Appraisal of labor management approaches within the private residential construction firms in the Kathmandu Valley

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Abstract

Purpose - The purpose of this study was to investigate labor management practices in private housing developers in the Kathmandu Valley. Evaluating perception on current practices, identifying challenges, and proposing solutions to improve labor management were also part of the paper.

Design/methodology/approach - The research paper employed a quantitative approach and cross-sectional survey design to investigate the research objective. The researchers used the quota sampling method to select participants from employees and executives working on 17 under-construction projects, allowing for the sample size to be divided and participants to be selected based on specific characteristics. Data were collected from 85 respondents through self-administered questionnaires.

Findings - The findings indicate a preference for hiring trained and experienced workers but highlight inadequate communication channels and planning. The study also identifies challenges associated with inadequate wages, occupational health and safety, labor policy, unfair hearing, and insufficient training. The study recommends focusing on employee staffing, performance evaluation, work environment, training, and compensation management as remedial measures to address these challenges.

Conclusion - The paper advocates the critical need for improved labor management practices in the private housing sector. The paper highlights several challenges, including low wages, limited communication channels, weak control systems, and inadequate health and safety measures. To address these issues, it is essential to implement appropriate measures such as providing fair wages, offering economic benefits, establishing comprehensive occupational safety and health policies, prioritizing training and development programs, enhancing employee staffing procedures, and implementing effective performance evaluation frameworks.

Originality - This research brings originality to the field by examining labor management practices specifically within the private housing sector, a topic that has received limited attention in the context of Nepal.

Keywords: Housing, labor, management, human resources, construction

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1. Introduction

The housing sector in developing countries is facing challenges of affordable housing and housing shortage due to rapid urbanization and demographic change. Nepal, a developing South-Asian country, is also facing similar challenges (CBS, 2021). The private housing developers have been successful in building a sense of community-based housing culture in Nepal (Newar, 2004). The escalating prices of land, construction materials, and labor have been major concerns for many people to build houses by themselves. Labors or workers play an indispensable role during the execution of the project. Labor costs include a large portion (30% - 50%) of the total actual cost of projects (Karimi et al., 2017). As per CBS (2018), Nepal labor force survey, the construction sector employed 978,000 workers, and the growth of the sector by an average rate of 9%. From this, it can be assumed that in 2020 employment numbers could have been around 1.7 million with 500,000 seasonal and Indian workers (Prasai, 2020). Jha (2015), presentation on the construction sector in Nepal, depicts that 250, 000 informal laborers are involved in the private sector.

The proper management of construction labor is significant for carrying out projects efficiently and effectively as construction is a labor-intensive industry (El-Gohary & Aziz, 2014). The implementation of good management practices enhances labor management and ultimately influences the profitability of most projects (Gurmu & Aibinu, 2017). Proper planning and practices of labor-management are essential to address the current and future urbanization in the Kathmandu Valley, as the housing sector can play a key role in fostering the global image of the Kathmandu Valley as a livable city (KVDA, 2018). Nepal Labor Force Survey of 2017/18 showcases that 13.8 percent were employed in the construction sector, and those employed in the construction industry worked an average of 50 hours per week irrespective of sex. Also, forced labor is more prevalent in the construction sector (16 percent) after agriculture and forestry (CBS, 2018). Further, a significant skills gap is seen in the industry, which poses challenges to project execution and overall productivity.

There is a high demand for human resources in building construction works, as building construction occupies a major share of the construction in Nepal (Mishra, 2018). On the other hand, by geographical diversity, labor force participation in the Kathmandu Valley, where a significantly large number of building construction works are running, is extremely low (61%) and the unemployment rate is the highest i.e. (8%) (MOLESS, 2021). Private housing developers face challenges in managing labor, which can impact project profitability and timely completion. To stay competitive and profitable, the sector needs to leverage technology and data-driven approaches to optimize workforce planning and scheduling, identify bottlenecks, inefficiencies, and areas for improvement, and develop a skilled workforce to carry out various tasks efficiently. However, there is a lack of research on this topic in Nepal. The construction industry in Nepal is particularly affected by poor labor management practices.

