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THE EFFECT OF SUPERVISOR COMPETENCIES ON WORKFORCE PRODUCTIVITY IN
PENANG MANUFACTURING COMPANIES

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ABOUT ARTICLE

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Abstract: This study investigates the effect of supervisor competencies on workforce productivity in manufacturing companies located in Penang, Malaysia. The research aims to examine how the knowledge, skills, and behaviors of supervisors influence the performance and efficiency of employees in the manufacturing sector. Utilizing a quantitative approach, data was collected through surveys administered to employees working in various manufacturing firms across Penang. The findings indicate that supervisor competencies—specifically in areas such as leadership, communication, decision-making, and problem-solving—have a significant positive impact on employee performance and productivity. Effective supervisors are shown to foster a more motivated, efficient, and committed workforce, contributing to the overall productivity of the organization. The study highlights the importance of supervisor training and development in enhancing employee performance, with implications for human resource management and organizational development in the Malaysian manufacturing context.

INTRODUCTION

In today's competitive global economy, manufacturing firms face increasing pressure to enhance productivity and improve operational efficiency. One of the critical factors contributing to workforce productivity is the role of supervisors, who serve as intermediaries between upper management and frontline employees. Supervisors' competencies—comprising skills, knowledge, and

behaviors—have been identified as significant determinants of employee performance, motivation, and job satisfaction. Effective supervision is essential for creating an environment that fosters engagement, enhances work quality, and drives organizational success. In the manufacturing sector, where the pace of production and adherence to quality standards are paramount, the influence of supervisors on workforce productivity cannot be overstated.

In Penang, Malaysia, a key hub for manufacturing in Southeast Asia, the manufacturing sector is integral to the economic growth and development of the region. The ability of firms in Penang to compete in global markets depends, in part, on the productivity of their workforce. However, there is limited research that specifically addresses the impact of supervisor competencies on employee performance within this context. Given the rapid development of the manufacturing industry in Penang and the increasing demand for skilled labor, understanding how supervisory skills influence productivity is crucial for enhancing workforce efficiency and achieving business objectives.

This study aims to explore the relationship between supervisor competencies and workforce productivity in Penang manufacturing companies. By examining various dimensions of supervisor competencies, including leadership, communication, problem-solving, and decision-making, the research seeks to determine how these factors affect employees' performance and overall organizational output. The findings of this study are expected to offer valuable insights for manufacturing firms in Penang, enabling them to design effective training and development programs that enhance supervisor capabilities and, by extension, improve workforce productivity.

The structure of the paper is as follows: the next section reviews the literature on supervisor competencies and their impact on employee performance, followed by the methodology used in this study. Results and discussion of the findings are presented, leading to conclusions and practical recommendations for organizations seeking to optimize their supervisory practices for enhanced workforce productivity.

METHOD

This study employs a quantitative research design to investigate the effect of supervisor competencies on workforce productivity in manufacturing companies in Penang, Malaysia. The research uses a survey-based approach to collect primary data from employees working in various manufacturing firms across Penang. The method was designed to ensure that the collected data is both reliable and valid, enabling a comprehensive analysis of the relationship between supervisor competencies and workforce productivity.

The target population for this study consists of employees working in manufacturing companies based in Penang. A stratified random sampling technique was employed to ensure the representation of employees from different manufacturing sectors, such as electronics, automotive, and food processing. The sample size was determined using a confidence level of 95% and a margin of error of 5%. Approximately 300 employees were selected to participate in the study. This sample size is sufficient to draw meaningful conclusions about the effect of supervisor competencies on workforce productivity while accounting for variability within the manufacturing sector.

Data was collected using a structured questionnaire developed specifically for this study. The questionnaire was divided into two main sections: the first section measured supervisor competencies, and the second section assessed employee productivity.

Supervisor Competencies: Supervisor competencies were measured based on four key dimensions: leadership skills, communication skills, decision-making abilities, and problem-solving abilities. These competencies were adapted from established frameworks in leadership and management literature, such as those proposed by Bass and Avolio (1994) and Yukl (2010). The items were rated on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), allowing respondents to evaluate the effectiveness of their supervisors in each competency area.

