

**THE EFFECT OF PARTICIPATIVE DECISION-
MAKING AND EMPOWERMENT ON JOB
PERFORMANCE OF ENGINEERS IN ELECTRIC AND
ELECTRONIC SECTORS**

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by

JENIBOY KIMPAH

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LIST OF ABBREVIATIONS

AEC	ASEAN Economic Community
AFTA	ASEAN Free Trade Agreement
ASEAN	Association of Southeast Asian Nations
AVE	Average Variance Extracted
CP	Creative Performance
CR	Composite Reliability
CV	Convergent Validity
DoSM	Department of Statistics Malaysia
E&E	Electric and Electronic
EE	Environmental Empowerment
EMS	Environmental Management System
EU	European Union
FMM	Federation of Malaysian Manufacturers
GDP	Gross Domestic Product
HTMT	Heterotrait-Monotrait Ratio of Correlations (HTMT)
IPMA	Importance-Performance Matrix Analysis
IRP	In-Role Performance

MPC	The Malaysia Productivity Corporation
PDM	Participative decision-making
PE	Psychological empowerment
PLS	Partial Least Square
PLS-SEM	Partial Least Square Structural Equation Modelling
RMK	The Malaysia Plan
RQs	Research questions
SET	Social Exchange Theory
SEM	Structural Equation Modelling
SES	Spreitzer's Empowerment Scale
SPSS	Statistical Package for the Social Sciences
SmartPLS	Smart Partial Least Square
USA	United State of America
VIF	Variance Inflation Factor

**KESAN PEMBUATAN KEPUTUSAN LIBAT SAMA DAN PEMERKASAAN
TERHADAP PRESTASI KERJA DALAM KALANGAN JURUTERA DI
SEKTOR ELEKTRIK DAN ELEKTRONIK**

ABSTRAK

Kajian ini bertujuan untuk meneliti kesan hubungan di antara pembuat keputusan libat sama, pemeraksanaan psikologi, dan pemeraksanaan persekitaran terhadap prestasi dalam peranan dan prestasi kreatif dalam kalangan jurutera di sektor perkilangan elektrik dan elektronik. Selain itu, kaedah analisa berpasangan digunakan untuk merealisasikan kajian ke atas perspektif pengurus terhadap prestasi dalam peranan dan prestasi kreatif dalam kalangan jurutera mereka. Sejumlah 173 pasang borang soal selidik berjaya dikumpul daripada 73 buah syarikat perkilangan dan dipadankan berdasarkan hubungan di antara pengurus dan jurutera di sekitar negeri Johor, Selangor, Pulau Pinang, Perak, dan Sabah dianalisa menggunakan perisian SPSS versi 25 dan SmartPLS versi 3.2.7. Hasil analisa menunjukkan hubungan positif di antara pembuat keputusan libat sama ke atas persepsi makna, persepsi kecekapan, persepsi keberkesanan, kaedah kerja, jadual kerja, dan kriteria kerja. Selain itu, hubungan positif di antara persepsi makna, persepsi kecekapan, persepsi keberkesanan, dan persepsi kaedah kerja terhadap prestasi dalam peranan. Malahan, kajian ini mendapati hubungan positif di antara persepsi keberkesanan terhadap prestasi kreatif dalam kalangan jurutera. Analisa pemboleh ubah pengantara digunakan untuk menguji model penyelidikan ini. Hasil analisa pemboleh ubah pengantara menunjukkan bahawa persepsi kecekapan, persepsi keberkesanan, dan persepsi kaedah kerja adalah positif di antara pembuat keputusan libat sama dan prestasi dalam peranan. Hasil analisa ini juga mendedahkan persepsi keberkesanan di

antara pembuat keputusan libat sama dan prestasi kreatif. Penemuan hasil kajian ini memberi pemahaman yang lebih baik dari aspek perspektif jurutera terhadap pembuat keputusan libat sama, pemeraksanaan psikologi dan pemeraksanaan persekitaran. Malahan, hasil kajian ini sangat penting dengan mengambil kira perspektif pengurus terhadap prestasi dalam peranan dan prestasi kreatif dalam kalangan jurutera. Penyelidik telah membincangkan implikasi teoretikal dan praktikal sebagai panduan untuk penyelidik di masa hadapan dengan mengambil kira kepentingan pembuat keputusan libat sama, pemeraksanaan psikologi, pemeraksanaan persekitaran dan kesannya terhadap prestasi peranan kerja dan prestasi kreatif.

