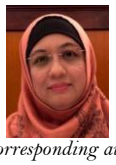
**International Journal of Asian Social Science**
*ISSN(e): 2224-4441*
*ISSN(p): 2226-5139*
*DOI: 10.18488/journal.1.2020.107.368.380*
*Vol. 10, No. 7, 368-380.*

*URL: www.aessweb.com*

# MEDIATION OF PERCEIVED ORGANIZATIONAL SUPPORT BETWEEN HUMAN RESOURCES PRACTICES AND JOB PERFORMANCE AMONG ENGINEERS IN THE PENANG FREE TRADE ZONE

**Nasina Mat Desa**[1+]
**Muhammad Hasmi Abu Hassan Asaari**[2]

[1,2]*Management Section, School of Distance Education Universiti Sains Malaysia.*
[1]*Email: nasina@usm.my*



*(+ Corresponding author)*

**Article History**
Received: 8 April 2020
Revised: 13 May 2020
Accepted: 17 June 2020
Published: 1 July 2020

**Keywords**
HR practices
Job performance
Perceived organizational support
E&E engineers.

## ABSTRACT

The study investigates whether an employee's assessment of the organization's HRM practices and employee's perception of organizational support effect the employee job performance in the E&E manufacturing industry.Thus, the purpose of this study is to examine the mediation effects of perceived organizational support between the relationship of human resource practices and job performance among engineers in the electronic and electrical (E&E) manufacturing organizations in the Bayan Lepas Free Trade Zone, Penang, Malaysia. A total of 1,100 self-administered questionnaires are distributed to engineers in the E&E manufacturing organizations that inquire on their perceptions of human resource practices, job performance, and perceived organizational support. Statistical analyses of reliability, correlations, and regression are conducted in this study. In summary, the engineers indicated that hypotheses H1, H2, and H3 were partially supported. On the other hand, the hypothesis H4 had a direct mediation effect of perceived organizational support between human resource practices and job performance.

**Contribution/ Originality:** This study contributes to the existing literature on the mediation effects of perceived organizational support that associated between the human resource practices and job performance among engineers.

## 1. INTRODUCTION

Many organizations have increasingly recognized the potential for their people or employee to be a source of competitive advantage (Pfeffer, 1994). Thus, understanding the practices or programs of the organization that contributes to the individual performance will enhance the overall organizational performance as raised by many scholars (Lado & Wilson, 1994); (Wright, McMahan, & McWilliams, 1994). In their studies, they concluded that employees are an important asset of the firm and the ways that they are managed are critical to the success of the firm. Hence, considering the importance of understanding the mechanism of which contribute to people's performance, the researcher hopes to shed some lights in this area by revealing the relationship between the human resource practices and employee job performance.

The study of job performance is in line with the Northern Corridor Economic Region (NCER) 2007-2025 aspired by the Prime Minister. The economic corridor is to function as the principal catalyst of balanced growth, both at the regional and national levels, and to spearhead rapid economic development and expansion (Penang Economic Report, 2008). Among the targeted sector of NCER is human capital and manufacturing. The expected employment is 3.1 million and expected investment is Malaysian Ringgit 178 billion. This indicates that Malaysia's government does acknowledge the importance of human capital in the manufacturing sector and this warrant the researcher to understand what makes an employee perform his/her job. In this study, the researcher looks at this issue from the human resource practices and organizational support within the organization.

Furthermore, based on the previous findings of studies on perceived organizational support, the notion of organizational support is accepted in enhancing organizational effectiveness. Although studies have found a link between perceived organizational support and important antecedents and outcomes, few studies have examined the relationship between perceived organizational support practices and perceived organizational support, related to the electronics manufacturing industry. Theoretically, this study has added to the existing pool of knowledge in these areas. Practically, with the findings of this study, employers can develop better working climates, human resource practices and organizational support that can stimulate and enhance their employees' task and contextual performance. This, in turn, will ultimately increase the organization's profitability and growth.

The prime objective of the study is to investigate the relationship between human resource practices, namely training practices, developmental opportunities, pay for performance, performance management, internal promotional activities, participating in activities, autonomy and job performance, namely task and contextual performance of engineers and the role of perceived organizational support as a mediator. Thus, the objectives of the study are to determine whether human resource practices will have any influence on job performance, to determine whether human resource practices will have any influence on perceived organizational support, to determine whether perceived organizational support will have any influence on job performance, and to determine whether perceived organizational support mediates the relationship between human resource practices and job performance.

## 2. LITERATURE REVIEW

### *2.1. Human Resource Practices*

Based on Schuler and Jackson (1987) HRM practices in this study is defined as an individual's perceptions of the extent of the implementation of the strategies, plans, and programs used to attract, motivate, develop, reward, and retain the best people to meet the organizational goals of an organization. The HRM practices' dimensions proposed for this study human resource in this study refers are training, developmental opportunities, pay for performance, performance management, internal promotional opportunities, participation in activities, and work autonomy.

