



Critical Human Resource Management Challenges in the Large-Scale Building Construction Industry of Sri Lanka: An RII-Based Analysis

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Abstract: Human Resource Management (HRM) plays a vital role in improving workforce performance and organizational productivity in the construction industry. However, the Sri Lankan building construction industry continues to experience several HRM challenges that affect project performance and employee management. This study aims to identify the critical Human Resource Management challenges faced by the Sri Lankan large-scale building construction industry and propose practical recommendations for overcoming them. A mixed-methods research approach was adopted using both primary and secondary data. Primary data were collected through a structured questionnaire survey administered to professionals working in the highest-grade building construction companies registered under the Construction Industry Development Authority (CIDA). A total of 152 valid responses were analyzed using the Relative Importance Index (RII) to rank the identified HRM challenges and the proposed improvement strategies. The findings revealed that the lack of skilled labour, lack of communication between corporate staff and labour, and inadequate employee training are the most critical HRM challenges affecting the industry. The study further identified that assigning more skilled labour, conducting regular safety meetings and workshops, maintaining effective communication, and providing continuous employee training are the most effective strategies for mitigating these challenges. The findings provide practical guidance for construction companies, policymakers, and industry stakeholders to strengthen Human Resource Management practices, improve workforce productivity, and support the sustainable development of the Sri Lankan building construction industry.

Index Terms: Building construction industry, Human Resource Management, Human Resource Management challenges, Relative Importance Index (RII), Sri Lanka.

1 INTRODUCTION

A human resource is an individual or employee within an organization who forms part of its workforce. Human resources contribute their labour, knowledge, skills, and time to achieve organizational objectives. Therefore, effective human resource management is essential. Human Resource Management (HRM) emerged as a management concept in the 1980s. Although the rebranding of personnel management as human resource management quickly gained popularity, many organizations had only a limited understanding of the underlying theory [1].

Human Resource Management (HRM) is a multidisciplinary field that incorporates principles from management, psychology, communication, economics, and sociology. As a functional department within an organization, HRM manages all aspects of employee-related activities. These include human resource planning, job analysis, recruitment, interviewing, employee selection, orientation, training and development, compensation, benefits, and incentives. Ineffective human resource management can result in declining employee skills, high staff turnover, absenteeism, workplace conflicts, and low employee motivation.

The construction industry is one of the most labor-intensive sectors, making human resources one of its most valuable assets. The industry operates in a dynamic environment where project demand continuously changes, making workforce management more challenging than in many other industries. Construction projects involve employees of different ages, educational backgrounds, skill levels, and experience. Therefore, effective management requires different strategies to manage this diverse workforce. As a result, maintaining strong coordination and communication among employees is essential.

Observations indicate that although human resources are the backbone of the construction industry, relatively little attention has been given to effective human resource management. Compared with many other industries, the Sri Lankan construction industry faces unique HRM challenges. Furthermore, the challenges vary from one project to another, meaning the strategies needed to address them also differ by project context. Human resources, which are the foundation of the construction industry, are often not managed effectively. As a result of various human resource management challenges, employees are often unable to perform at their full potential or contribute their best to their organizations. The construction industry faces numerous challenges in managing its human resources effectively.

Accurately identifying the HRM challenges within the construction industry and developing effective solutions can improve workforce performance and create more employment opportunities [7]. In addition, a well-managed construction workforce can enhance productivity, enabling industry to contribute more significantly to the country's Gross Domestic Product (GDP). Effective human resource management also creates a healthier work environment with fewer workplace issues, improving employee satisfaction and reducing staff turnover.

Although the global construction industry's HRM challenges have been widely discussed, relatively little research has focused specifically on the HRM challenges faced by the Sri Lankan building construction industry. Therefore, this study aims to identify the key human resource management (HRM) challenges faced by the Sri Lankan building construction industry and to provide practical recommendations for their effective management.

2 LITERATURE REVIEW

2.1 Human Resource Management

An organization's ability to attract, develop, and retain talented employees is a key determinant of its success. Human resources are considered the most valuable asset of any organization [2]. HRM is a coherent, integrated, and strategic approach to the employment, development, and well-being of people working within organizations [3].