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ABSTRACT

The study examined the effect of participative decision-making, psychological empowerment, and environmental empowerment on in-role performance and creative performance. Furthermore, this research employed a matched-pair approach in examining the perspective of managers on their engineers' in-role performance and creative performance. Two different sets of instruments had been distributed to the Malaysian Electric and Electronic manufacturing firms. A total of 173 matched-pairs questionnaires from 73 manufacturing firms was collected from managers and engineers in Johore, Selangor, Penang, Perak, and Sabah applicable to the analysis by using SPSS version 25 and SmartPLS version 3.2.7. The result revealed a positive and significant effect of participative decision-making on perceived meaning, perceived competence, perceived impact, work method, work schedule, and work criteria. Furthermore, the effect of perceived meaning, perceived competence, perceived impact, and work method on in-role performance was found to be positive and significant. In addition, the effect of perceived impact on in-role performance is also positive and significant. Mediation analysis was employed to test this research framework. The result of the mediation analysis demonstrated that perceived competence, perceived impact, and work method significantly mediate between participative decision-making and in-role performance. Another essential point is that the result revealed that perceived impact mediates between participative decision-making and creative performance. The finding provides better

understanding of the perspective of engineers regarding their participative decision-making, psychological empowerment and environmental empowerment. Most importantly is the understanding with regard to the perspective of managers of their engineers' in-role performance and creative performance. Theoretical and practical implications are discussed as a guide for future researchers to take into consideration the importance of participative decision-making, psychological empowerment, environmental empowerment, and its effects on in-role performance and creative performance.

CHAPTER 1 INTRODUCTION

1.1 Introduction

This chapter introduces the basis of the proposed study. It discusses the background of the study, research problems, research questions, research objectives, and the contribution of the study. Job performance is a concern, particularly in the E&E manufacturing sector in Malaysia. Specifically, it focuses on having a high standard of job performance. The end of this chapter will include a discussion on the scope of the study and definition of key terms.

1.2 Background of the Study

Since the implementation of the ASEAN Free Trade Agreement (AFTA) in 1992 which was designed to support local manufacturing in ASEAN countries, competition has increased dramatically among the ASEAN countries (Zadry & Mohd-Yusof, 2006). Facing this challenge, Malaysian manufacturers have long realized that they need to improve employee job performance to increase work quality and service (Agus & Abdullah, 2000; Evans & William 2002). Malaysian manufacturing would lose ground to competitors if it is not responsive to global changes. Moreover, Ghani, Yunus, and Bahry (2016) have stated that employees' job performance affects the outcomes of the organization. In other words, employee job performance ensures that the organization is functioning well and provides the knowledge and skills that can guide the employees to perform a variety of job tasks.

Employee job performance has been widely studied in terms of human resource management. If the employer expects the employees to achieve their

expected level of job performance, factors affecting employee job performance should be taken into consideration. It is important to consider the standard of employee job performance as a key organizational outcome (Kahya, 2007). Previous study by Joseph et al. (2014) claimed that the lack of employee job performance will influence organizational productivity and profitability. Hence, employee job performance is a critical issue that determines if an employee does his or her job well.

Employee's job performance is also defined as the ultimate ability of an individual to achieve work goals, meet expectations or achieve benchmarks, which lead to a maximum output in the workplace (Ismail, Suh-Suh, & Dollah, 2009). Based on this scenario, employee's job performance has been identified as a key factor for the manufacturing firms to gain competitive advantage and superior productivity. Although competitive advantage is more relevant to the E&E manufacturing sector, it is the ultimate objective of the Malaysian government to enhance the Gross Domestic Product (GDP) annually. It has become imperative for the E&E manufacturing sector to concentrate on assimilating new technologies and product development. However, the limited scope for mobilizing funds, limited availability of bank loans and strict international standards make it difficult for manufacturing companies to compete globally (Kaveri & Prabakaran, 2013).

Thus, the high standard of employee job performance by inducing proficient human resources is the only strength available to improve the Malaysian E&E manufacturing sector. In particular, human resource practices such as encouraging creativity behaviour and empowerment are widely believed to improve the performance of employees and ultimately the organization (Wei, Yuan, & Di, 2010). Furthermore, Huang (2012) found that participative decision-making and

empowerment are factors that influence employee job performance, particularly within two-way employee interactions.

There have been limited empirical studies conducted to assess factors influencing employees' job performance associated with supervisors and subordinates, specifically between managers and engineers in the Malaysia E&E manufacturing firms. There is a line of logic which supports the view that an organization obtains benefits from the involvement of managers and employees in the workplace (Dodi, 2015). This implies that in order to achieve organizational objectives, managers must treat subordinates fairly. In the hierarchy of needs, employee involvement in decision-making has an important place (Dodi, 2015). It might be expected that being involved in decision-making as well as empowerment will be challenging for many employees and might affect his or her performance. Thus, this shows a strong need for systematic research to examine employee job performance related issues in the workplace and the behaviour of Malaysian managers and engineers.

