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A COMPARATIVE ANALYSIS OF THE IMPACT OF WORK INCENTIVES, TRAINING PROGRAMS, AND STRESS LEVELS ON PRODUCTIVITY IN THE MANUFACTURING SECTOR

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Abstract:

The manufacturing sector is pivotal to economic progress and industrial innovation, particularly in Malaysia. This study investigates the impact of work incentives, training programs, and stress levels on employee productivity at Alps Electric (Malaysia) Sdn Bhd. Utilizing a quantitative research methodology and analysing data from 205 employees, the findings reveal that financial and non-financial incentives and comprehensive training programs significantly enhance productivity. However, despite a moderate positive correlation with productivity, high levels of occupational stress pose long-term risks to employee well-being and operational efficiency. The study underscores the necessity of integrating effective stress management strategies with incentive and training programs to sustain productivity gains. The insights provided aim to guide the development of targeted interventions and policies to foster a motivated, resilient workforce in the manufacturing sector.

Keywords:

Work Incentives, Training, Stress, Employee Productivity, Manufacturing Sector

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Introduction – The manufacturing sector is a critical driver of economic progress and industrial innovation, significantly contributing to the nation's GDP, particularly in Malaysia. As competition within the industry intensifies, it becomes increasingly important to understand the factors that influence productivity. Among these factors, work incentives, training programs, and stress levels are particularly influential. Work incentives, including financial and non-financial rewards, play a key role in motivating employees and improving job satisfaction. Extensive research highlights the importance of well-structured incentive programs in aligning individual goals with organizational objectives, ultimately driving productivity (Farradia, 2022; Ibrahim & Abiddin, 2023). Financial incentives, such as bonuses and profit-sharing plans, offer immediate and tangible rewards that enhance motivation and performance (Ruhnama et al., 2021), while non-financial incentives like career advancement opportunities, recognition programs, and enriched job roles foster long-term engagement and loyalty, leading to sustained improvements in productivity (Polyushko, 2021). For instance, implementing minimum wage laws under the Minimum Wage Order 2012 in Malaysia has been shown to positively influence labor productivity, as higher wages motivate employees to perform better (Tajuddin et al., 2023).

In addition to incentives, industrial training programs are essential for developing workforce skills, particularly in an era characterized by rapid technological advancements and dynamic market conditions. Continuous training improves worker competency, adaptability, and overall performance, resulting in higher productivity levels (Nawarathna et al., 2021; Kim et al., 2020). These programs help bridge skill gaps, foster a culture of continuous improvement, and enable employees to keep pace with technological and procedural innovations, ultimately enhancing organizational efficiency and effectiveness (Nawarathna et al., 2021). However, the lack of effective training programs, especially for low-skilled foreign workers, has been linked to reduced productivity due to their struggle to adapt to modern industrial demands (Tajuddin et al., 2023).

Despite the benefits of work incentives and training programs, high levels of occupational stress can significantly undermine productivity gains. Work-related stress, which can stem from excessive workloads, role ambiguity, and a lack of support, harms employee performance and well-being (Oseremen et al., 2022; Kaur et al., 2022). Prolonged exposure to stress leads to adverse outcomes, including burnout, increased absenteeism, and higher turnover rates, which disrupt operational continuity and increase costs (Ramos-Galarza & Acosta-Rodas, 2019; Skačkauskienė & Paliskiene, 2020). Stress levels in the manufacturing sector are further exacerbated by factors such as cyberbullying and poor work environments, which impair productivity. However, supportive coworkers can somewhat mitigate this effect, emphasizing the importance of a positive work environment (Kanapathipillai & Mahbob, 2021). Moreover, occupational stress negatively affects work-life balance, further reducing productivity in the manufacturing sector (Noordin et al., 2023). This review paper aims to present a comprehensive comparative analysis of the influence of work incentives, training programs, and stress levels on productivity in the manufacturing sector. By synthesizing findings from current studies, this paper seeks to clarify the existing productivity levels and examine the complex relationships between these crucial factors. The insights garnered will aid in developing targeted interventions and policies to optimize productivity and foster a resilient, motivated workforce.

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Literature Review – The relationship between work incentives, training programs, and stress levels on productivity in the manufacturing sector is multifaceted and complex. Multiple studies have demonstrated that these characteristics substantially influence employee productivity. The conceptual framework of this study is shown in figure 1.