2.2 Construction Industry

The construction industry is an important sector of any economy, and its development plays a significant role in overall economic growth [4]. The industry operates in a highly dynamic environment where the demand for projects varies over time [5]. In Sri Lanka, the construction industry is a key sector contributing to the country's socio-economic development and Gross Domestic Product (GDP). When the construction sector operates at its full capacity, it creates substantial employment opportunities for the country's large labour force. Construction activities are generally organized and managed on a project basis, with project management serving as the primary approach to coordinating and controlling project operations [6]. The industry is broadly classified into three main categories: building construction, the construction of roads, railways, and highways, and the construction of other infrastructure and specialty trade works.

2.3 Construction Industry's HRM

Human Resource Management (HRM) plays a crucial role in the construction industry because it manages the workforce and ensures the right people are assigned to the right tasks at the right time. Observations have confirmed that, among all the resources required to complete a construction project from inception to completion, human resources are the most complex to manage [2]. The significant impact of human resources on organizational performance has received considerable attention, making Human Resource Management (HRM) an increasingly important area of focus [8].

2.4 Human Resource Management Challenges and Improvement Strategies

Previous studies have identified a wide range of Human Resource Management (HRM) challenges affecting the construction industry and have proposed various strategies to overcome them. According to Rao and Prasad [9], globalization, workforce diversity, employee selection, technological advancements, organizational restructuring, conflict management, and the rapid development of information technology are major HRM challenges organizations face. To address these challenges, the authors recommended implementing cross-cultural training, motivating professional personnel, improving employee selection procedures, and providing both financial and non-financial incentives such as training, job satisfaction, and employee recognition.

Similarly, Bhat [10] identified globalization, multicultural workforce management, employee selection, compliance with laws and regulations, training and development, work-life balance, employee retention, and conflict management as significant HRM challenges. The study suggested that organizations should adopt proper human resource planning, provide orientation and facilitation programs for both existing and newly recruited employees, promote ethical behavior, improve communication within the organization, and strengthen understanding between corporate staff and labor.

Similarly, Olasoji [10] identified employee incentives, recruitment practices, technological advancement, and workforce diversity as major HRM challenges. The study recommended adopting effective motivational techniques, maintaining open communication, encouraging employee involvement, fostering healthy workplace competition, and ensuring appropriate employee replacement strategies.

Furthermore, Sethi and Kataria [5] emphasized that the construction industry faces unique HRM challenges due to the one-off nature of construction projects, manpower planning difficulties, reliance on a temporary workforce, occupational health and safety hazards, and the delegation of HR responsibilities to project

managers. The authors recommended implementing equal opportunity policies, improving employee welfare programs, addressing skilled labor shortages, and promoting work-life balance.

Finally, Tayer [11] highlighted additional construction-specific HRM challenges, including limited time for strategic HR planning, the transient nature of the construction workforce, the changing characteristics of construction projects, and occupational health and safety concerns. These findings further emphasize the need for effective HRM strategies to improve workforce stability, employee well-being, and project performance.

Previous studies consistently identify skilled labour shortages, communication problems, employee training, occupational safety, and recruitment practices as common HRM challenges. However, very limited studies have investigated these issues within the Sri Lankan building construction industry using a quantitative ranking approach. Therefore, this study addresses this research gap by identifying the most critical HRM challenges using the Relative Importance Index (RII).

3 METHODOLOGY

This study identified the human resource management (HRM) challenges in the Sri Lankan building construction industry using a mixed-methods research approach. The mixed-methods approach integrated both quantitative and qualitative research methods within a single study. Both primary and secondary data were utilized to achieve the research objectives. Secondary data were collected through a comprehensive review of scholarly journal articles, books, and other relevant literature related to the research area. Primary data were collected through a structured questionnaire survey administered to a statistically significant sample of respondents. The questionnaire consisted of both open-ended and closed-ended questions to obtain comprehensive insights into the HRM challenges faced by the industry.