Firstly, training programs are planned efforts by the organization to ensure that their employees are competent in their current jobs. Moreover, the organization's commitment provides training to its employees is clear evidence of an investment by the organization (Bartel, 1994); (Knoke & Kalleberg, 1994). Secondly, developmental opportunities prepare employees for other positions which will be available in the future rather than focusing on competencies for the current job. Wayne, Shore, and Liden (1997) found that greater participation in developmental experiences was related to perceived organizational support. Thirdly, the pay is associated with firm performance (Gerhart & Milkovich, 1992). Research suggests that rewards linked to performance are especially powerful (Fasolo, 1995); (Rhoades, Eisenberger, & Armeli, 2001). Fourthly, performance management is the process through which the organization ensures that employee activities are congruent with organizational goals. Hutchison and Garstka (1996) found that there is a relationship between goal setting and perceived organizational support. Fifthly, offering the opportunity for advancement within the organization and promoting its employees is a form of recognizing their accomplishments. Wayne et al. (1997) found that the number of promotions received by

employees was positively related to perceived organizational support. Sixthly, participation in organizational activities and the opportunity to voice one's opinion gives employees a degree of control over decisions that concern their work. Studies on participation and decision making have found a relationship to perceived organizational support (Allen, Shore, & Griffeth, 2003); (Wayne., Shore, Bommer, & Tetrick, 2002). Finally, work autonomy means employees' perceived control over how they carry out their job, including scheduling, work procedures, and task variety.

Previous research has shown that autonomy has direct relationships with performance (Fried & Ferris, 1987); (Liden, Wayne, & Sparrowe, 2000). Concerning specific HR practices, certain aspects of HR practices have been found to influence the development of perceived organizational support. Moreover, Brun and Dugas (2008) stated that employees' recognition takes four main forms, namely personal recognition; recognition of results; recognition of work practice; and recognition of job dedication.

In another study on Japanese employees, Jung and Takeuchi (2018) discovered a positive relationship between career self-management and satisfaction was stronger when developmental HR practices and organizational support were high, and thus a synergistic effect was salient among young employees; a positive relationship was stronger when these factors were low, and thus a compensatory effect was manifested among middle aged employees. Moreover, Lai, Saridakis, and Johnstone (2017) discovered a positive and direct relationship between the use of certain formalized human resource (HR) practices and SME performance, measured by financial performance and labor productivity. Their results suggest that certain HR policies and practices may improve small firm performance, especially within firms with low levels of commitment and satisfaction.

### *2.2. Job Performance*

Job Performance is defined as the degree to which an individual helps the organization reach its goal (Motowildo, Borman, & Schmit, 1997). Task performance is when employees are using technical skills and knowledge to produce goods or services through the organization's core technical processes, or when they accomplish specialized tasks that support these core functions (Borman & Motowidlo, 1993). Meanwhile, contextual performance is defined as individual efforts that are not directly related to their main task function but are important because they shape the organizational, social, and psychological context that serves as the critical catalyst for task activities and processes (Werner, 2000). When employees voluntarily help co-workers who are getting behind, act in ways that maintain good working relationships, or put in extra effort to complete an assignment on time, they are engaging in contextual performance.

Moreover, Dane and Brummel (2014) reported that service workers (servers) and managers in the American restaurant industry shown support for a positive relationship between workplace mindfulness and job performance that holds even when accounting for all three work engagement dimensions, namely vigour, dedication, and absorption. In another study, Fu and Deshpande (2014) stated that organizational commitment had a significant direct impact on job performance among employees working in a Chinese insurance company.

### *2.3. Perceived Organizational Support*

Perceived organizational support refers to employees' beliefs concerning the extent to which the organization values their contribution and cares about their well-being (Eisenberger, Huntington, Hutchison, & Sowa, 1986). This is a measure of an employees' perception of the level of concern and value that the organization demonstrates towards them. Eisenberger et al. (1986) found that employees form global beliefs regarding the extent to which the organization values their contributions and cares about their wellbeing. Employee behaviour is influenced by this perception and they view this as the organization's commitment to them (Wayne et al., 1997). This perceived organizational support focuses on the exchange relationship between the individual employee and the organization. Employees' beliefs are expected to affect how individuals make attributions and influence whether an employee

develops a bond with the organization (Eisenberger et al., 1986). Cullen, Edwards, Casper, and Gue (2014) stated that the role of perceived organizational support as a mediator of the relationship between employees' adaptability and perceptions of change-related uncertainty and employees' satisfaction and performance.

### *2.4. Relationship between Human Resource Practices and Job Performance*

Supportive human resource practices are instrumental in establishing employees' job performance (Guest, 2002); (Harley, 2002); (Park, Mitsuhashi, Fey, & Björkman, 2003). Traditionally, researchers established links between supportive human resource practices and firm performance (Huselid, 1995). However, the framework focuses on human resource practices that indicate investment in employees and recognition of employee contributions (Allen et al., 2003); (Rhoades & Eisenberger, 2002); (Wayne et al., 1997). These dimensions of HR practices are largely based on the different forms of favorable treatment offered to employees by their organization.

### *2.5. Relationship between Human Resource Practices and Perceived Organizational Support*

In their meta-analysis of over 70 studies about perceived organizational support, Rhoades and Eisenberger (2002) suggested three main antecedents of perceived organizational support (fair organizational procedures, supervisor support, and favourable rewards and job conditions). However, other scholars (Allen et al., 2003); (Wayne et al., 1997) focused on similar human resource practices (participation in decision making, training and developmental opportunities) that signal an organization's investment in employees and recognition of employee contributions. Antecedents of organizational support are largely based on the different forms of favorable treatment the organization offers employees. Concerning specific HR practices, certain aspects of HR practices have been found to influence the development of perceived organizational support.

