological theory. Maslow (1943), through his hierarchy of needs, posited the progression from lower-order physiological and safety needs to higher-order psychological needs, suggesting that lower-order needs must be met before higher-order ones to facilitate professional motivation. Herzberg's motivation-hygiene theory, as revisited by Fugar (2007), distinguishes between hygiene factors, such as pay and conditions, which prevent dissatisfaction, and motivators, such as recognition and accomplishment, which generate satisfaction. McClelland (1961) identified achievement, affiliation, and power as primary determinants of work behavior, while Deci and Ryan (2013), through Self-Determination Theory, emphasized autonomy, competence, and relatedness as intrinsic drivers of motivation. Together, these frameworks provide a multidimensional explanation of teacher motivation.

Empirical evidence substantiates the applicability of these theories to education. Ingersoll (2001) and Skaalvik and Skaalvik (2015) indicated that professional development opportunities, constructive leadership, and healthy workplaces are consistently associated with teacher satisfaction and retention. By contrast, Doan et al. (2023) found that dysfunctional working conditions, limited recognition, and poor career advancement have been linked to burnout and turnover. At the international level, the United Nations Educational, Scientific and Cultural Organization (2024) and the Organisation for Economic Co-operation and Development (2024) warned of worsening teacher shortages, emphasizing that improving working conditions, professional autonomy, and institutional support is critical to sustaining the teaching workforce.

Despite these global insights, limited research exists in Small Island Developing States (SIDS), which face unique challenges such as geographic isolation, dependence on expatriate personnel, and uneven resource distribution. In the Maldives, Aturupane and Shojo (2012) identified professional isolation and limited career advancement opportunities as barriers to teacher motivation, while the Ministry of Education (2019) reported persistent teacher shortages in outer islands alongside weak incentives for local teachers to relocate. Ali (2013) also found that early-career Maldivian teachers often experienced low motivation due to insufficient support and restricted career pathways. More recently, Crossley, Shiyama, Sprague, and Muna (2025) argued that educational policies in SIDS often fail because they overlook contextual realities, and strategies for workforce sustainability must therefore be grounded in the specific cultural, economic, and geographic conditions of small states.

Overall, the literature suggests that the motivation of teachers and their retention cannot be fully explained by traditional models alone, particularly in fragile and resource-constrained education systems. For the Maldives, examining how motivational dimensions affect teacher retention provides not only theoretical insights but also practical pathways for strengthening the long-term sustainability of the education system.

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### RESEARCH METHODOLOGY

This study employed descriptive research to investigate teacher motivation and retention in Maldivian secondary schools. A structured questionnaire was developed from literature findings and adapted to the Maldivian context. The instrument measured multiple factors related to motivation, including autonomy, financial incentives, professional development, recognition, working conditions, job security, work-life balance, technological support, student engagement, cultural and social factors, and leadership support.

The population of the study was approximately 2,400 secondary school teachers in the Maldives. Using Cochran's formula with finite population correction, a sample of 400 teachers was drawn by stratified random sampling covering both local and expatriate teachers. Information was collected on a five-point Likert scale with voluntary response and anonymity. The instrument was pilot-tested, and Cronbach's alpha  $> 0.70$  was used to establish reliability. SPSS and AMOS were employed for data analysis. Descriptive statistics were employed to report levels of teacher motivation, while independent-samples t-tests were utilized to examine differences between expatriate and local teachers. Structural Equation Modeling (SEM) was eventually employed to examine the impact of teacher motivation on retention, with model fit indexes serving as a measure of adequacy.

**Table 1:** Descriptive Statistics of Teacher Motivation

Indicator	Mean	SD
Autonomy	34.79	6.76
Salary & Financial Incentives	19.07	7.32
Professional Development & Career Growth	33.64	9.18
Rewards & Recognition	35.47	8.22
Work Conditions	21.86	4.59
Job Security	14.54	3.31
Work-Life Balance	23.16	4.72
Technological Support	22.85	5.38
Student Engagement	22.81	3.99
Cultural & Social Factors	13.58	3.09
School Leadership & Support	19.51	6.77
Overall Teacher Motivation	261.28	49.62

**Table 2:** Comparison of Motivational Factors between Local and Expatriate Teachers

Motivational Factor	Local Mean (SD)	Expatriate Mean (SD)	t value	p value
Autonomy	33.03 (7.18)	35.22 (6.58)	2.624	0.009 **
Salary & Financial Incentives	17.86 (7.22)	19.37 (7.32)	1.654	0.099
Professional Development & Career Growth	31.09 (9.72)	34.27 (8.94)	2.800	0.005 **
Rewards & Recognition	32.20 (8.75)	36.29 (7.89)	4.052	<0.001 **
Work Conditions	19.89 (4.90)	22.35 (4.39)	4.390	<0.001 **
Job Security	14.60 (4.91)	14.53 (2.78)	0.174	0.862
Work-Life Balance	22.55 (5.63)	23.32 (4.46)	1.298	0.195
Technological Support	23.19	22.76	0.632	0.528