The purpose of this paper was to investigate labor management practices in private housing developers in the Kathmandu Valley. Evaluating perceptions on current practices, identifying challenges, and proposing solutions to improve labor management were also part of the paper.

2. Review of Literature

The right to housing is a fundamental human right, and it is necessary to strive both to create conditions for households to meet their housing needs on their own and to provide support

for those who do not have sufficient financial resources (Rawls, 2005). In Nepal, citizens have the right to appropriate housing, and this right is protected by law. Private housing developers, who are entrepreneurs driven by profit motive, own housing licenses. The Nepal Land and Housing Developers' Association serves as an apex body that brings all institutionalized practitioners of land and housing developers under one umbrella. Housing development in Nepal is a speculative industry that requires substantial financial investment, with the profit margin of developers being heavily influenced by the purchase of a significant amount of construction material (Forys, 2019).

Resources are crucial for the successful completion of construction projects, including money, time, labor/workforce, materials, and machines. Capital is necessary to initiate and complete projects, while effective time management plays a significant role in controlling the overall scope of the project (NLHDA, 2020; Caves, 1980). Workforce efficiency is vital, and the procurement and storage of materials must be well-planned. In addition, the maintenance of heavy machines and equipment is crucial for maintaining productivity (Amit & Schoemaker, 1993). The effective management of these resources is essential for a project's profitability and reputation (Alinaitwe et al., 2006).

The construction industry is labor-intensive, and labor productivity is a crucial factor for project success (Johnstone, 1984). While many factors affecting productivity have been identified, there are still unidentified factors that require further exploration (Bernolak, 1997). These factors include the human capacity for work, the competence of site management, the motivation of workers, and issues such as inadequate management, insufficient supervision, labor policies, wage disparities, and labor safety. Ineffective management is a primary cause of low productivity (Ghate & Minde, 2016), but labor productivity can be improved through proper management, addressing productivity factors, and prioritizing them to achieve better results (Thiyagu & Dheenadhayalan, 2015). Construction projects are unique and have various variables that need to be considered, such as design or capacity, varying site conditions, weather conditions, workforce and labor conditions, experience factors, and unplanned errors and omissions (Jergeas, 2009).

A study by Mishra (2018) on Class 'A' construction companies revealed that the majority of these companies (87.5%) lack a computerized HR information system. Referrals from current staff were the most frequently used (62.5%) recruitment source, considered the most effective (70%) compared to other sources. Additionally, most companies (77.5%) did not allocate a budget for recruitment of human resources in any fiscal year.

Jergeas (2009) reported that in the absence of proper labor management, projects can experience cost overruns, time overruns, and productivity losses. The study highlighted poor management practices, such as scope changes, improper scheduling and management of plant, equipment, materials, and labor, lack of proper planning, and design errors and omissions, as factors contributing to poor performance.

A study by Maskey and Mishra in 2018 focused on labor productivity in Nepalese construction projects, identifying low labor productivity as a challenge in the industry. The study found that skilled and unskilled laborers spent 56.92% and 55.74% of their time respectively on productive work. The study emphasized the need to reduce operational inefficiencies by addressing the factors that contribute to low productivity in order to enhance overall productivity.

3. Research Methods

3.1 Research Approach

The paper uses quantitative approach to assess labor management practices in private housing developers in Kathmandu Valley. Following that there are underlying patterns and structures that govern labor management practices and their impact on laborers in the construction industry, realist ontology approach that posits an objective reality independent of human perception is adopted in this paper.

3.2 Research Design

The paper employed a cross-sectional design. This design allowed for the collection of data from a sample of housing development projects at a specific point in time, providing a snapshot of the prevailing labor management practices.