### *2.6. Relationship between Perceived Organizational Support and Job Performance*

Empirical evidence supports the view that perceived organizational support creates the feeling of obligation to support the organization, and those employees who feel they are supported by the organization will reciprocate with better performance (Eisenberger et al., 1986); (Eisenberger., Fasolo, & Davis-LaMastro, 1990); (Eisenberger.., Armeli, Rexwinkel, Lynch, & Rhoades, 2001); (Rhoades & Eisenberger, 2002); (Wayne et al., 1997). Rhoades and Eisenberger (2002) identified several consequences of organizational support (organizational commitment, job-related effect, job involvement, performance, retention, strains, job satisfaction). Reciprocation of support is ultimately indicated through these employee outcomes. Therefore, in this study, the researcher is interested to understand the relationship between perceived organizational support and job performance (task and contextual). On the other hand, Watt and Hargis (2010) discovered that boredom as a problem in the workplace that frequently carries a significant financial burden for organizations in their study between perceived organizational support and job performance.

### *2.7. Relationship between HR Practices, POS and Job Performance*

From a perceived organizational support perspective, investment in human resource practices are indicative of the organization's commitment to its employees, from an SHRM perspective, the organization has chosen to invest in its human capital to sustain competitive advantage through its people. By further examining the impact of a comprehensive set of HR practices on employee job performance and perceived organizational support as the mechanism through this occurs, this contributed towards potentially addressing the black box in HRM literature.

### *2.8. Research Framework and Hypotheses*

Figure 1 depicts the research framework of the study between human resource practices, namely training programs, developmental opportunities, pay for performance, performance management, internal promotional

opportunities, participation in HR-related activities, participation in work-related activities, and autonomy; and job performance, namely task performance and contextual performance with mediation effect of perceived organizational support. Moreover, the study's hypotheses were listed below:

*$H_1$: Human resource practices have a positive relationship with job performance.*

*$H_2$: Human resource practices have a positive relationship with perceived organizational support.*

*$H_3$: Perceived organizational support has a positive relationship with job performance.*

*$H_4$: Perceived organizational support mediates a positive relationship between human resource practices and job performance.*

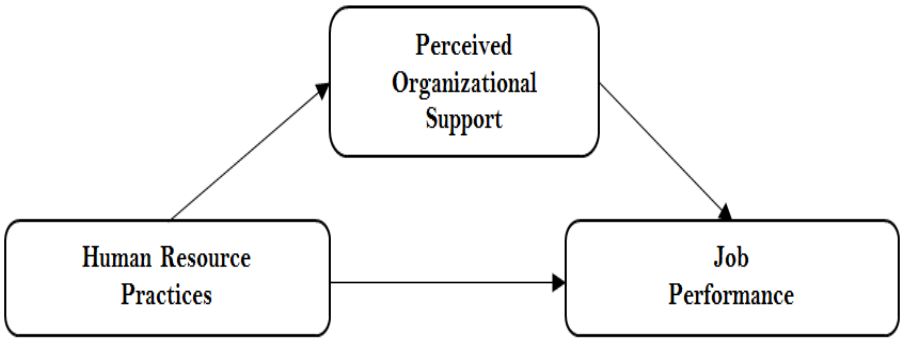



**Figure-1.** Research framework.

## 3. METHODOLOGY

This study involved engineers in E&E manufacturing industry in Bayan Lepas Free Trade Zone, Penang, Malaysia. The study investigates whether an employee's assessment of the organization's HRM practices and employee's perception of organizational support effect the employee job performance in the E&E manufacturing industry. A total of 1,100 self-administered questionnaires were distributed to engineers E&E manufacturing organizations. Furthermore, this study defined engineers as who were having engineering qualifications either certificates, degree, and master.

The human resource practices had been examined on engineers' participation in related activities and autonomy. The respective measures for the human resource practices, namely training programs (Conway & Monks, 2008) of 5-item with α=0.86, developmental opportunities (Allen et al., 2003) of 6-item with α=0.89, pay for performance (Rhoades et al., 2001) of 6-item with α=0.90, performance management (Allen et al., 2003) of 7-item with α=0.90, internal promotional opportunities (Wayne et al., 1997) of 5-item with α=0.86, participation in decision making (Govino, 2005) of 5-item with α=0.79, and autonomy (Conway & Monks, 2008) of 4-item with α=0.88; two job performance, namely task performance (Williams & Anderson, 1991) of 7-item with α=0.95 and contextual performance (Hochwarter, Kiewitz, Gundlach, & Stoner, 2004) of 8-item with α=0.94, and perceived organizational support (Eisenberger. et al., 1990) of 9-item with α=095.

## 4. DATA ANALYSIS & RESULTS

### *4.1. Demographic Analysis*

Table 1 depicts the demographic analysis of the respondents. Male engineers were 96 (64%) as compared to 54 females (36%). Chinese engineers were 82 (54.7%) followed by 42 Malay engineers (28%), and 24 Indian engineers (16%). Unmarried engineers were 96 (64%) and married engineers were 54 (36%). Almost three-quarter engineers were aged between 26 to 35 years old (n=110, 73.3%); and followed by 26 engineers (17.3%) were between 18 to 25 years old, 13 engineers (8.7%) were between 36 to 45 years old, and one engineer was 46 years old and above (0.7%).

Majority of the engineers were having a degree (n=114, 76%), 13 engineers with Master (8.7%), 10 engineers with Diploma (6.7%), 8 engineers with High School (5.3%), and 5 engineers with professional certificates (3.3%). Ninety-seven engineers were specializing in Electronic & Electrical (64.7%); followed by 38 engineers with Mechanical (25.3%), 3 engineers with Chemical (2%), and 12 with other engineering specializations (8%). Finally, One hundred and two engineers worked between 2 to 5 years (68%), 33 engineers were less than 1 year (22%), 13 engineers were 6 to 9 years (8.7%), and 2 engineers were above 10 years (1.4%).