According to the grading system established by the Construction Industry Development Authority (CIDA), construction companies are classified into different grades based on their financial capacity. Given the size and diversity of the industry, it is not practical to include all individuals employed in the Sri Lankan construction sector in this study. Therefore, the study will select a representative sample comprising employees from building construction projects of different CIDA grades.

The total study population consists of 215 participants. Accordingly, this study adopts a simple random sampling technique to select a representative sample from the entire population. The required sample size was determined using Yamane's formula. Since the study focuses on the highest CIDA grade of building construction companies, the sample size was calculated accordingly.

The sample size for the highest CIDA grade was calculated using Equation (1).

$$n = \frac{N}{1 + Ne^2}$$

$$n = \frac{215}{1 + (215 \times 0.05^2)}$$

$$n = 140 \quad (1)$$

n = Number of samples,

N = Total population and

e = Error tolerance (level) ($5\% = 0.05$)

Accordingly, the study population consisted of 210 highest-grade construction projects. Using Yamane's formula, the required sample size was calculated as 140 projects. However, data were successfully collected from 152 projects, exceeding the minimum required sample size.

The collected data were analyzed using descriptive statistical methods, including tables and graphs. The Relative Importance Index (RII) was used to rank the identified HRM challenges.

4 RESULTS AND DISCUSSION

4.1 Respondent's Designation

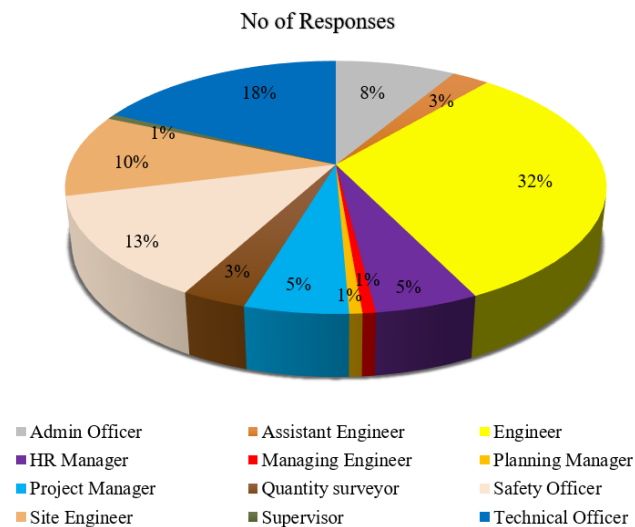


Fig.1. Responses for Respondent's Designation

According to Fig. 1, a total of 152 respondents participated in the questionnaire survey. Among them, engineers constituted the largest proportion of respondents, accounting for 32% of the total sample. This was followed by technical officers (18%), safety officers (13%), site engineers (10%), administrative officers (8%), project managers (5%), and HR managers (5%). The remaining respondents comprised Assistant Engineers (3%), Quantity Surveyors (3%), Planning Engineers (1%), Managing Engineers (1%), and Supervisors (1%).

The relatively high representation of engineers in the sample may be attributed to their direct involvement in the day-to-day management and supervision of construction activities. Engineers work closely with both skilled and unskilled employees and are actively engaged in coordinating site operations, allocating tasks, monitoring performance, and addressing workforce-related issues. Consequently, they possess extensive knowledge and practical experience regarding the human resource management challenges encountered in

building construction projects. Their substantial representation in the survey therefore enhances the credibility of the findings and provides valuable insights into the HRM challenges faced by the Sri Lankan building construction industry.

4.2 HRM Challenges in the Building Construction Industry

The Relative Importance Index (RII) is a statistical technique used to determine the relative importance of different variables or factors in a research study. It provides a numerical value that reflects respondents' perceptions regarding the significance of each factor. Based on the calculated RII values, the factors can be ranked from the most significant to the least significant, thereby facilitating the identification of the key Human Resource Management (HRM) challenges in the Sri Lankan building construction industry.

This section examines the Human Resource Management (HRM) challenges encountered in the Sri Lankan building construction industry. Respondents were requested to evaluate each challenge using a five-point Likert scale consisting of Very High, High, Moderate, Low, and Very Low.

The Relative Importance Index (RII) was calculated for each HRM challenge, and the challenges were ranked according to their RII values. The results are presented in Table 1.