3.3 Population and Sample

This research focuses on private housing developers and their projects in the Kathmandu Valley of Nepal. Only under-construction or planned projects are being studied. The Kathmandu Valley is chosen because it is the most developed and populated area in Nepal, with many major public and private headquarters located there. 17 projects in the Kathmandu Valley were studied, with 97 authorized developers listed by the NLHDA.

This paper examined labor management practices in private housing construction projects in Kathmandu Valley using data from 17 under-construction projects. A quota sampling technique was used to divide the sample size and select participants based on specific characteristics, with all 85 respondents from the 17 projects considered as the sample size. Five respondents were chosen from each project for the paper.

Table 1. Sample Size

Respondents	Percentage	Sample
Executives	20%	17
Project Manager	20%	17
Engineers	20%	17
Supervisor	20%	17
Contractors' representatives /Foremen	20%	17
Total		**85**

3.4 Instruments/Measurements

The data was collected through structured close-ended questionnaire. The questionnaire was based on 4 major categories. They are: (i) personal and work-related characteristics, (ii) current labor management practices, (iii) challenges in current labor management practices and (iv) possible remedial measures to improve current labor management practices. For the questionnaire, the analysis was done based on data from scoring tool, Likert scale.

3.5 Data Collection and Analysis Procedure

After receiving the 85 responses, the researchers initiated the data cleaning process to ensure the accuracy and reliability of the collected data. Data cleaning involves identifying and rectifying incomplete, unengaged, or incorrect entries to ensure the quality of the dataset. Descriptive statistics were employed to examine the data for any missing values or incorrect entries. To address incorrect entries, the researcher utilized MS Excel, which provides a user-friendly interface for data manipulation and correction. Using the data editing functionalities in MS Excel, the researcher reviewed and rectified any identified incorrect entries, ensuring

that the dataset accurately reflects the intended responses. Following the data cleaning process, the cleaned dataset was ready for analysis. The researcher utilized both MS Excel and SPSS 26, statistical analysis software to perform the data analysis.

The demographic characteristics of 85 respondents show 84.7% respondents were male and remaining 15.3% were female. Majority of the respondents were aged between 31 and 40, 22.4% respondents were aged between 41 and 50 while only 2.4% were above 50 and 15.2% were under 30. As per the educational qualification of the respondents, 47.1% had completed their bachelors and 32.9% had completed their masters. Meanwhile, 3.5%, 7.0% and 9.5% had studied below SLC, SLC and intermediate level respectively. Majority of the respondents were aged between 31-40 and had completed their bachelors level education.

4. Results

4.1 Management Perception of Current Labor Practices

In the survey, 25.9% of respondents agreed and 24.7% strongly agreed that they preferred young labor over experienced labor, while 21.2% and 14.1% disagreed and strongly disagreed, respectively, showing a preference for experienced labor. A majority of 55.4% of respondents agreed on preferring trained labor over untrained labor, with 22.4% strongly agreeing, and only 9.4% disagreeing. Additionally, 42.4% agreed that the company focuses on recruiting experienced and educated supervisors, with 15.3% strongly agreeing, while 30.6% and 4.7% disagreed and strongly disagreed, respectively. However, 37.6% of respondents disagreed that there was a proper communication channel between labor and supervisors, while 32.9% agreed. The survey also highlights a lack of proper communication channels, which may be due to limited access to modern technologies, and inadequate planning for workers, which can significantly impact motivation and productivity. Despite the importance of proper planning for successfully completing projects on time and within budget, the current management appears to neglect planning.

