iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 9 **Issue:** X **Month of publication:** October 2021

DOI: https://doi.org/10.22214/ijraset.2021.38460

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.429
Volume 9 Issue X Oct 2021- Available at www.ijraset.com

Impact of Labour Certification on Labour Productivity in Construction Industry of Pakistan

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Abstract: ***In this study, the regulation of labours working in the construction sector of Pakistan was studied. As there is no system to distinguish skill and unskill labour force in the construction industry of Pakistan, which leads to unforeseen events during the project works. This may lead to delay of the project and also compromises the safety of the workers. To overcome the problem, the impact of a protocol, labour certification, which is being practiced in other countries is studied. To determine the effect of labour certification on labour productivity, a questionnaire was prepared and sent to different stakeholders of AEC. The results showed that the majority of respondents were in favour of labour certification and agreed that it will have a significant impact on labour productivity. Moreover, respondents also pointed that it will create problems for labour and the construction industry if the process of certification is not smooth.***

Keywords: Construction industry, Labour certification, Labour, Labour Productivity, Pakistan

I. INTRODUCTION

The construction industry plays a significant role in the infrastructure of a country, an essential component in the economy and development of a country. Pakistan's economic and social development is supported by the construction industry [1]. Its impact on GDP, and most importantly, it majorly contributes to the employment of the country; the construction sector employs approximately four million people and contributes 2.39 percent to the GDP of Pakistan [1,2]. Lewis [3] found that at the start of economic development in any country, construction influences vary greatly, and as the economy grows, its impact regresses. Furthermore, it was noted by Lewis [3] that the effect of the construction industry in a developed country is about 25-30%, while in developing countries, it is about 60% of the total capital formation; the results of different studies showed similarity in outcomes relating to the impact of the construction industry on developing country's economy.

As the building industry is a labour-intensive market where workers are valued as an asset, this is why recognizing the issue of labour productivity is critical [4]. According to Yi and Chan [6], productivity is defined as the ability to be productive, efficient, and the pace at which products are generated. However, based on the kinds of input and output, the units of measurement may alter as the building activity progresses. Nonetheless, the value of productivity in lowering costs and increasing profits is cerebral in all sectors, including construction [13].

The construction industry's expansion represents the country's economic progress, but its increasing injury and death rate is concerning. Pakistan's construction sector employs 7.4% of the country's workforce, yet it has a 15.2% injury rate. In opposition to other industries, the construction industry has a significantly higher rate of injuries than the percentage of people employed in the construction industry. Furthermore, the percentage of injuries was 14.55% in the year 2006, which changed to 15.2 percent in the year 2012 [5]. Sadly, Pakistan's building sector suffers from a lack of skills, particularly among labours. Workers with inadequate skills result in poor productivity, under par quality, lower salaries, fewer possibilities for advancement, and a rise in construction accidents, among other things [1]. Most of the accidents are from height fall and, these mishaps are because of a lack of fall protection system availability and training, as well as the lack of adequate anchoring system; as a result, the construction sector has emerged as the second most injury-prone industry after agriculture, while having the fifth-highest employment rate among all businesses [5].

Research carried out by Shree Raja Gopal T G, and Murali [9] about the factors involved in labour productivity suggests that the significance among all is the skill and experience of the worker; its deficiency can cause hindrance in progress. A worker's skill level is determined by his or her specialization and expertise in their field. The labourers' abilities impact the project's development to a lesser or larger amount. Unskilled labour, on the other hand, proves to be one of the most significant problems for the construction industry, as they lack the necessary skills to execute a work effectively, with quality, and on schedule, negatively impacting project development [7]. In building projects, skilled labour is critical to the successful completion of a project [7]. Construction productivity is directly proportional to the availability of skilled or experienced labour [8].

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Low salaries and unsuitable working conditions make it difficult for the sector to attract qualified and educated workers when there is a scarcity of trained craftsmen [1]. People acquire new talents outside of the classroom as well as via traditional formal schooling. Non-formal education is becoming increasingly essential in today's society [10]. The majority of the skill demand in the local construction sector is fulfilled through informal training, with formal vocational training contributing just a tiny fraction of competent employees [1].