Table 1. RII value for Responses to the question of HRM Challenges in the Building Construction Industry

HRM Challenges in the Building Construction Industry	RII	Rank
Lack of skilled Labors	0.822368	1
Lack of communication between Corporate Staff and Laborers	0.821053	2
The training provided is not enough and inadequate	0.810526	3
Inadequate provision of Health and Safety facilities	0.789474	4
No or insufficient rewards for Corporate Staff and Laborers with good performance	0.771053	5
Influence of Internal and External parties in the selection of Corporate Employees	0.752632	6
Duration of projects too short for HRM implementation (1 year, 2 years or so on)	0.715789	7

As presented in Table 1, the Relative Importance Index (RII) was used to rank the Human Resource Management (HRM) challenges faced by the Sri Lankan building construction industry. The results indicate that all seven identified challenges are significant, with RII values ranging from 0.716 to 0.822.

Among the identified challenges, the lack of skilled labour obtained the highest RII value (0.822) and was therefore ranked first. This finding suggests that the shortage of skilled labour is the most critical HRM challenge affecting the Sri Lankan building construction industry. The increasing demand for skilled workers, together with labour migration, an ageing workforce, and limited vocational training opportunities, may have contributed to this challenge. A shortage of skilled labour can adversely affect project productivity, quality of work, and timely project completion.

The second-ranked challenge was lack of communication between corporate staff and labour, with an RII value of 0.821. Effective communication is essential for coordinating construction activities, ensuring clear instructions, reducing conflicts, and maintaining productivity. The high ranking of this challenge indicates that communication gaps between management personnel and the site workforce continue to affect the effective management of human resources in construction projects.

The third-ranked challenge was inadequate training provided to employees, which recorded an RII value of 0.811. This finding demonstrates that respondents perceive insufficient training and employee development as a major constraint to improving workforce competency and organizational performance. Continuous training is particularly important in the construction industry due to the frequent introduction of new technologies, construction methods, safety regulations, and project management practices.

Inadequate provision of health and safety facilities ranked fourth with an RII value of 0.789, indicating that occupational health and safety remains an important concern within the industry. Providing adequate safety facilities and maintaining a safe working environment are essential for reducing workplace accidents, improving employee well-being, and enhancing productivity.

The challenge of insufficient rewards for high-performing corporate staff and labour ranked fifth, with an RII value of 0.771. This suggests that inadequate recognition and reward systems may reduce employee motivation, job satisfaction, and overall work performance. Organizations should therefore implement fair and performance-based reward mechanisms to improve employee commitment and retention.

The influence of internal and external parties in the selection of corporate employees ranked sixth, with an RII value of 0.753. This result indicates that respondents perceive external influence during recruitment and selection as a factor that may affect transparency, fairness, and the recruitment of suitably qualified personnel.

Finally, the short duration of construction projects for effective HRM implementation ranked seventh, with an RII value of 0.716. Although this challenge received the lowest ranking among the seven factors, the relatively high RII value indicates that respondents still consider it an important issue. The temporary nature of construction projects often limits opportunities for long-term workforce planning, employee development, and the implementation of sustainable human resource management practices.

Overall, the findings indicate that labour-related issues, communication, and employee training are the most critical Human Resource Management challenges in the Sri Lankan building construction industry. Addressing these challenges through workforce development initiatives, effective communication systems, continuous training programmes, improved safety management, fair reward systems, and transparent recruitment practices would contribute to improving HRM performance and enhancing the overall productivity and sustainability of the construction industry.

4.3 Recommendations for overcoming the HRM challenges

To mitigate the Human Resource Management (HRM) challenges faced by the Sri Lankan building construction industry, respondents were asked to evaluate a set of recommended strategies. These recommendations were intended to identify practical measures that could effectively address the identified HRM challenges. A five-point Likert scale consisting of Very Useful, Useful, Moderately Useful, Less

Useful, and Not Useful was used to assess the perceived usefulness of each recommendation. The Relative Importance Index (RII) was subsequently calculated to rank the recommendations according to their level of importance and effectiveness.