Table 1. Management perception of current labor practices

Particulars	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Young labor over experienced	12 (14.1%)	18 (21.2%)	12 (14.1%)	22 (25.9%)	21 (24.7%)
Trained labor over untrained	0 (0%)	8 (9.4%)	11 (12.9%)	47 (55.4%)	19 (22.4%)
Recruitment of educated supervisors	4 (4.7%)	26 (30.6%)	6 (7.1%)	36 (42.4%)	13 (15.3%)
Proper communication channel	8 (9.4%)	32 (37.6%)	10 (11.8%)	28 (32.9%)	7 (8.2%)
Prior proper planning	12 (14.1%)	22 (25.9%)	12 (14.1%)	36 (43.4%)	3 (3.5%)
Suitable control system	4 (4.7%)	34 (40.0%)	16 (18.8%)	25 (29.4%)	6 (7.1%)
Material management	3 (3.5%)	29 (34.1%)	9 (10.6%)	37 (43.5%)	7 (8.2%)
Lower productivity due to controlled cost	8 (9.4%)	19 (22.4%)	13 (15.3%)	39 (45.9%)	6 (7.1%)

63.5% of respondents reporting a timely monitoring system, 55.3% reporting orientation and training before construction work, and 54.1% reporting on-site training and skill sharing programs. Only 23.5% reported that health and safety measures were adopted in the project, while 52.9% said that timely remuneration is done to enhance labor productivity. The study suggests that there is a lack of effective supervision and training for workers, and a need to improve remuneration and incentives to motivate workers and enhance productivity.

4.2 Challenges in Current Labor Management Practices

Relative Importance Index (RII) was used to generate ranking for the Likert scale data. From the index, low wages were found to be the highest rated challenge while trade unions were the lowest rated.

Low wage factor has the highest relative importance index (RII) among the listed particulars illustrates that the low wages of laborers have resulted in low productivity. The minimum wage in Nepal is below $1 per hour, and with the inflation rate, laborers are severely underpaid. Respondents also noted the lack of knowledge regarding Occupational Health and Safety (OHS) structures, which negatively affected labor productivity. Additionally, there was a lack of emphasis on training and development of laborers, with superiors preferring to hire already trained labor to reduce temporal and financial costs. Moreover, respondents also noted the absence of a comprehensive labor policy despite the updated Labor Act of Nepal, 2074. It is yet to be properly implemented. This creates a need for a comprehensive labor policy to address the gap in labor management practices. In conclusion, addressing the challenges in labor management practices can improve the productivity of laborers, and a comprehensive labor policy should be implemented and enforced to ensure the welfare of laborers in Nepal.

Table 3. Challenges in current labor management practices on the basis of RII.

Rank	Particulars	Total Weight	A*N	RII
1	Low wages	351	425	0.826
2	Lack of comprehensive labor policy	319	425	0.751
3	Enough Training and Development	317	425	0.746
4	Little OSH Knowledge	283	425	0.666
5	Fair Hearing	274	425	0.645
6	Balanced supply/demand of laborer	263	425	0.619
7	Availability of skilled labor	257	425	0.605
8	Shortage of labor	255	425	0.601
9	Trade unions	252	425	0.593

Table 4. Spearman's correlation

Correlations	S D	LW	SL	TRN	LS	TU	FH	OSH	LP
Supply/demand	1.00								
Low wages	0.138	1.00							
Availability of skilled labor	0.004	0.196	1.00						
Training	0.973	0.132	-0.010	1.00					
Labor shortage	0.054	0.173	0.926	0.065	1.00				
Trade unions	-0.131	0.051	0.020	-0.110	0.061	1.00			
Fair hearing	-0.141	0.177	-0.148	-0.118	-0.082	0.452	1.00		
OSH	0.955	0.109	-0.022	0.981	0.052	-0.106	-0.118	1.00	
Labor policy	0.153	0.960	0.222	-0.132	0.194	0.086	0.153	0.111	1.00

The supply and demand of labor had a significant correlation with the lack of OSH knowledge and training. Improving training programs and focusing on OSH can enhance labor satisfaction, reducing the need for them to work abroad and stimulating labor supply. Low wages were significantly linked to the lack of a comprehensive labor policy that could protect laborer interests. Training and development had a significant correlation with the lack of OSH knowledge. Similarly, labor shortages were related to the lack of skilled labor, and trade unions were associated with a lack of fair hearing. The construction management prefers trained labor over untrained labor, but there is a lack of proper training leading to labor shortages and lack of skilled labor. Unions are formed so that laborers can voice their concerns, but they would not need to if their concerns were addressed in the first place.