Workforce Productivity: Employee productivity was measured using a combination of self-reported performance metrics and objective indicators. The self-reported metrics included items related to work efficiency, quality of output, and task completion rate. Additionally, objective measures, such as production targets and output data, were obtained through collaboration with participating companies, ensuring that the data reflects actual productivity levels within each firm. These variables were also measured on a Likert scale to capture respondents' perceptions of their own performance relative to organizational expectations.

The survey was distributed to employees via both online and paper-based formats, depending on the accessibility and preference of the participants. Prior to distribution, the questionnaire was piloted with a small group of employees to test its clarity and reliability. Feedback from the pilot study was used to refine the survey instrument. Once the survey was finalized, it was distributed to employees during work hours, with a two-week response window. Anonymity and confidentiality of responses were emphasized to encourage honest participation. A total of 280 completed surveys were returned, resulting in a response rate of 93%.

The data collected from the survey was analyzed using statistical methods to test the hypothesized relationships between supervisor competencies and workforce productivity. Descriptive statistics were used to summarize the demographic information of the respondents and provide an overview of the supervisor competencies and productivity levels across the sample.

To examine the effect of supervisor competencies on workforce productivity, inferential statistical methods were applied, including correlation analysis and multiple regression analysis. The correlation analysis was used to explore the strength and direction of the relationship between the supervisor competencies (independent variables) and workforce productivity (dependent variable). Multiple regression analysis was employed to assess the extent to which supervisor competencies predict workforce productivity, controlling for potential confounding variables such as employee demographics, job tenure, and company size.

Additionally, to ensure the reliability and validity of the scales used in the questionnaire, Cronbach's alpha was calculated for each competency and productivity scale. A value above 0.7 indicated acceptable internal consistency for the constructs.

This study adhered to ethical standards throughout the research process. Informed consent was obtained from all participants, and they were assured that participation was voluntary and that they could withdraw from the study at any time without consequence. The study maintained strict confidentiality, with all data being anonymized to protect the identity of the participants. Furthermore, no personal information was collected without explicit consent, and all results were reported in aggregate form to preserve anonymity.

While the study provides valuable insights into the relationship between supervisor competencies and workforce productivity, several limitations must be acknowledged. First, the reliance on self-reported data may introduce bias, as employees might provide socially desirable answers regarding their supervisor's effectiveness. Second, the cross-sectional nature of the survey limits the ability to draw conclusions about causality. Future research could use longitudinal designs or experimental methods to further explore the causal relationships between supervisor competencies and employee performance. Finally, the sample is limited to manufacturing firms in Penang, which may limit the generalizability of the findings to other regions or sectors.

RESULTS

The results of this study indicate a significant relationship between supervisor competencies and workforce productivity in manufacturing companies in Penang. The data analysis, including descriptive statistics, correlation analysis, and multiple regression, revealed the following key findings:

Supervisor Competencies and Workforce Productivity: A strong positive correlation was found between supervisor competencies and workforce productivity ($r = 0.68$, $p < 0.01$). This suggests that as supervisor competencies increase, employee productivity also tends to improve. Among the four dimensions of supervisor competencies—leadership, communication, decision-making, and problem-solving—leadership skills ($\beta = 0.35$) were found to have the strongest impact on employee productivity, followed by communication skills ($\beta = 0.29$). Problem-solving and decision-making abilities also showed a significant positive influence, but to a lesser extent.

Leadership Competencies: Employees working under supervisors with strong leadership skills reported higher levels of motivation, task efficiency, and overall productivity. The results indicated that employees are more likely to be productive when supervisors demonstrate transformational leadership qualities, such as inspiring and motivating teams, fostering a positive work environment, and providing clear direction.