Accordingly, the Relative Importance Index (RII) was calculated for each recommendation, and the proposed measures were ranked according to their RII values. Table 2 presents the ranking of the recommended actions for overcoming Human Resource Management (HRM) challenges in the Sri Lankan building construction industry.

Table 2. RII value for Responses to Recommendations for overcoming the HRM challenges

Framework for overcoming the HRM challenges	RII	Rank
Assigned more Skill Labors	0.898684	1
Conduct the Safety meetings and workshops	0.898684	1
Maintain frequent communication between Cooperate Staff and Laborers	0.890789	3
Provide effective and sufficient training for the laborers	0.878947	4
Focus on selecting labor based on talent and ability	0.867105	5
Facilitation for existing and new employees	0.861842	6
Conduct the Health Checkups every few months	0.851316	7
Provide rewards for Cooperate Staff and Labors with good performance	0.838158	8
Initiate team building even before the Project starts i.e., from the conceptual stage	0.826316	9

As shown in Table 2, respondents evaluated nine recommendations based on their perceived effectiveness in addressing HRM challenges. Among these recommendations, assigning more skilled labour and conducting regular safety meetings and workshops obtained the highest RII value of 0.899, jointly ranking first. This finding indicates that respondents consider both measures to be the most effective strategies for overcoming HRM challenges in the Sri Lankan building construction industry. Ensuring the availability of skilled workers can improve productivity, work quality, and project performance, while regular safety meetings and workshops help strengthen employees' awareness of occupational health and safety, thereby creating a safer and more efficient working environment.

The third-ranked recommendation was to maintain frequent communication between corporate staff and labour, with an RII value of 0.891. This result highlights the importance of effective communication in improving coordination, reducing misunderstandings, and enhancing collaboration among project stakeholders.

The fourth-ranked recommendation was providing effective and sufficient training for labour, which recorded an RII value of 0.879. This finding suggests that continuous training and skill development are considered essential for improving employee competency, adapting to new construction practices, and

enhancing overall organizational performance.

Focusing on selecting labour based on talent and ability ranked fifth, with an RII value of 0.867, indicating the importance of transparent and competency-based recruitment practices in improving workforce quality. This was followed by facilitating existing and new employees, which ranked sixth with an RII value of 0.862, emphasizing the need for proper orientation and continuous employee support.

The recommendation to conduct health check-ups every few months ranked seventh, with an RII value of 0.851, reflecting the importance of maintaining employees' physical well-being and reducing work-related health issues. Similarly, providing rewards for corporate staff and labour with good performance ranked eighth, with an RII value of 0.838, indicating that recognition and reward systems are important for improving employee motivation, satisfaction, and retention.

Among all the recommendations, initiating team building before the project starts, particularly during the conceptual stage, recorded the lowest RII value of 0.826, ranking ninth. Although it received the lowest ranking, its relatively high RII value indicates that respondents still consider team-building activities to be an effective strategy for strengthening collaboration and improving workforce relationships throughout the project lifecycle.

Overall, the RII values ranged from 0.826 to 0.899, demonstrating that all nine recommendations were perceived as useful strategies for overcoming HRM challenges in the Sri Lankan building construction industry. However, increasing the availability of skilled labour, conducting regular safety meetings and workshops, maintaining effective communication, and providing continuous employee training emerged as the most important strategies for improving human resource management practices within the industry.

5 CONCLUSION

This study identified key HRM challenges in Sri Lanka's building construction industry and proposed solutions. Using a mixed-methods approach, it analyzed 152 responses via a questionnaire with RII and Cronbach's Alpha in SPSS. It found skilled labour shortage as the main challenge, along with poor communication, limited training, safety issues, low rewards, external recruitment, and short project durations, all affecting workforce productivity. Recommendations include increasing skilled labor, safety meetings, effective communication, and continuous training. Other strategies involve competency-based recruitment, orientation, health exams, performance rewards, and team building. The study emphasizes that effective HRM improves performance, satisfaction, and productivity but is limited to top-grade companies. Future research should include other sectors and regions to validate findings. The goal is to enhance HRM practices and industry sustainability.

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