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EFFECT OF OVERTIME TOWARDS CONSTRUCTION LABOUR: A CONTRACTOR'S PERSPECTIVE

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ABSTRACT

Overtime is common in the construction industry where projects often require a shorter completion time. Contractors use overtime as a way to speed up construction work but it comes with drawbacks. Overtime workers are less productive, leading to increased project costs. This study aimed to identify the effects of overtime on construction labor, investigate its causes, and propose solutions. Questionnaires were distributed to Grade 7 contractors in Johor Bahru, and the data was analyzed using statistical methods. Akta Kerja 1955 is a deed that sets the minimum employment standards for private sector workers, regardless of union membership. It provides a comprehensive framework for employment laws, covering various aspects such as wages, rest days, working hours, annual leave, sick leave, maternity protection, termination of contracts, and the hiring of foreign workers. The study found that overtime reduces labor productivity, causes fatigue, increases absenteeism, lowers worker morale, and raises accident rates on construction sites. Overall, the study successfully achieved its objectives and used data collection and analysis to support its findings.

Keywords: overtime, construction labour, contractor, fatigue, working hours

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INTRODUCTION

Construction is significant everywhere because this industry drives economic growth. This industry also comprises building material manufacturers and employment agencies. The building business will also supply manufacturing facilities and other services to other industries. Thus, the building business is crucial to the nation and another sector. Since this industry is interconnected, other sectors may not last long without it. The building industry is vital to the nation, thus we must focus more on it. As we know, Malaysia is a developed nation today. Malaysia has produced megaprojects since the 1980s (Zulkarnain et al., 2019). Thus, the building industry will play a key role in transforming our nation into a developed nation by 2020. Malaysia's construction industry usually boosts economic growth. The Department of Statistic Malaysia prioritises this industry for economic growth. Construction work was RM 37.4 billion in the first quarter of 2019. However, our Prime Minister Datuk Seri Ismail Sabri Yakob stated that the 12MP's initial aim is to increase GDP by 4.5% to 5.5% (Khairul, 2021). This remark implies that the objective will boost the building sector and national growth. Construction productivity depends on manpower, which is the most important and adaptable resource (Hamza et al., 2022). Worker effort and performance drive construction productivity. Manpower is the most productive resource since most building projects employ many employees. Poor worker productivity leads to cost and time overruns in building projects (Alaghbari et al., 2019). Construction activity is strongly linked to labour, whether skilled or unskilled. This is because building would be difficult without personnel. Malaysia's prosperity relies on the building sector, yet it has its drawbacks. Construction sites are among the most risky places for human health and safety (Lette et al., 2018). Construction companies usually demand the greatest time management. They won't prioritise worker safety and health. They can increase earnings by saving time during construction, but losing time would cause financial hardship. Thus, 3 working hours is a major concern in this industry. The IMO's second regulation wave (1995–2007) focused on fatigue management and accepted the 14-hour workweek (Baumler, 2020). A typical workweek is 40 hours, according to most research (Alliod, 2019). Even though they have working time and overtime laws, most developing countries overlook employee time management.

PROBLEM STATEMENTS

The construction industry's success is crucial to Malaysia's economic growth. Since Malaysia is developed, building is the main industry. This industry builds infrastructure and buildings. Additionally, construction productivity in Malaysia is vital to the vision 2020 aim of boosting the construction sector. According to Durdyev et al. (2018), it will improve investment, industrial competitiveness, and job creation.

Construction productivity boosts all other industries and the nation's economy. Thus, the building sector is one of Malaysia's pillars for sustainable growth and helps the local construction industry compete globally. Many building tasks cause project delays. Time determines 80% of building costs. Several factors might induce overtime on construction sites. A labour shortage makes workers more willing to work overtime. The corporation could not afford to recruit enough personnel to finish the building site. Since the late 1980s, North American construction has experienced cyclical shortages of craft labour (Karimi et al., 2017). Since construction workers must complete all tasks at once, a manpower shortage will result in overtime. Poor time management might also generate construction overtime. project manager who manages construction site time. Flexible work time practises have been researched as a way to improve work-life balance (Townsend et al., 2012). Employees have had trouble changing their work schedules to better their employment possibilities. schedule is also important to finish the building on schedule. These issues necessitated overtime for workers to prevent project delays and finish on schedule.