**Table-1.** Demographic analysis.

| Item | n | % |
|---|---|---|
| Gender | | |
| • Male | 96 | 64.0 |
| • Female | 54 | 36.0 |
| Ethnicity | | |
| • Malay | 42 | 28.0 |
| • Chinese | 82 | 54.7 |
| • Indian | 24 | 16.0 |
| • Others | 2 | 1.3 |
| Marital Status | | |
| • Married | 54 | 36.0 |
| • Single | 96 | 64.0 |
| Age (years old) | | |
| • 18 to 25 | 26 | 17.3 |
| • 26 to 35 | 110 | 73.3 |
| • 36 to 45 | 13 | 8.7 |
| • 46 and above | 1 | 0.7 |
| Education | | |
| • High School | 8 | 5.3 |
| • Professional | 5 | 3.3 |
| • Diploma | 10 | 6.7 |
| • Bachelor | 114 | 76.0 |
| • Master | 13 | 8.7 |
| Engineering Specialization | | |
| • Electronic & Electrical | 97 | 64.7 |
| • Mechanical | 38 | 25.3 |
| • Chemical | 3 | 2.0 |
| • Others | 12 | 8.0 |
| Organizational Tenure (years) | | |
| • Less than 1 year | 33 | 22.0 |
| • 2 to 5 years | 102 | 68.0 |
| • 6 to 9 years | 13 | 8.7 |
| • Above 10 years | 2 | 1.4 |

### *4.2. Correlations Analysis*

Table 2 depicts the correlations analysis of human resource practices, job performance, and perceived organizational support. Table 2 depicts the correlations analysis of human resource practices, job performance, and perceived organizational support. Engineers indicated that training programs (r=0.27), developmental opportunities (r=0.25), internal promotional opportunities (r=0.17), and autonomy (r=0.19) had a significant relationship with task performance. Meanwhile, engineers indicated that training development (r=0.39), developmental opportunities (r=0.25), pay for performance (r=0.30), performance management (r=0.31), internal promotional opportunities (r=0.33), participation in HR-related activities (r=0.21), and autonomy (r=0.34) had a significant relationship with contextual performance.

On the other hand, engineer indicated that perceived organizational support had a significant relationship toward training development (r=0.44), developmental opportunities (r=0.48), pay for performance (r=0.60), performance management (r=0.71), internal promotional opportunities (r=0.70), participation in HR-related activities (r=0.19), participation in work-related activities (r=0.21), and autonomy (r=0.34).

**Table-2.** Correlations analysis.

| Variables | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Training Programs | 1 | | | | | | | | | |
| 2 | Developmental Opportunities | 0.47** | 1 | | | | | | | | |
| 3 | Pay for Performance | 0.41** | 0.52** | 1 | | | | | | | |
| 4 | Performance Management | 0.49** | 0.41** | 0.62** | 1 | | | | | | |
| 5 | Internal Promotional Opportunities | 0.41** | 0.46** | 0.59** | 0.57** | 1 | | | | | |
| 6 | Participation in HR-Related Activities | 0.09 | 0.04 | 0.09 | 0.10 | 0.18* | 1 | | | | |
| 7 | Participation in Work-Related Activities | 0.30** | 0.13 | 0.08 | 0.22** | 0.29** | 0.19* | 1 | | | |
| 8 | Autonomy | 0.40** | 0.37** | 0.39** | 0.48** | 0.49** | 0.26** | 0.28** | 1 | | |
| 9 | Task Performance | 0.27** | 0.25** | 0.12 | 0.08 | 0.17* | -0.04 | 0.15 | 0.19* | 1 | |
| 10 | Contextual Performance | 0.39** | 0.34** | 0.30** | 0.31** | 0.33** | 0.21* | 0 .08 | 0.34** | 0.53** | 1 |
| 11 | Perceived Organizational Support | 0.44** | 0.48** | 0.60** | 0.71** | 0.70** | 0.19** | 0.21** | 0.56** | 0.12 | 0.37** |

**Note:** *p<.05; **p<.01.

### *4.3. Regression Analysis*

Table 3 depicts the multiple regression analysis was conducted on human resource practices toward task performance. The engineers had the $R^2$ value showed 22% for the dependent variable of task performance, which was explained by the developmental opportunities (β=0.27, p<0.05), performance management (β=0.19, p<0.01), internal promotional opportunities (β=0.21, p<0.05), participation in work-related activities (β=0.19, p<0.01), and autonomy (β=0.21, p<0.05) of human resource practices. This means that 78% of the variance for task performance was explained by other unknown additional variables that have not been explored. The regression model (F=3.60, p<0.01) was proven to be a significant model due to the F ratio being significant in predicting task performance.

Moreover, training programs, pay for performance, and participation in HR-related activities were not significant in predicting the impact between human resource practices and job performance. Furthermore, the multiple regression analysis was conducted on human resource practices toward contextual performance. The engineers had the $R^2$ value showed 24% for the dependent variable of contextual performance, which was explained by the developmental opportunities (β=0.30, p<0.05), pay for performance (β=0.30, p<0.01), internal promotional opportunities (β=0.23, p<0.01), participation in work-related activities (β=0.30, p<0.01), and autonomy (β=0.23, p<0.01) of human resource practices. This means that 76% of the variance for contextual performance was explained by other unknown additional variables that have not been explored. The regression model (F=4.20, p<0.01) was proven to be a significant model due to the F ratio being significant in predicting contextual performance.