Work Incentives and Productivity

Multiple studies have consistently shown that monetary and non-monetary labor incentives positively impact staff productivity in the manufacturing industry. Magnotta et al. (2020) emphasize the importance of aligning training programs with incentive structures to maximize their influence on salespeople's efforts and improve performance. Slović et al. (2016) provide evidence that gain-sharing and continuous process improvement programs effectively enhance the productivity of the garment industry. The findings underscore the significance of wage incentives in motivating employees to enhance their performance and overall productivity levels.

Additional studies provide evidence of various incentives' effectiveness in motivating staff and increasing productivity. Research has demonstrated that both financial incentives, such as bonuses and opportunities for career advancement, and non-financial incentives, such as recognition, can improve job satisfaction and motivation, leading to higher productivity (Farradia, 2022; Ibrahim & Abiddin, 2023; Ruhnama et al., 2021). Ruhnama et al. (2021) emphasize that long-term financial incentives are more successful than short-term ones in maintaining employee engagement and productivity. Furthermore, Polyushko (2021) highlights the crucial significance of material incentives in stimulating productivity.

Training and Productivity

Research has consistently shown the positive impact of on-the-job training on employee performance in the manufacturing sector. Nawarathna et al. (2021) emphasize that acquiring essential skills and knowledge through such training is a critical driver of enhanced performance. Furthermore, carefully designing and tailoring training programs to address specific needs amplifies their effectiveness, improving job performance and increasing productivity (Kim et al., 2020). Studies indicate that integrating career incentives into training programs attracts and retains higher-performing workers, increasing productivity gains (Kim et al., 2020).

Bartel (1994) provides a comprehensive analysis of the productivity gains achieved through formal training initiatives within manufacturing enterprises, emphasizing the pivotal role of such investments in bolstering labor productivity. Similarly, Blyde et al. (2022) explore the complex interplay between international trade, job training, and labor reallocation, highlighting the potential of training programs to enhance the employability and productivity of workers in sectors exposed to global trade dynamics. Karmakar's (2024) study highlights the efficacy of targeted training interventions in addressing skill gaps in seafood processing and export units, optimizing resource utilization, reducing operational costs, and ultimately boosting productivity in manufacturing environments. Furthermore, Courty & Marschke (2007) reveal a positive correlation between training investments and productivity outcomes, demonstrating that higher levels of training are associated with increased wage growth rates. (Grammarly, 2024)

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Stress Levels and Productivity

Work incentives and training are crucial for enhancing employee productivity. However, addressing the detrimental effects of work-related stress is equally important. Oseremen et al. (2022), Kaur et al. (2022), and Ramos-Galarza & Acosta-Rodas (2019) have highlighted the negative impact of high stress levels resulting from workload, role ambiguity, and role conflict on job performance. Additionally, Skačkauskienė & Paliskiene (2020) and Ekienabor (2016) emphasize that occupational stress leads to decreased productivity, requiring stress management strategies to maintain high productivity levels. To mitigate the adverse effects of stress, Lastya et al. (2021) recommend incorporating flexible working hours and improving communication within the workplace. Furthermore, Bhattacharjee's (2024) study on emotional intelligence training programs for healthcare providers suggests a potential avenue for stress reduction in the manufacturing sector. By implementing similar emotional intelligence training initiatives, manufacturers could mitigate stress, enhance job satisfaction, and improve overall well-being, positively influencing productivity.