Communication Skills: Communication skills were also found to be a critical factor influencing productivity. Supervisors who effectively communicated expectations, provided feedback, and maintained open channels for employee concerns were associated with higher employee performance. Effective communication was shown to enhance clarity in task assignments, reduce misunderstandings, and increase employee engagement.

Problem-solving and Decision-making Competencies: Both problem-solving and decision-making competencies were positively correlated with workforce productivity. Supervisors who could effectively address challenges and make informed decisions, especially in high-pressure situations, contributed to higher productivity levels. Employees were more likely to be productive when they felt confident in their supervisor's ability to navigate difficult situations and make timely, effective decisions.

Demographic Variables: Analysis of demographic factors (e.g., age, job tenure, education) indicated that these had a minimal impact on the relationship between supervisor competencies and productivity. The most notable finding was that employees with longer job tenure reported a stronger perception of supervisor competencies, indicating that experience may influence the effectiveness of supervisors in managing teams.

DISCUSSION

The findings of this study underscore the critical role that supervisor competencies play in enhancing workforce productivity, particularly in the manufacturing sector. Supervisors in Penang's manufacturing companies who possess strong leadership, communication, problem-solving, and decision-making skills tend to create work environments that promote higher levels of employee engagement, motivation, and performance. This aligns with existing literature that suggests that supervisory competence is essential for fostering employee productivity (Bass & Avolio, 1994; Yukl, 2010).

The significant impact of leadership competencies on productivity highlights the importance of leadership styles that inspire and motivate employees. Transformational leadership, characterized by a focus on vision, inspiration, and individualized consideration, emerged as particularly influential. Supervisors who empower their employees and encourage autonomy tend to see higher levels of motivation and performance from their teams. This finding supports previous research by Bass (1990), which found that transformational leadership positively affects employee outcomes such as job satisfaction and productivity.

Communication skills emerged as a crucial competency in this study. Supervisors who can communicate effectively with their teams contribute to clearer understanding of expectations, less ambiguity in task completion, and increased organizational transparency. Effective communication not only improves task execution but also strengthens the supervisor-employee relationship, fostering an environment of trust and respect. This finding corroborates earlier studies by Hackman and Johnson (2009), which emphasize the importance of communication in leadership effectiveness.

The relationship between problem-solving and decision-making competencies and productivity also highlights their importance in dynamic work environments like manufacturing. Supervisors who can address operational challenges and make quick, informed decisions are more likely to enhance the overall productivity of their teams. Employees value supervisors who can lead them through difficulties and help them overcome obstacles to achieve organizational goals. These findings align with research by Yukl (2010), which argues that decision-making abilities directly influence team performance, particularly in fast-paced industries.

Additionally, the minimal influence of demographic factors, such as age and job tenure, on the supervisor-productivity relationship suggests that supervisor competencies are universally applicable across various employee groups. However, the slightly stronger perception of supervisor competencies

among more experienced employees may reflect a deeper understanding of leadership dynamics over time.

CONCLUSION

This study confirms that supervisor competencies are a key determinant of workforce productivity in manufacturing companies in Penang, Malaysia. Supervisors who demonstrate strong leadership, communication, problem-solving, and decision-making skills significantly influence employee performance and the overall productivity of the organization. The findings suggest that manufacturing companies in Penang, and by extension, other similar contexts, can improve workforce productivity by investing in supervisor training and development programs that focus on these core competencies.

For companies seeking to enhance their productivity, it is essential to prioritize the recruitment and development of supervisors with high competency in these areas. Moreover, fostering a culture of leadership and continuous learning within the organization can empower supervisors to improve their effectiveness, thus driving overall organizational performance. Future research could explore the long-term effects of supervisor training programs on workforce productivity and the potential mediating factors that influence the supervisor-employee relationship.

Ultimately, the results of this study contribute to the growing body of knowledge on leadership and organizational effectiveness, offering practical insights for managers and human resource professionals in the manufacturing sector. Investing in supervisor development is not just an operational need, but a strategic approach to ensuring sustainable productivity and competitiveness in an increasingly globalized market.

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