Furthermore, training programs, performance management, and participation in work-related activities were not significant in predicting the impact of human resource practices and contextual performance. Therefore,

hypothesis $H_1$ was partially supported in explaining the engineers on their human resource practices and job performance.

**Table-3.** Multiple regression analysis between human resource practices and job performance.

| Human resource practices | Job performance | | | |
|---|---|---|---|---|
| | Task performance | | Contextual performance | |
| | β | Sig. | β | Sig. |
| Training Programs | 0.01 | Nil | -0.06 | Nil |
| Developmental Opportunities | 0.27 | 0.05 | 0.30 | 0.05 |
| Pay for Performance | 0.50 | Nil | 0.30 | 0.01 |
| Performance Management | 0.19 | 0.01 | -0.12 | Nil |
| Internal Promotional Opportunities | 0.21 | 0.05 | 0.23 | 0.01 |
| Participation in HR-Related Activities | 0.50 | Nil | 0.30 | 0.01 |
| Participation in Work-Related Activities | 0.19 | 0.01 | -0.12 | Nil |
| Autonomy | 0.21 | 0.05 | 0.23 | 0.01 |
| $R^2$ | 0.22 | | 0 .24 | |
| Adj. $R^2$ | 0.16 | | 0.19 | |
| F-Change | 3.60 | | 4.20 | |
| Sig.-F | 0.01 | | 0.01 | |

Table 4 depicts the regression analysis was conducted on human resource practices toward perceived organizational support. The engineers had the $R^2$ value showed 70% for the dependent variable of perceived organizational support, which was explained by the pay for performance ($\beta$=0.17, $p<0.05$), performance management ($\beta$=0.36, $p<0.01$), internal promotional opportunities ($\beta$=0.28, $p<0.01$), and autonomy ($\beta$=0.20, $p<0.01$) of human resource practices. This means that 30% of the variance for perceived organizational support was explained by other unknown additional variables that have not been explored. The regression model (F=31, $p<0.01$) was proven to be a significant model due to the F ratio being significant in predicting perceived organizational support. On the other hand, training programs, developmental opportunities, participation in HR-related activities, and participation in work-related activities were not significant in predicting the impact between human resource practices and perceived organizational support. Therefore, hypothesis $H_2$ was partially supported in explaining the engineers on their human resource practices and perceived organizational support.

**Table-4.** Regression analysis between human resource practices and perceived organizational support.

| Human resource practices | Perceived organizational support | |
|---|---|---|
| | β | Sig. |
| Training Programs | 0.02 | Nil |
| Developmental Opportunities | 0.01 | Nil |
| Pay for Performance | 0.17 | 0.05 |
| Performance Management | 0.36 | 0.01 |
| Internal Promotional Opportunities | 0.28 | 0.01 |
| Participation in HR-Related Activities | 0.07 | Nil |
| Participation in Work-Related Activities | -0.05 | Nil |
| Autonomy | 0.20 | 0.01 |
| $R^2$ | 0.70 | |
| Adj. $R^2$ | 0.68 | |
| F-Change | 31.00 | |
| Sig.-F | 0.01 | |

Table 5 depicts the multiple regression analysis was conducted on perceived organizational support toward task performance. The engineers had the $R^2$ value showed 17% for the dependent variable of task performance, which was explained by the perceived organizational support ($\beta$=0.41, $p<0.01$). This means that 83% of the variance for task performance was explained by other unknown additional variables that have not been explored. The regression model (F=22.75, $p<0.01$) was proven to be a significant model due to the F ratio being significant in

predicting task performance. Meanwhile, the multiple regression analysis was conducted on human resource practices toward contextual performance. The engineers had the $R^2$ value showed 37% for the dependent variable of contextual performance, which was explained by the perceived organizational support ($\beta$=0.39, p>0.05). This means that 63% of the variance for task performance was explained by other unknown additional variables that have not been explored. The regression model (F=4.35, p>0.05) was proven to be not a significant model due to the F ratio in predicting contextual performance. Therefore, hypothesis $H_3$ was partially supported in explaining the engineers on their perceived organizational support and job performance.

**Table-5.** Multiple regression analysis between perceived organizational support and job performance.

| | Job performance | | | |
|---|---|---|---|---|
| | Task performance | | Contextual performance | |
| | β | Sig. | β | Sig. |
| Perceived Organizational Support | 0.41 | 0.01 | 0.39 | Nil |
| $R^2$ | 0 .17 | | 0 .37 | |
| Adj. $R^2$ | 0.16 | | 0.29 | |
| F-Change | 22.75 | | 4.35 | |
| Sig.-F | 0.01 | | Nil | |

Table 6 depicts the mediation analysis of perceived organizational support was conducted on human resource practices and job performance. Firstly, the engineers had the $R^2$ value showed 70% for the task performance, which was explained by the human resource practices without the mediation of perceived organizational support. This means that 30% of the variance for task performance was explained by other unknown additional variables that have not been explored. The regression model (F=31.06, p<0.01) was proven to be a significant model due to the F ratio being significant in predicting task performance without the mediation of perceived organizational support. Furthermore, the engineers had the $R^2$ value showed 23% for the task performance, which was explained by the human resource practices with the mediation of perceived organizational support. This means that 77% of the variance for task performance was explained by other unknown additional variables that have not been explored. The regression model (F=3.28, p<0.01) was proven to be a significant model due to the F ratio being significant in predicting task performance with the mediation of perceived organizational support. Unfortunately, the mediation of perceived organizational support was not significant ($\beta$=-0.11, p>0.05) between human resource practices and task performance.