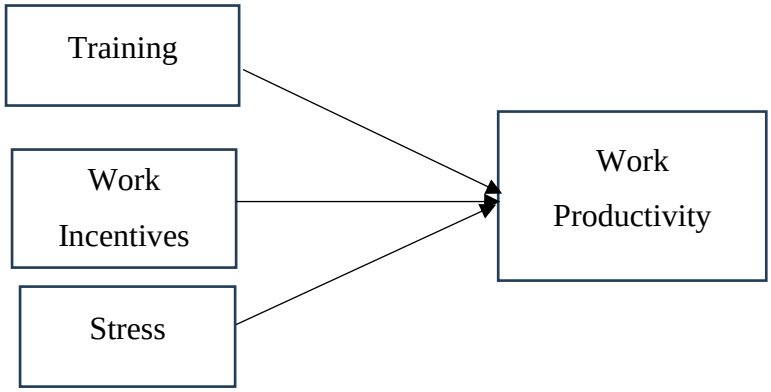

Figure 1: Conceptual Framework

Methodology

This study utilizes a quantitative research methodology to investigate the impact of work incentives, training programs, and stress levels on productivity among workers at Alps Electric (Malaysia) Sdn Bhd. A non-experimental design observes the relationships between these variables without manipulating the work environment. Simple random sampling is used to select a representative sample of 205 participants, following the guidelines of Sekaran and Bougie (2019). Data is collected via a structured questionnaire covering demographics, work incentives, training programs, stress levels, and productivity. A five-point Likert scale was used (5 = strongly agree - 1 = strongly disagree). Descriptive and inferential statistical analyses, including correlation and regression, are performed using SPSS to examine these relationships. Ethical considerations, including informed consent and confidentiality, are strictly followed throughout the research process. This methodology aims to comprehensively analyze how work incentives, training programs, and stress levels influence productivity, offering insights for effective management and policy development in the manufacturing sector

Findings and Discussion

The researcher used descriptive statistical methods to describe the information obtained from respondents. Table 1 shows the mean score of the level of work incentives, training programs, and stress levels on productivity. The data indicates that there are high levels of work

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productivity, work incentives, training, and stress among the employees at Alps Electric (Malaysia) Sdn Bhd. Specifically, the mean scores for work productivity (4.08), work incentives (4.18), training (4.14), and stress (4.21) all fall into the high category. This suggests that the company's efforts in providing incentives and training are positively perceived by the employees and are likely contributing to their high productivity. However, the high-stress levels identified in the data point to a potential issue that may counteract these positive factors.

The relationship between work incentives, training, stress, and productivity is complex and multifaceted. High work incentives are typically associated with increased motivation and job satisfaction, enhancing productivity. Financial rewards, recognition, and career advancement opportunities can align employee goals with organizational objectives, fostering a more productive work environment (Farradia, 2022; Ibrahim & Abiddin, 2023). Similarly, effective training programs equip employees with the necessary skills and knowledge to perform their tasks efficiently, boosting productivity (Nawarathna et al., 2021; Kim et al., 2020). However, the high-stress levels identified in the study can have detrimental effects on productivity. Stress, often resulting from excessive workload, role ambiguity, and insufficient support, negatively impacts employee performance and well-being (Oseremen et al., 2022; Kaur et al., 2022). Prolonged stress can lead to burnout, increased absenteeism, and higher turnover rates, which disrupt operational efficiency and inflate costs (Ramos-Galarza & Acosta-Rodas, 2019).

Therefore, while the high mean scores for work incentives and training indicate that these factors positively influence productivity, the high-stress levels suggest a need for better stress management strategies. Addressing stress is essential to sustain the productivity gains from incentives and training programs. Effective stress management could involve workload adjustments, clear role definitions, and improved employee support systems. By balancing high work incentives and training with adequate stress management, companies can optimize their workforce productivity and maintain a healthy, motivated, and efficient work environment.

Table 1: Level Of Work Incentives, Training Programs, And Stress Levels On Productivity

Mean Level		
Variables	**Mean Score**	**Level**
Work Productivity	**4.08**	**High**
Work Incentive	**4.18**	**High**
Training	**4.14**	**High**
Stress	**4.21**	**High**

Relationship between Work Incentive, Training, Stress and Work Productivity

The data presented in Table 4.12 demonstrates significant relationships between work productivity and the variables of work incentives, training, and stress among employees at Alps Electric (Malaysia) Sdn Bhd. The correlation coefficients reveal the nature and strength of these relationships and provide insights into their combined impact on productivity.

The correlation coefficient between work incentives and work productivity is 0.596, indicating a moderately strong positive relationship. This suggests that as work incentives increase, there is a corresponding increase in productivity. This finding supports existing literature that suggests well-structured incentive programs enhance employee motivation and engagement,

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leading to higher productivity levels (Farradia, 2022; Ibrahim & Abiddin, 2023). Financial incentives, such as bonuses, and non-financial incentives, such as recognition and career advancement opportunities, align employee goals with organizational objectives, fostering a more productive workforce (Aziri, 2019). Similarly, the correlation coefficient between training and work productivity is 0.675, indicating a strong positive relationship. This suggests that comprehensive and effective training programs are significantly associated with higher employee productivity levels. Training equips employees with necessary skills, improves their efficiency, and enhances their adaptability to new technologies and processes, boosting productivity (Nawarathna et al., 2021; Kim et al., 2020). Companies that invest in continuous employee development through training see improved performance and productivity outcomes (Pattihahuan & Mukti, 2022).