Due to changing societal requirements, there has been a significant shift in the needed working abilities in recent years [10]. Companies should hire competent and qualified employees and hold seminars and training sessions to improve their abilities and productivity [7]. To deal with the present technological and economic alterations, it is critical to empower and incorporate workers into learning experiences [10]. With a vast and young labour pool, Pakistan's construction sector has adequate room for growth [1]. Supporting blue-collar employees in their efforts to develop and gain new skills will boost productivity and economic development. In this context, skill certification systems transpire and become a vital tool to meet the changing labour market trends [10]. Heru Budi Utomo [11], referring to a point, argued that, for talent and experts to be allowed to practice separately, it appears that a skill certificate or competence certificate is necessary; this demonstrates the significance of expert certification as part of the education of skilled individuals. Competency certification's goals may be regarded from two perspectives: assessing a person's talents and knowledge in his field and convincing the user that the workforce's competence meets the task's criteria [12].

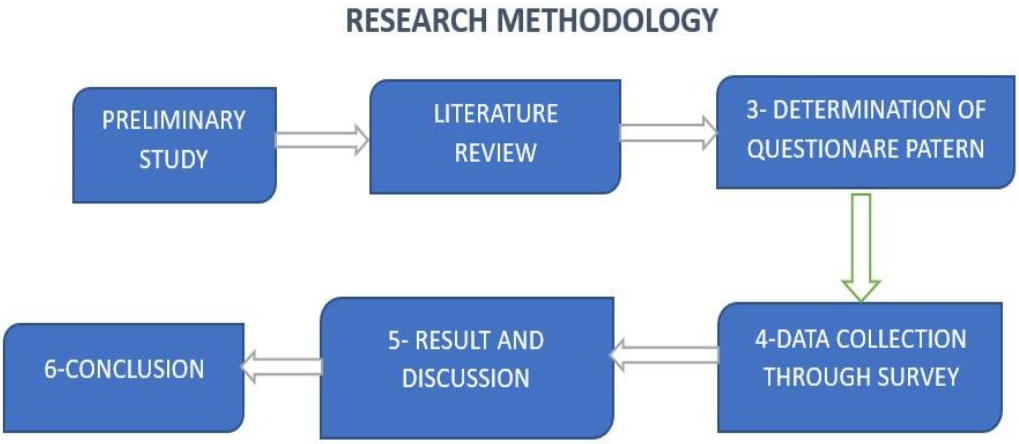
From the previous literature, it is evident that labour certification and labour skills are very significant in the construction industry. As there is no labour certification process in Pakistan, this study is conducted to know, potential labour certification impacts on labour productivity.

II. RESEARCH METHODOLOGY

The research methodology was composed systematically; first of all, the previous literature was reviewed as a preliminary study and, factors that affect labour productivity the most were studied comprehensively. The papers were searched; using google scholars, with keywords being labour productivity, labour certification, and the construction industry. In the majority of the previous studies, researchers opted for surveys for data collection in this kind of research.

The survey method seemed very effective so, a questionnaire was prepared, which contained a total of 10 close-ended questions and 1 open-ended question. The open-ended question was optional in which respondents were asked to give suggestions regarding methods or reviews regarding labour certification. After an extensive literature review [14,15,8,16,17,7], four main factors of labour productivity were determined i.e. labour skills, rework, communication between labour and supervisor, and safety on site. At last, the impact of labour certification on these factors and overall labour productivity was asked.

The questionnaire can be characterized into three parts, the first part was about respondent's information second, about labour certification and its challenges and, the third was a Likert scale question for the determination of certification impact on labour productivity. The questionnaire was sent through emails obtain of PEC site and some personal contacts in AEC industry. A total of 72 respondents participated in the survey.



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III.RESULTS AND DISCUSSION

In this section, the outcome of data collected via a questionnaire survey is presented in a systematic way. Data is converted into information that can be easily understood; 4 out of 11 questions were ranked according to the relative importance index (RII). The characteristics of respondents were determined at beginning of the questionnaire.

A. Information Regarding Respondents

Fig 1 is a pie chart that shows the designation of the respondent. 5 (69.44%) of 72 respondents were Engineers, 8 (11.11%) of 72 were Project Managers, 7 (9.72%) of 72 were contractors, 4 (5.55%) of 72 were clients, and 3 (4.166%) out of 72 were a general manager.