Secondly, the engineers had the $R^2$ value showed 24% for the contextual performance, which was explained by the human resource practices without the mediation of perceived organizational support. This means that 76% of the variance for contextual performance was explained by other unknown additional variables that have not been explored. The regression model (F=4.24, p<0.00) was proven to be a significant model due to the F ratio being significant in predicting contextual performance without the mediation of perceived organizational support. Furthermore, the engineers had the $R^2$ value showed 30% for the contextual performance, which was explained by the human resource practices with the mediation of perceived organizational support. This means that 70% of the variance for contextual performance was explained by other unknown additional variables that have not been explored. The regression model (F=4.76, p<0.00) was proven to be a significant model due to the F ratio being significant in predicting contextual performance with the mediation of perceived organizational support. Unfortunately, the mediation of perceived organizational support was not significant ($\beta$=0.25, p>0.05) between human resource practices and contextual performance. Therefore, hypothesis $H_4$, the mediation of perceived organizational support was supported in explaining the engineers on their human resource practices and job performance.

**Table-6.** Mediation analysis of perceived organizational support between human resource practices and job performance.

| Human resource practices | Task performance | | | | Contextual performance | | | |
|---|---|---|---|---|---|---|---|---|
| | Without perceived organizational support | | With perceived organizational support | | Without perceived organizational support | | With perceived organizational support | |
| | β | Sig. | β | Sig. | β | Sig. | β | Sig. |
| Training Programs | 0.02 | Nil | -0.05 | Nil | -0.56 | Nil | -0.09 | Nil |
| Developmental Opportunities | 0.01 | Nil | 0.30 | 0.01 | 0.30 | 0.01 | 0.36 | 0.01 |
| Pay for Performance | 0.17 | 0.05 | -0.08 | Nil | -0.04 | Nil | -0.12 | Nil |
| Performance Management | 0.36 | 0.01 | 0.09 | Nil | 0.06 | Nil | -0.02 | Nil |
| Internal Promotional Opportunities | 0.28 | 0.01 | -0.03 | Nil | 0.02 | Nil | 0.00 | Nil |
| Participation in HR-Related Activities | 0.07 | Nil | 0.06 | Nil | 0.30 | 0.01 | 0.26 | 0.01 |
| Participation in Work-Related Activities | -0.05 | Nil | 0.17 | Nil | -0.12 | Nil | -0.12 | Nil |
| Autonomy | 0.20 | 0.01 | 0.23 | 0.05 | 0.23 | 0.05 | 0.14 | Nil |
| Perceived Organizational Support | - | - | -0.11 | Nil | - | - | 0.25 | Nil |
| $R^2$ | 0.70 | | 0.23 | | 0.24 | | 0.30 | |
| Adj. $R^2$ | 0.68 | | 0.16 | | 0.19 | | 0.34 | |
| F-Change | 31.06 | | 3.28 | | 4.24 | | 4.76 | |
| Sig.-F | 0.01 | | 0.01 | | 0.00 | | 0.00 | |

In summary, the engineers indicated that the hypotheses $H_1$, $H_2$, and $H_3$ were partially supported. On the other hand, the hypothesis $H_4$ had a direct mediation effect.

## 5. DISCUSSIONS

From the practical perspectives, the study offers several suggestions to human resource managers in E&E manufacturing organizations in Malaysia. Specifically, human resource managers should use the results to maximize job performance of their engineers. The HR practices on employee pay, performance management, internal promotional practices, and autonomy have significant positive and direct effects on perceived organizational support. The developmental opportunities and participating in work are also found to have significant direct effects on task performance. Meanwhile, developmental opportunities, work autonomy, and participation in HR-related activities are found to have significant direct and indirect effects on contextual performance. Given that positive practices would lead to positive behavioural outcomes, the results guide HR managers on how to increase engineers' positive behavioural outcomes by implementing the right HR programs.

Although E&E manufacturing organizations have been implementing various HR practices, the extent of implementation of the HR practices may not be extensive. The HR practices' qualities are assessed by the engineers to be high, except for internal promotional opportunities and participating in HR-related activities. This suggests that E&E manufacturing organizations in Bayan Lepas Free Trade Zone, Penang are practicing the HR practices, only these two areas the organization practicing it at a mediocre level. The HR managers should get the engineers to involve in internal promotional exercise and let them involve in hiring and selecting the potential engineers.

For those E&E manufacturing organizations that are currently having rigorous development programs, the findings suggest that these manufacturing organizations may want to continue to do so. Hence, the HR managers can further strive to improve employees' job performance; especially task performance, by continuing to provide adequate development programs on an ongoing basis. For those E&E manufacturing organizations that provide minimal formal development programs, findings suggest that these manufacturing organizations may want to increase the frequency of formal engineers' developmental programs.It is also essential for E&E manufacturing organizations to encourage their engineers to participate in activities related to human resource. Results show that