Table 1 : Effect of overtime to labour

NO	EFFECT OF OVERTIME TO LABOUR	1	2	3	4	5	6	7	8	9	10	Total
1	Low productivity	/	/	/	/		/		/	/	/	8
2	Fatigue	/	/					/			/	4
3	High accident rate	/	/					/			/	4
4	Low morale	/	/									2
5	Increase the workforce			/								1
6	Negative effect on coherence of social relation within families and communities					/		/				2
7	Increased absenteeism		/					/				2
8	Short sleep duration							/				1
9	Depress										/	1
10	Mental health status										/	1

Overtime reduces worker productivity. Poor worker productivity affects construction project cost and time overruns, according to Alaghbari et al. (2019). Because labour

productivity affects construction project productivity, staff must address this issue. Study construction worker productivity and overtime. Know if longer workdays increase or decrease productivity to optimise staff management and project planning. These findings may help Malaysian construction firms increase worker productivity, particularly in infrastructure projects (Hanafi, M., Zhen, O., & Razak, A. 2021). Many publications also mention weariness as a side effect of overtime (table 1). Perioperative labour is unpredictable, thus labourers may work longer than expected, causing weariness. Thus, lengthy working hours limit sleep time and weariness, which might raise site safety risks. According to Wong et al. (2019), 7–8 hours of sleep each night might reduce the incidence of acute myocardial infarction, cerebrocardiovascular illnesses, diabetes mellitus, high blood pressure, and workplace accidents and errors. Based on the table by Hanna et al. (2005), Yap Ean Mei (2006), Kapo Wong et al. (2019), and others, overtime has numerous different effects on labour. The aim for this focuses on mitigating the negative effect of overtime work towards construction labour. To obtain this aim, the objective is to identify the effect of overtime work to the construction labour.

Effect of Overtime

Fatigue

Fatigue causes decreased energy, performance, and boredom. Fatigued employees make mistakes and react slowly, according to OSHA (Hamid et al., 2019). Fatigue might worsen abruptly or continuously. It is one of the hardest phrases to describe and has several symptoms. The National Sleep Foundation suggests individuals obtain seven to nine hours of undisturbed sleep every day, yet barely 30% do (Battié et al., 2017a). Fatigue is caused by poor sleep, which impairs physiological and cognitive function. Long working hours degrade sleep quality, according to Wong et al. (2019). Local construction labour is decreasing compared to international workforce. Heavy work limited their talents, thus most left construction. Long working hours can cause weariness, tension, and workplace accidents. (Wong et al., 2019). Thus, weariness will impact the project. Humans can only do so much. Fatigue occurs when a person exerts more energy than needed to perform an activity. Mental ability affects physical endurance. According to Kikuchi et al. (2020), "fatigue" and overtime work hours were linked.

Reduce Labour Productivity

Construction projects depend on worker productivity. Labour productivity is another performance metric for building projects (Ghate & Minde, 2019). The most important resource in the building is labour. It measures how much labour a person or organisation does per unit of time. Labour is the most important and adaptable

resource in building projects, and productivity is strongly tied to labour (Hamza, Shahid, Bin Hainin, et al., 2022). Construction companies often use overtime to meet deadlines or make up for weather, material shortages, or other delays. However, overtime labour in construction can vary in productivity based on duration, frequency, kind of job, worker experience and abilities, and working circumstances. If mismanaged, overtime work can reduce worker productivity as well as project completion. According to Abdel-Hamid & Mohamed Abdelhaleem (2022), project management includes coaching and education, personal fitness, work technique, motivational factors, the type of machines, tools, needed materials and equipment, the work to be done, expected quality and type of work can increase productivity. Overtime work type might also affect productivity. Long-term repeated work may tire and reduce productivity. Longer hours will cause physical and mental weariness (Chang & Woo, 2017). Overtime employment keeps people motivated and productive by giving them tough and rewarding duties. According to Chang & Woo (2017), a project manager should pick the alternative that accelerates the timetable while minimising productivity loss.

Increase Labour Absenteeism

Overtime increases absenteeism due to boredom. Srour et al. (2017) defined absenteeism as not showing up for work, which might be excused or unexcused. An unexcused absence is when a worker doesn't show up to work without notice, whereas an excused absence is when they ask their boss for a vacation. This causes him to neglect his tasks. Labour absenteeism can also be caused by an uncomfortable workplace. Employees combat boredom through worry, daydreaming, and mental retreat. They no longer like employment. Boredom makes people more inclined to make mistakes and cause accidents. Boredom in construction is not a major concern. Boredom will result from doing the same task for a long time. However, repeated labour might cause it. Worker absenteeism may indicate a lack of motivation. Many businesses have absenteeism policies that treat sickness and improper absences equally. Some absences are unavoidable. Workplace circumstances can be controlled. Labour claims excessive rework, poor supervision, and unhealthy working conditions. Good management, on-site work safety, and deploying labourers according to their talents reduce absenteeism and boost productivity. Overtime can help fulfil production goals, but it must be managed well to minimise worker absenteeism. Employers should offer acceptable workloads, relaxation and recovery, and fair overtime pay. Doing so keeps workers engaged and motivated, which boosts productivity and reduces absenteeism.