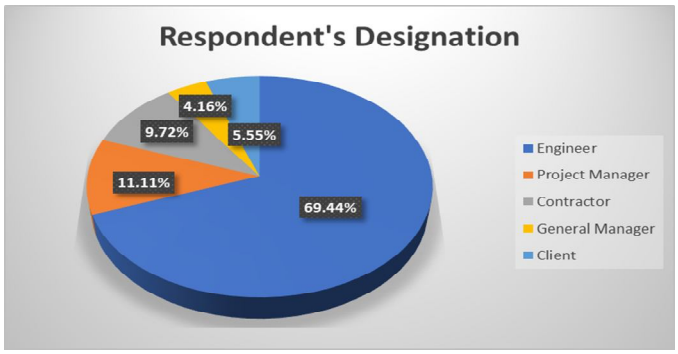

Fig. 1 Pie chart for respondent's designation

Fig 2 depicts the qualification of the respondent, according to which the majority of the respondents (51 of 72 respondents) were having bachelor's degrees. Moreover, 15 respondents had done their master's and from the remaining 6 respondents, 3 had a diploma and 3 chose the 'other' option.

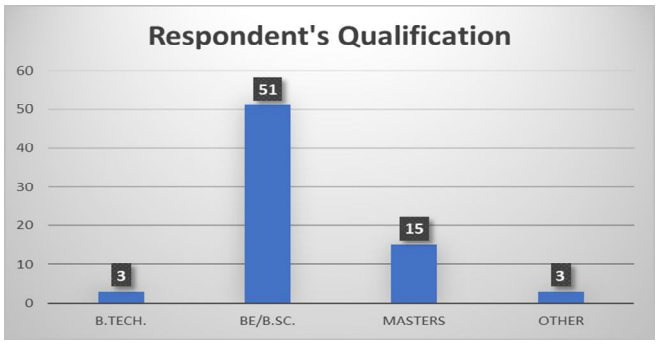

Fig. 2 Bar chart for respondent's qualification

In last, the chart in fig 3 demonstrates the work experience of the respondents. 48(66.67%) of the respondents had an experience of less than 5 years, 21(29.16%) of 72 respondents had experience between 5-10 years and the rest of 3(4.16%) respondents had experience of more than 10 years.

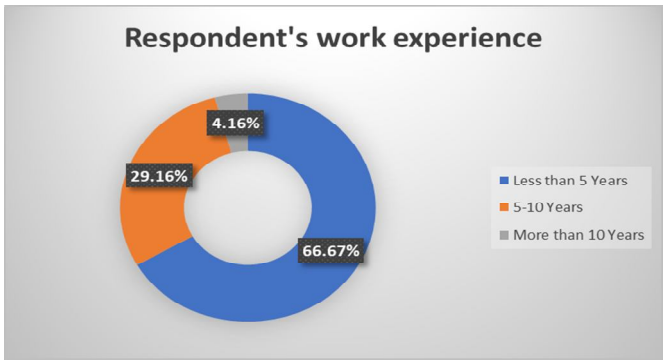

Fig. 3 Pie chart for respondent's work experience

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B. Impact On Factors of Labour Productivity

To determine the impact of labour certification on labour productivity factors, a relative importance index was calculated. The results are given below in table 1

Table I
RII of Labour Productivity Factors

S. No	Factors	RII	Rank
1	Labour's skills	0.766667	2
2	Prevent accidents	0.758333	3
3	Rework	0.700000	4
4	communication between labour and supervisor	0.775000	1

From table1 it is clear that 'communication between labour and supervisor' is ranked 1st in the relative importance index. Labour's skill is ranked 2nd, 'prevention of accidents' 3rd, and 'avoiding rework' is ranked last. It can also be observed that the average RII is which is near 1 meaning that the influence of labour certification on the main factors of labour productivity is quite significant.

C. Effect of Labour Certification on Labour Productivity and Construction Industry of Pakistan

When respondents were asked that, "Do you think there should be a licensing / certification process for all construction workers in Pakistan?", 79.2% replied "yes" in favor of labour certification. Respondents had mixed views about possible hurdle which construction industry may face if labour certification is made mandatory; 54.2% of respondents believed that construction industry would face problems and 45.8% think otherwise. 80% of respondents who consider that there should not be labour certification process, agreed that labour certification will have an impact on labour productivity. Lastly, respondents were asked whether labour certification will have an impact on overall labour productivity or not, and 91.7% of respondents believed that will have an overall impact on labour productivity.

IV. CONCLUSION

The purpose of conducting this is this study was to determine the potential impacts of construction labour certification on the productivity of labours. In order to determine the impact of labour certification on labour productivity, the most significant factors influencing labour productivity were extracted from previous studies. The study shows, the average RII factor is (0.7500) which is near to 1; it can be concluded that this average value means the labour certification has a high impact on the labour productivity. Furthermore, 79.2% of respondents agreed that the labour certification process must be mandatory for the construction labour of Pakistan. Another thing which important to note is that 80% of respondents who consider that there shouldn't be labour certification, agreed that labour certification will have an impact on labour productivity. The reason for their denial of labour certification can be because of the problems which labours and the construction industry may face if it is made mandatory, one of the respondents commented: "I think it will not be easy for Labour to get the license, already labour faces many problems". In addition, 54.2% of respondents believed that the construction industry would face problems if a labour certification is made compulsory. Some respondents also gave suggestions in the optional part, a respondent said," Labours should be categorized based on their skills and certified accordingly".