engineers' participation in work-related activities and HR-related activities has a direct influence on engineers' job performance; whether it is their task performance or contextual performance. Participation in HR-related activities like selection and training would encourage the engineers to perform in an informal manner and participation in work-related activities like encouraging the engineers to get involved in the problem-solving discussion and bring out ideas to help accomplish the organization's goal would encourage the engineers to perform in his/her obligated duties. The existence of work autonomy is also an important factor in enhancing engineers' contextual performance. Results suggest that engineers will exhibit their contextual behaviours if they practiced work autonomy in their work. The contextual performance is viewed as discretionary behaviours not formally required by any particular job, yet helping to form the social context of all jobs. The E&E manufacturing organizations' management should also recognize that perceived organizational support has a direct effect on both job performances; task and contextual performance. The findings suggest that to have the employees to perform, the employee must perceive that they have organizational support from the organization. Therefore, E&E manufacturing organizations must enhance organizational support through their HR practices such as pay, performance management, internal promotional practices, and autonomy that have been found impacted perceive organizational support. In this regard, the management E&E manufacturing organizations may want to allocate more budgets on their HR activities as more programs could be implemented to enhance perceived organizational support and increase job performance.

In summary, if the E&E manufacturing organizations want their engineers to perceive the organizational support positively and to increase their job performance, then the management should make efforts to implement the right HR practices, namely developmental opportunities and participation, and involvement of the engineers in the HR-related activities and work-related activities.

## 6. CONCLUSION

The underutilization of human resource practices in enhancing engineers' work performance should be of concern to both organizations and society. From an organization's perspective, the turnover of qualified employees results in tangible and intangible costs. Failure to fully utilized half of the working population in the E&E manufacturing industry is an ineffective utilization of human capital to the detriment of organizations and the larger society. Moreover, the implementation of the right human resource programs will help manufacturing organizations to retain qualified engineers. Thus, the human resources manager in E&E manufacturing organizations needs to strategize their human resource planning based on their engineers' needs.

**Funding:** The authors would like to thank you the Universiti Sains Malaysia for the funding and research grant support. Ref. No: 1001/PJJAUH/8016077.
**Competing Interests:** The authors declare that they have no competing interests.
**Acknowledgement:** Both authors contributed equally to the conception and design of the study.

## REFERENCES

Allen, D. G., Shore, L. M., & Griffeth, R. W. (2003). The role of perceived organizational support and supportive human resource practices in the turnover process. *Journal of Management*, *29*(1), 99-118.Available at: https://doi.org/10.1177/014920630302900107.

Bartel, A. P. (1994). Productivity gains from the implementation of employee training programs. *Industrial Relations: A Journal of Economy and Society*, *33*(4), 411-425.Available at: http://dx.doi.org/10.1111/j.1468-232x.1994.tb00349.x.

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt and W.C. Borman (Eds.), Personnel selection in organizations (pp. 71-98). San Francisco: Jossey-Bass.

Brun, J.-P., & Dugas, N. (2008). An analysis of employee recognition: Perspectives on human resources practices. *The International Journal of Human Resource Management*, *19*(4), 716-730.Available at: http://dx.doi.org/10.1080/09585190801953723.

Conway, E., & Monks, K. (2008). HR practices and commitment to change: An employee-level analysis. *Human Resource Management Journal*, *18*(1), 72-89.Available at: 10.1111/j.1748-8583.2007.00059.x.

Cullen, K. L., Edwards, B. D., Casper, W. C., & Gue, K. R. (2014). Employees' adaptability and perceptions of change-related uncertainty: Implications for perceived organizational support, job satisfaction, and performance. *Journal of Business and Psychology*, *29*(2), 269-280.Available at: http://dx.doi.org/10.1007/s10869-013-9312-y.

Dane, E., & Brummel, B. J. (2014). Examining workplace mindfulness and its relations to job performance and turnover intention. *Human Relations*, *67*(1), 105-128.Available at: http://dx.doi.org/10.1177/0018726713487753.

Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, *71*(3), 500–507.

Eisenberger., R., Fasolo, P., & Davis-LaMastro, V. (1990). Perceived organizational support and employee diligence, commitment, and innovation. *Journal of Applied Psychology*, *75*(1), 51–59.Available at: http://dx.doi.org/10.1037/0021-9010.75.1.51.

Eisenberger.., R., Armeli, S., Rexwinkel, B., Lynch, P. D., & Rhoades, L. (2001). Reciprocation of perceived organizational support. *Journal of Applied Psychology*, *86*(1), 42-42.Available at: http://dx.doi.org/10.1037/0021-9010.86.1.42.

Fasolo, P. M. (1995). Procedural justice and procedural organizational support: Hypothesized effects on job performance. In R.S. Cropanzo and K.M. Kacmar (Eds). Organizational Politics, Justice, and Support: Managing Social Climate at Work (pp. 185-195). Westport, CT: Quorum Press.

Fried, Y., & Ferris, G. R. (1987). The validity of the job characteristics model: A review and meta-analysis. *Personnel Psychology*, *40*(2), 287-322.Available at: https://doi.org/10.1111/j.1744-6570.1987.tb00605.x.

Fu, W., & Deshpande, S. P. (2014). The impact of caring climate, job satisfaction, and organizational commitment on job performance of employees in a China's insurance company. *Journal of Business Ethics*, *124*(2), 339-349.Available at: http://dx.doi.org/10.1007/s10551-013-1876-y.

Gerhart, B., & Milkovich, G. T. (1992). *Employee compensation: Research and practice (CAHRS Working Paper #92-26).* Ithaca, NY: Cornell University, School of Industrial and Labor Relations, Center for Advanced Human Resource Studies. Retrieved from: http://digitalcommons.ilr.cornell.edu/cahrswp/311.