Low Morale of Workers

Morality involves good and bad behaviour. According to Shaban et al., (2017), morale is a unique human trait that expresses attitudes, sentiments, emotions, and views. When stressed or sleep-deprived, people often modify their behaviour. According to Parkes (2015), long work hours (60 h/week) also predict sleep impairment on non-

work days. Low morale can cause tardiness, absenteeism, and turnover. Overtime also takes time for relaxation, family, and hobbies. Due to the building site's environment, the workers' socialising, behaviours, and attitudes lower morale. Overtime exhausts and depresses workers. Low morale, especially when the firm is oblivious of employees' contributions, might make people feel useless or shrink (Shaban et al., 2017). These conditions lead to rage, poor behaviour, conflict, and job discontent. To sustain worker morale, overtime labour must be managed well. Workers should have a suitable workload, relax and recuperate, and be recognised for their accomplishments. By doing so, workers are more likely to stay motivated and engaged, which may boost productivity and job satisfaction.

High Accidents Rate

Construction workers are regularly exposed to risky equipment, heights, and heavy machines. People struggle to acclimatise to tiny sleep changes and how they alter their circadian cycles due to daylight-saving time. Accidents rise 17% in the six days after daylight-saving time, when many people lose an hour of sleep (Battié et al., 2017a). Despite safety improvements and training, the business still has many injuries and accidents, especially among overtime employees. This paper examines how construction overtime influences accident rates. Overtime workers have a higher accident and injury rate than regular-hour workers. DOSH reported 6,719 incidents in November 2022, up from 1,809 in 2018. Construction site accidents cause thousands of workplace injuries and over 20% of US private sector deaths (Hamid et al., 2019). Overtime construction workers are overworked, anxious, and exhausted, which leads to accidents. The Social Security Organisation (SOCISO) recorded 7,338 construction accidents in 2016, up 69.47% from 4,330 in 2011.

RESEARCH METHODOLOGY

The data were collected by questionnaire which has been spread out to contractor in Johor Bahru, Johor. This survey will distributed to contractors G7 registered with CIDB. The sample size of for this research is 217 that found in krejcie & morgan table (1970). For this research achieved 120 respondents from the sample size. A set of questionnaire surveys consisting of four sections which are Section A, B, C, and D were created based on the literature reviews, journals, and relevant articles in order to fulfil the aim and objectives of this study. For section A consists of personal background, section B is general knowledge, section C is causes of overtime and lastly section D is effect of overtime work & solution to solve overtime in construction. The statistical package for Social Science (SPSS) version 26.0 and Microsoft Excel has been used to analyse the data collected by using the descriptive statistics and by using frequency analysis. For this paper is only includes Section A, Section B and Section D.

ANALYSIS OF FINDINGS

Analysis of the Personal Background

Result from the respondents show that, 45 responders (37.5%) are under 25, 31 are 25-30 (25.8%), 22 are 31-35 (18.3%), and 16 are 36-40 (13.3%). Two replies (1.7%) are 41-45 years old, and four (3.3%), above 45. Thus, 56 respondents (46.7%) had job experience of 0-5 years. 29 (24.2%) have 5-10 years of experience. 35 respondents (29.2%) have worked more than 10 years. These experienced respondents' industry expertise and experience helped solidify this survey's response. Quantity Surveyors make up 43.3 percent of respondents. 13 responses (10.8%) are site supervisors and 15 (12.5%) are engineers. Then, 30 responses (25.0%) are Project Managers, 6 (5.0%) are Project Coordinators, and 4 (3.3%) are Safety Officers. Therefore, all of this profession contributes good corporation in this survey to complete the research.

Analysis of the General Knowledge

Table 1 : Analysis on General Knowledge

SECTION B	
QUESTION	RESULT AND FINDINGS
Akta Kerja 1955 is an act that provides for minimum terms and conditions standard jobs for workers. Based on above statement, the maximum working hours for workers is 45 hours per week. Do you agree with the statement?	Yes (88.3%) No (11.7%)
In your opinion, how many hours of overtime work is appropriate practiced during construction per week?	Less than 10 hours (42.5%) 10 hours to 20 hours (31.7%) 20 hours to 30 hours (12.5%) 30 hours to 40 hours (11.7%) More than 45 hours (1.7%)

The information presented in the table was derived from an examination of the Akta Kerja 1955, a piece of legislation that stipulates minimum safeguards for Malaysian workers. This survey's primary foci were on eliciting responses from construction workers on their thoughts on overtime work in the industry as well as determining the frequency of overtime in active construction projects.