Interestingly, the correlation coefficient between stress and work productivity is 0.304, showing a moderate positive relationship. This implies that, in the context of this study, higher stress levels are associated with higher productivity. This counterintuitive finding might suggest that some degree of stress could motivate employees to perform better under pressure. However, it is crucial to consider the long-term implications, as chronic stress can lead to burnout, absenteeism and decreased overall well-being, ultimately harming productivity (Oseremen et al., 2022; Kaur et al., 2022). Therefore, while short-term stress might boost productivity, sustainable productivity gains require effective stress management strategies (Shrivastava et al., 2023).

The data also shows significant work incentives, training, and stress interrelationships. The strong positive correlation between work incentives and training (0.732) suggests that organizations providing substantial incentives invest heavily in employee training. This combined approach can enhance overall productivity by ensuring that employees are motivated and well-equipped to perform their tasks efficiently (Polyushko, 2021). The moderate correlations between work incentives and stress (0.287) and between training and stress (0.273) indicate that while incentives and training positively affect productivity, they also interact with stress levels. Effective stress management is therefore essential to sustain the productivity benefits of incentives and training programs.

Table 2: Pearson Correlations between Work Incentive, Training, Stress and Work Productivity

		Y	X1	X2	X3
Y	Work Productivity	r = 1			
	Sig. (2-tailed)				
X1	Work Incentive	r = .596**	r = 1		
	Sig. (2-tailed)	.000			
X2	Training	r = .675**	r = .732**	r = 1	
	Sig. (2-tailed)	.000	.000		
X3	Stress	r = .304**	r = .287**	r = .273**	
	Sig. (2-tailed)	.000	.000	.000	

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Conclusion

Analyzing work incentives, training programs, and stress levels on productivity within the manufacturing sector, especially at Alps Electric (Malaysia) Sdn Bhd, provides key insights into effective management strategies and policy development. The study confirms the positive impact of work incentives and training programs on employee productivity. Financial and non-financial incentives, such as bonuses, profit-sharing, recognition, and career advancement opportunities, enhance motivation, job satisfaction, and alignment with organizational objectives. These incentives result in sustained improvements in productivity, as indicated by high mean scores for work productivity (4.08), work incentives (4.18), and training (4.14). The correlation coefficients further support this, showing moderately strong positive relationships between work incentives and productivity ($r = 0.596$) and between training and productivity ($r = 0.675$). Therefore, organizations should prioritize well-structured incentive programs and continuous training to maintain high productivity.

However, the study also highlights the significant role of stress management in sustaining these productivity gains. While the high mean score for stress (4.21) and the moderate positive correlation between stress and productivity ($r = 0.304$) suggest that some degree of stress may initially boost productivity, the long-term detrimental effects of chronic stress cannot be overlooked. Prolonged exposure to high stress can lead to burnout, increased absenteeism, and higher turnover rates, ultimately disrupting operational efficiency and inflating costs. Therefore, organizations must implement effective stress management strategies, such as workload adjustments, precise role definitions, flexible working hours, and improved communication and support systems.

The interrelationships between work incentives, training, and stress also underscore the importance of a holistic approach to employee management. The strong positive correlation between work incentives and training ($r = 0.732$) indicates that organizations providing substantial incentives are likely to invest heavily in training, which collectively enhances productivity. However, the moderate correlations between work incentives and stress ($r = 0.287$) and between training and stress ($r = 0.273$) highlight that while these factors positively influence productivity, they also interact with stress levels. Thus, balancing high incentives and comprehensive training programs with adequate stress management is crucial for optimizing workforce productivity and maintaining a healthy, motivated, and efficient work environment.

In conclusion, the findings suggest that a multifaceted approach integrating well-structured incentive programs, continuous training, and effective stress management strategies is essential for maximizing productivity in the manufacturing sector. By comprehensively addressing these interrelated factors, organizations can foster a resilient, motivated workforce capable of sustaining high productivity levels in the face of increasing industrial competition.

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