Govino, M. (2005). *Understanding the impact of HR practices on employee attitudinal and behavioral outcomes: The role of POS*. Chicago: University of Illinois.

Guest, D. (2002). Human resource management, corporate performance and employee wellbeing: Building the worker into HRM. *The Journal of Industrial Relations*, *44*(3), 335-358.Available at: http://dx.doi.org/10.1111/1472-9296.00053.

Harley, B. (2002). Employee responses to high performance work system practices: An analysis of the AWIRS95 data. *The Journal of Industrial Relations*, *44*(3), 418-434.Available at: http://dx.doi.org/10.1111/1472-9296.00057.

Hochwarter, W. A., Kiewitz, C., Gundlach, M. J., & Stoner, J. (2004). The impact of vocational and social efficacy on job performance and career satisfaction. *Journal of Leadership & Organizational Studies*, *10*(3), 27-40.Available at: https://doi.org/10.1177/107179190401000303.

Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity, and corporate financial performance. *Academy of Management Journal*, *38*(3), 635-672.Available at: https://doi.org/10.2307/256741.

Hutchison, S., & Garstka, M. L. (1996). Sources of perceived organizational support: Goal setting and feedback 1. *Journal of Applied Social Psychology*, *26*(15), 1351-1366.Available at: http://dx.doi.org/10.1111/j.1559-1816.1996.tb00075.x.

Jung, Y., & Takeuchi, N. (2018). A lifespan perspective for understanding career self-management and satisfaction: The role of developmental human resource practices and organizational support. *Human Relations*, *71*(1), 73-102.Available at: http://dx.doi.org/10.1177/0018726717715075.

Knoke, D., & Kalleberg, A. L. (1994). Job training in US organizations. *American Sociological Review*, *59*(4), 537-546.Available at: https://doi.org/10.2307/2095930.

Lado, A. A., & Wilson, M. C. (1994). Human resource systems and sustained competitive advantage: A competency-based perspective. *Academy of Management Review*, *19*(4), 699-727.Available at: https://doi.org/10.5465/amr.1994.9412190216.

Lai, Y., Saridakis, G., & Johnstone, S. (2017). Human resource practices, employee attitudes and small firm performance. *International Small Business Journal*, *35*(4), 470-494.Available at: http://dx.doi.org/10.1177/0266242616637415.

Liden, R. C., Wayne, S. J., & Sparrowe, R. T. (2000). An examination of the mediating role of psychological empowerment on the relations between the job, interpersonal relationships, and work outcomes. *Journal of Applied Psychology*, *85*(3), 407-416.Available at: http://dx.doi.org/10.1037/0021-9010.85.3.407.

Motowildo, S. J., Borman, W. C., & Schmit, M. J. (1997). A theory of individual differences in task and contextual performance. *Human Performance*, *10*(2), 71-83.Available at: http://dx.doi.org/10.1207/s15327043hup1002_1.

Park, H. J., Mitsuhashi, H., Fey, C. F., & Björkman, I. (2003). The effect of human resource management practices on Japanese MNC subsidiary performance: A partial mediating model. *The International Journal of Human Resource Management*, *14*(8), 1391-1406.Available at: https://doi.org/10.1080/0958519032000145819.

Penang Economic Report. (2008). Penang: Penang government. Retrieved from: http://www.seri.com.my/ap/penang-economic-monthly-2008.html.

Pfeffer, J. (1994). *Competitive advantage through people: Unleashing the power of the workforce*. Boston: Harvard Business School Press.

Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, *87*(4), 698-714.Available at: http://dx.doi.org/10.1037/0021-9010.87.4.698.

Rhoades, L., Eisenberger, R., & Armeli, S. (2001). Affective commitment to the organization: The contribution of perceived organizational support. *Journal of Applied Psychology*, *86*(5), 825-836.Available at: http://dx.doi.org/10.1037/0021-9010.86.5.825.

Schuler, R. S., & Jackson, S. E. (1987). Linking competitive strategies with human resource management practices. *Academy of Management Perspectives*, *1*(3), 207-219.Available at: http://dx.doi.org/10.5465/AME.1987.4275740.

Watt, J. D., & Hargis, M. B. (2010). Boredom proneness: Its relationship with subjective underemployment, perceived organizational support, and job performance. *Journal of Business and Psychology*, *25*(1), 163-174.Available at: https://doi.org/10.1007/s10869-009-9138-9.

Wayne, S. J., Shore, L. M., & Liden, R. C. (1997). Perceived organizational support and leader-member exchange: A social exchange perspective. *Academy of Management Journal*, *40*(1), 82-111.Available at: http://dx.doi.org/10.2307/257021.

Wayne., S. J., Shore, L. M., Bommer, W. H., & Tetrick, L. E. (2002). The role of fair treatment and rewards in perceptions of organizational support and leader-member exchange. *Journal of Applied Psychology*, *87*(3), 590-598.Available at: http://dx.doi.org/10.1037/0021-9010.87.3.590.

Werner, J. M. (2000). Implications of OCB and contextual performance for human resource management. *Human Resource Management Review*, *10*(1), 3-24.Available at: http://dx.doi.org/10.1016/S1053-4822(99)00036-4.

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, *17*(3), 601-617.Available at: https://doi.org/10.1177/014920639101700305.

Wright, P. M., McMahan, G. C., & McWilliams, A. (1994). Human resources and sustained competitive advantage: a resource-based perspective. *International Journal of Human Resource Management*, *5*(2), 301-326.Available at: http://dx.doi.org/10.1080/09585199400000020.