4.3 Remedial measures to improve the current labor management practices

4.3.1 Employee Staffing

The respondents in a survey agreed that finding suitably qualified employees enhances labor productivity. The majority agreed that the company must attract candidates with the right abilities and attitudes, use a proper selection process, and improve communication between employees to improve the work environment. The survey results suggest that proper staffing and hiring procedures can improve labor management practices. The survey results indicate that many respondents believe that systematic and formal communication, as well as implementing various tools and techniques, can improve staffing procedures and avoid losses in terms of time, money, and potential employees. Proper staffing and hiring procedures can be seen as a remedial measure for labor management challenges.

4.3.2 Training and development

Majority of respondents (65.9%) agree that proper vocational and on-site trainings, investing in employee development, providing appropriate equipment and technology, and creating a skill-sharing environment can improve labor productivity. Specifically, 43.5% agree with providing regular trainings, while 55.3% agree with investing in employee development. Almost half of the respondents agree that the appropriate equipment and technology must be provided for the work scope. Additionally, a substantial proportion agreed with creating a skill-sharing environment. The research suggests that effective training and development of workers could enhance productivity by making them more efficient in their jobs.

4.3.3 Performance evaluation

The majority of respondents (67.1%) agrees that supervisors should track work progress and ensure proper scheduling and confirmation of work. Additionally, 63.5% of respondents agree that a proper framework of planned goals, standards, and competent requirements should be developed before project commencement. Continuous monitoring of project progress and timely evaluation of results are also deemed important by 49.4% of respondents. Furthermore, a system of fair hearing and support by immediate managers or supervisors is agreed upon by 45.9% of respondents. Lastly, 70.6% of respondents believe that formal reporting of relationships and groupings of individuals within the project should be well defined.

The most important aspects of performance evaluation according to the respondents are properly defined goals, tracking progress, continuous monitoring, and formal relationships. These dimensions were seen as remedial measures for labor management challenges.

4.3.4 Compensation Management

A survey found that a significant percentage *(84.7%)* of respondents agreed with the provision of insurance for laborers, work-based adequate wages with bonus/incentives, and the guarantee of coverage of basic needs during crises by companies. A majority of respondents also agreed that companies should introduce proper recognition and reward systems to reduce labor turnover and ensure labor safety through the implementation of an OHS structure at construction sites. Additionally, many respondents believed that companies should adopt labor-favoring contracts.

4.3.5 Areas to focus on labor management

The majority (83.5%) of respondents expressed a need for developers and stakeholders to address labor wages and improve economic benefits (50.6%) in the future. This is predominant as low wages have been identified as a significant challenge to labor productivity.

Occupational Health and Safety (OHS) was identified as an area for improvement by 48.2% of respondents, while 20% felt that technical education and training should be prioritized. Vocational training was highlighted by 21.2% of respondents. Additionally, 47.1% of respondents felt that labor regulations should be reformed. Adopting strict OHS policies could help improve labor productivity as lack of proper OHS was identified as a significant challenge.

5. Discussion

Foster (1990) revealed that employers highly prefer trained labor due to better skills and reduced training costs, which is consistent with the results of this paper that demonstrate a clear preference for trained labor over untrained labor, aligning with previous studies (Makulsawatudom & Emsley, 2002). The survey results suggest that proper staffing and hiring procedures can improve labor management practices. However, Feldstein (2008) argues that the performance of team members significantly influences each other, which could affect the productivity of higher qualified workers. Similarly, Jaafar and Ali (2011) suggest that improving staffing procedures to hire qualified workers can boost productivity and reduce future training costs.

The research suggests that effective training and development of workers could enhance productivity by making them more efficient in their jobs. Manthey (1991) suggests that vocational training can increase productivity by 1.5% points by making workers more

efficient. Moreover, providing workers with necessary equipment and tools has a significant impact on labor productivity (Sala & Silva, 2013).