According to Akta Kerja 1955, the maximum number of hours that workers can be required to put in each week is 45. An overwhelming majority of respondents (88.3%) were in agreement with this statement. This would imply that a significant number of individuals are in agreement with the provisions of the Akta Kerja 1955, which sets the maximum number of hours that can be worked in a week at 45.

Responses varied when questioned about what constitutes a reasonable quantity of overtime labour to be performed throughout the course of a week in the construction industry. The largest proportion of respondents (42.5%), who were asked their opinion, said that a reasonable amount of overtime labour would be fewer than 10 hours per week. As a result of this, it appears that a sizeable proportion of participants view working a modest amount of overtime to be appropriate in the construction business. In addition, 31.7% of respondents stated that working 10 to 20 hours of extra per week is acceptable, while 12.5% of respondents said that working 20 to 30 hours of overtime is acceptable. A much lower number of respondents (11.7%) felt that working 30 to 40 hours of overtime per week is acceptable. Only 1.7% of people polled agreed that working more than 45 hours of overtime in a single week is appropriate.

These statistics shed insight on many perspectives and methods about construction overtime. The majority of respondents are in favour of the Akta Kerja 1955's 45-hour maximum workweek. The vast majority of construction employees would rather work no more than 10 additional hours of overtime per week. These study results underscore how important it is to balance out overtime in the construction industry.

Analysis Of Effect Of Overtime

Table 2 : Effect of overtime

SECTION D (Effect of overtime work)					
Item	Description	Mean	Perception Level	Std Deviation	Rank
1	Fatigue	4.48	Agree	0.661	1
2	Labour productivity reduce	4.38	Agree	0.812	2
3	Low morale of workers	4.24	Agree	0.860	3
4	Increase absenteeism	4.20	Agree	0.894	4
5	High accidents rate	4.20	Agree	0.949	5

Overtime work fatigues respondents, averaging 4.48. Working long hours tired you, thus this item is first. Fatigue reduces cognition, attentiveness, and performance in construction workers. 4.38 respondents said overtime lowers worker productivity. Long workdays decrease productivity. Extended shifts may lower efficiency, accuracy, and quality. The consensus is time management and work-hour limitations maximise output. Overtime increases absenteeism, according to 4.20 mean. Extended working hours increase employee absenteeism, hence this item is fourth on the list. Overtime can lead to burnout, exhaustion, and project delays. Respondents believe that extra labour causes accidents, scoring 4.20 on average. This question ranks fourth with an equal mean score, showing the perceived danger and possible consequences of prolonged working hours. Overtime in construction is most often stated as reducing labour productivity, and many academics agree. According to Ghate & Minde (2019), labour productivity is another construction project performance metric. Thus, longer working hours cause physical and mental weariness (Chang & Woo, 2017). However, overtime causes weariness most. Overtime employment might cause weariness. Overtime may not cause accidents, but tiredness may. Therefore, according to the literature review, labour productivity reduction is cited most frequently by researchers as the main effect of overtime in construction, almost 10 numbers of researchers supporting this claim. However, the findings reveal that fatigue is ranked highest as the effect of overtime. This demonstrates that overtime work can result in worker fatigue. Although overtime itself may not directly contribute to accidents, it can lead to fatigue, which in turn can contribute to other factors.

CONCLUSION

In conclusion, according to the literature the major impact of overtime in the construction industry is a decrease in worker productivity and many researchers agree with this assertion. According to Ghate & Minde's (2019) assertion, labour productivity is also one of the metrics to measure the effectiveness of the construction project. Consequently, the employee will feel some degree of physical and mental exhaustion caused by the author's greater working hours (Chang & Woo, 2017). However, the results show that fatigue is the impact of overtime that is ranked highest. This depicts how working longer hours may make employees tired. nonetheless, with time despite the fact that it may not directly cause accidents, it can cause weariness. support other considerations. overtime work can result to worker fatigue that may also leads/contribute to other factors and it is vital to recognise the effect of overtime and address these concerns. Positive work culture, open communication and employee engagement can boost job satisfaction and morale can minimizing the negative

effects of overtime work. It is vital to recognise that the conclusions based on the perceptions and opinions of the participants in the survey. These perceptions and opinions are presented here. The impacts of overtime work on construction labour can be understood in a more thorough manner by conducting additional study, taking into consideration a bigger sample size, and including a variety of views. In conclusion, the survey results highlight the consensus among respondents regarding the effects of overtime work on construction labour. The findings underscore the need to address issues such as fatigue, reduced productivity, low morale, increased absenteeism, and a higher accident rate associated with extended working hours. By implementing appropriate measures and promoting a healthy work environment, stakeholders can prioritize the well-being and productivity. This paper concludes with the research study and objectives' conclusion and suggestion. Respondents suggested overtime effects on construction workers and other changes.

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