After analyzing comprehensively, it can be concluded that labour certification will surely have a positive impact on labour productivity but, it will have a negative impact on the construction industry as labour will face problems, this negative impact can be mitigated if the process for labour certification is made easier and labour should be judged based on their skills.

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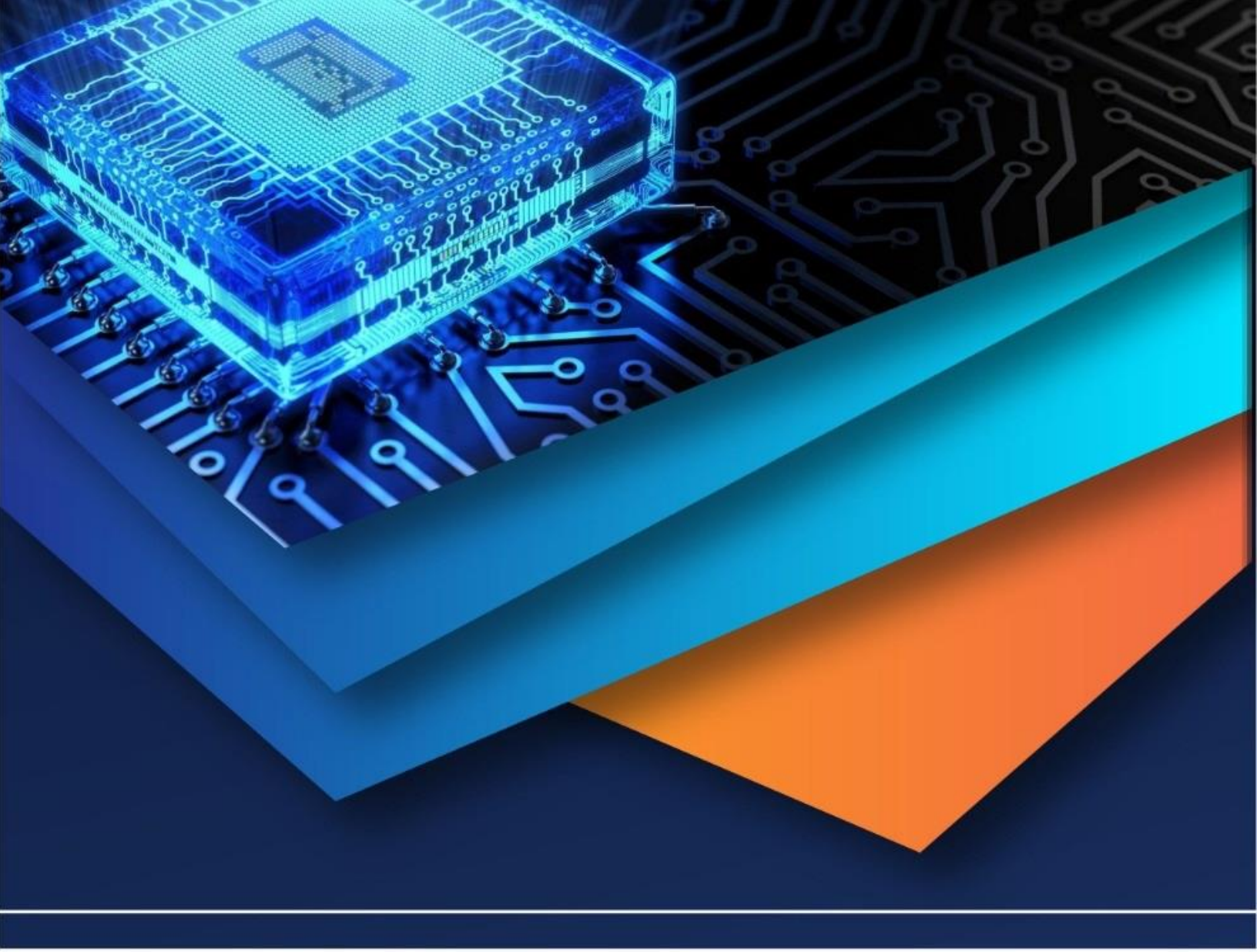

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