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	(4.61)	(5.56)		
Student Engagement	22.81 (4.34)	22.81 (3.91)	0.000	1.000
Cultural & Social Factors	13.65 (2.73)	13.56 (3.18)	0.226	0.821
School Leadership & Support	18.36 (7.58)	19.80 (6.53)	1.700	0.090
Overall Teacher Motivation	249.23 (52.53)	264.29 (48.48)	2.444	0.015 *

**Table 3:** Structural Equation Model Results

Model Fit Index	Value	Threshold
$\chi^2/\text{df}$	3.19	< 5.0
GFI	0.977	> 0.90
AGFI	0.952	> 0.90
NFI	0.957	> 0.90
CFI	0.967	> 0.90
RMR	0.067	< 0.08
RMSEA	0.056	< 0.08

### STRUCTURAL PATH

- Teacher Motivation → Teacher Retention:  $\beta = 0.631$ ,  $p < 0.001$

### RESULTS AND DISCUSSION

The results of 400 secondary school teachers provided a clear reading of motivation and retention in the education sector of the Maldives. The descriptive statistics (Table 1) revealed that teachers demonstrated the highest levels of motivation in rewards and recognition ( $M = 35.47$ ,  $SD = 8.22$ ), autonomy ( $M = 34.79$ ,  $SD = 6.76$ ), and career growth and professional development ( $M = 33.64$ ,  $SD = 9.18$ ). Job security ( $M = 14.54$ ,  $SD = 3.31$ ) and cultural and social factors ( $M = 13.58$ ,  $SD = 3.09$ ) placed last, on the other hand, the total mean motivation score was 261.28 ( $SD = 49.62$ ). Further analysis of the data revealed that teacher motivation varied within the sample, with only slightly more than one-quarter of the teachers categorised as low in motivation (27.3 %), nearly half categorised as moderate (46.3 %), and slightly more than one-quarter categorised as high in motivation (26.5 %).

Expatriate and local teachers differed (Table 2) significantly on a number of motivational aspects. Expatriate teachers scored significantly higher on autonomy, professional development, rewards and recognition, and work conditions (all  $p < 0.01$ ). Expatriate teachers also reported greater overall motivation ( $M = 264.29$ ,  $SD = 48.48$ ) than did local teachers ( $M = 249.23$ ,  $SD = 52.53$ ;  $p < 0.05$ ). Local staff members, while reporting lower motivation in these areas, were more sensitive to matters of retention, as they underlined the need for policies promoting career development and extended incentives for local teachers in the Maldives.

The structural equation model (Table 3) supported the hypothesised association between teacher motivation and retention. Model fit indices indicated a strong and sufficient fit ( $CFI = 0.967$ ,  $RMSEA = 0.056$ ), and the structural path between teacher motivation and teacher retention was large and significant ( $\beta = 0.631$ ,  $p < 0.001$ ). This finding led to the rejection of the hypothesis, confirming that teacher motivation influences retention directly.

Overall, the results highlight that both maintaining the Maldivian education system and optimising its efficiency must target two aspects: reinforcing incentives most valued by teachers, such as professional development, recognition, and autonomy, while simultaneously addressing structural concerns affecting retention, namely among local teachers, who are more responsive to longer-term career security.

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### CONCLUSION AND POLICY IMPLICATIONS

This study examined teacher motivation and retention in Maldivian secondary schools through descriptive analysis, group comparisons, and structural modeling. Results showed that rewards/recognition, autonomy, and professional development most significantly motivated teachers, followed by a weaker influence of job security and cultural/social factors. Although nearly half of the teachers rated their motivation level as moderate, more than a quarter fell in the low category, raising concerns over long-term workforce stability.

Local and expatriate teacher comparisons revealed significant differences. Expatriates reported greater motivation in autonomy, development, rewards, and work conditions and greater overall motivation. Local teachers were more responsive to retention, which is to say that while expatriates bring temporary stability to the system, long-term Maldivian education is dependent on increased motivation and retention of Maldivian teachers.

The structural equation model supported the existence of a strong positive correlation between motivation and retention ( $\beta = 0.631$ ,  $p < 0.001$ ), underscoring that boosting teacher motivation directly enhances workforce commitment.

Three priorities emerge from a policy perspective. First, professional development and career opportunities need to be improved to raise motivation and retention rates, particularly among local teachers. Second, institutionalizing awards and supportive leadership behaviours will help sustain motivation in expatriate and local teachers. Third, the integration of motivation-focused strategies into retention policies will prevent the overuse of expatriates and create a more self-sufficient teaching force.

Through a balancing of expatriate contributions with improved retention of local teachers, the Maldives can create a more sustainable and resilient education workforce, with lessons for other Small Island Developing States. Both null hypotheses were rejected, confirming significant differences between local and expatriate teachers and the strong influence of motivation on retention. Strengthening motivation-focused policies will be central to building a strong and sustainable teaching workforce in the Maldives, with lessons that can extend to other Small Island Developing States.

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