The lack of proper communication channels may be attributed to limited access to modern technologies in Nepal, where the smartphone penetration rate is only 64%, which negatively affects labor productivity. Similarly, the neglect of planning could result from incompetence, lack of awareness, or other factors. Proper planning is critical to any organization and can significantly impact the motivation and productivity of workers (Wachira, 2008).

Occupational Health and Safety (OHS) structures, which negatively affect labor productivity, were seen as remedial measures for labor management challenges. Kazaz et al. (2016) suggest that having a well-developed appraisal system that workers trust can improve productivity and motivation. Additionally, many respondents believed that companies should adopt labor-favoring contracts. Companies that compensate their workers fairly tend to have more motivated employees, which, in turn, enhances productivity (Mani, 2002). Therefore, it is essential for companies to provide fair compensation to their workers and implement measures that ensure labor safety and welfare.

This is not surprising as low wages have been identified as a significant challenge to labor productivity. Providing improved wages is considered the most effective way to enhance labor productivity (Curristine et al., 2007). Nasirzadeh and Nojedehi (2013) suggest that implementing strict OHS policies can boost productivity by providing a hazard-free work environment that eases the mind of laborers. Developing and implementing comprehensive labor policies would also ensure that things remain in place, making it easier for both laborers and employers (Mishra & Mallik, 2017).

6. Conclusion

The survey results indicate a clear preference for trained labor over untrained labor, as well as a preference for experienced labor over young labor. There is also recognition of the importance of recruiting experienced and educated supervisors. However, the survey highlights a lack of proper communication channels between labor and supervisors, which can negatively impact motivation and productivity. Additionally, the results suggest a neglect of proper planning by the current management, which can have adverse effects on project completion. Addressing these challenges and improving labor management practices can lead to enhanced productivity and efficiency in the organization. The challenges identified in the labor management practices include low wages, lack of comprehensive labor policies, insufficient training and development, limited occupational health and safety knowledge, absence of fair hearing, imbalanced supply and demand of labor, shortage of skilled labor, and the need for trade unions. These challenges significantly affect labor productivity and the overall well-being of laborers. To overcome these challenges, remedial measures need to be implemented, including improving wages, developing comprehensive labor policies, enhancing training and development programs, promoting occupational health and safety, ensuring fair hearing, addressing labor shortages, and considering the importance of trade unions.

7. Implications

7.1 Theoretical Implications

This study enhances understanding of labor-management practices by identifying challenges and suggesting solutions. It emphasizes the importance of fair wages, comprehensive labor policies, training, and safety in line with theories of employee motivation, behavior, and human resource management. The study also highlights how these factors impact productivity, echoing motivation theory. Likewise, it contributes to knowledge about communication and control systems in organizations. The study's findings support theories of employee development and well-being, stressing the role of training, safety, and fair treatment in improving worker performance and satisfaction.

7.2 Managerial Implications

This study's results provide valuable guidance for how managers can enhance their practices in the private housing sector. The study emphasizes the importance of making labor management better, especially by improving communication, control systems, and worker well-being. Managers can make a positive impact by creating clear and efficient communication pathways between workers and supervisors. Strengthening control systems and using effective ways to monitor and assess work can improve overall labor management. Also, managers should give importance to the safety and health of workers, provide fair pay, and establish proper programs for worker development.

8. Limitations and Directions for Future Study

This study's scope is limited to exploring labour management strategies within the context of private housing project construction in the Kathmandu Valley, potentially constraining the generalizability of its findings to broader construction contexts. The exclusion of individual residential buildings and high-rise commercial/apartment structures further narrows its perspective. To enhance the study's applicability, future research could expand its boundaries to encompass the entire Nepali construction industry, offering a more comprehensive understanding of labour management practices. Also, investigating government-led construction projects would provide valuable insights that go beyond the current focus on private housing developers in order to capture a more holistic view of the industry.

Conflict of Interest

Authors declared no conflict of interest while preparing this article.

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