In summary, the Malaysian E&E manufacturing firms is the focus in this study in relation to its contribution to the GDP and in providing job opportunities. It also focuses on the appropriateness of this study's framework to describe the concept of employee job performance enhanced by participative decision-making and empowerment. The E&E manufacturing sector is the largest and most profitable employment sector of the manufacturing industries (Nik-Muhammad & Che-Yacob, 2008). Employees are expected to work beyond the requirements listed in their job descriptions given the increasingly competitive job market in the E&E manufacturing firms. This means that creative performance is a necessary component to support in-role performance in the workplace. Creative performance includes

volunteering for additional work, following organizational rules and procedures even when personally inconvenient, assisting and cooperating with co-workers, and various other discretionary behaviours (Borman & Motowildo, 1993). To sum up, this study investigates two categories of job performance, namely in-role performance and creative performance in the E&E manufacturing firms.

1.2.1 Electric and Electronic Manufacturing Industry in Malaysia

The Tenth Malaysia Plan [RMK 10] encompassing the years 2011 to 2015 highlights the manufacturing sector's significant contribution to the country's exports and annual GDP (Prime Minister Office, 2018). The Malaysia Productivity Corporation (2016) states that the performance of the manufacturing sector has increased significantly as evidenced by the GDP growth of RM243.9 billion recorded in 2015. Compared to the other subsectors, the E&E industry has made the greatest contribution to Malaysia's economic development; it has also provided work opportunities for thousands of Malaysians. The growth of the E&E manufacturing sector increased from RM 44.2 billion in 2011 to RM 53.8 billion in 2015. In relation to this, the Malaysian government has continued to encourage the development of the manufacturing sector in its Eleventh Malaysia Plan [RMK 11] for the years 2016 to 2020 (Ministry of Economic Affairs, 2018). This blueprint represents a guideline for specific strategies to be implemented in order to improve the manufacturing sector, by focusing on high productivity values and a wide range of sophisticated products, particularly in the E&E manufacturing sector. Moreover, the E&E manufacturing sector in Malaysia has been encouraged to expand its products' entry into the

international market by leveraging the ASEAN Economic Community (AEC) and AFTA.

The Malaysian E&E manufacturing sector is one of the major contributors to various supply chain movements around the world. In 2013, 32.9 percent of Malaysia's total exports from the E&E manufacturing sector, represented the largest volume of exported Malaysian products with an annual value of RM236.76 billion (Anuar, 2015). Therefore, ensuring consistency within the E&E manufacturing sector is the main focus of the government as it aims to increase investment opportunities and initiatives for both local and foreign investors (Department of Statistics Malaysia, 2016). Meanwhile, Malaysia has served as a major global manufacturing centre for the E&E manufacturing sector from 1972 to 2015. Several multinational companies from EU countries, the USA, Japan, South Korea, and Taiwan have chosen Malaysia as their business hub (Arikrisnan, 2015). Furthermore, to improve the performance of Malaysian-based companies in the global supply chain, the Malaysian government has recently established the Electrical and Electronics Strategic Council, with the aim of strengthening and enhancing the domestic E&E manufacturing sector.

For many years, the Malaysian E&E manufacturing has not shown improved performance in terms of employee efficiency, product quality, and reduced dependence on low-skilled category labour. Therefore, in order to enhance the competitiveness of the E&E manufacturing sector, the local and foreign E&E manufacturing firms must invest in the Internet of Things as technology has developed rapidly across the world and many countries are revolutionizing their economies by using these technological advancements in every aspect of manufacturing and production (Malaysia Productivity Corporation [MPC], 2016). A

major part of the E&E manufacturing firms has contributed significantly to the economy, specifically through the trade industry. Malaysia's Industrial Production Index shows that the E&E manufacturing firms has continuously increased at a stronger pace of 8.6 percent compared to other subsectors in 2015 (Department of Statistics Malaysia [DoSM], 2016). Therefore, the E&E manufacturing firms has more important roles in Malaysia's continued economic development. With the country's business-friendly climate, the Malaysian economic index now ranks 23 out of 189 countries in the world according to the Ease of Doing Business Index in 2016 (World Bank, 2016).

DoSM (2016b) states that the manufacturing firms have provided work opportunities and attractive allowances to 2,096,197 employees, equivalent to 6.6 percent of the Malaysian population (31.7 million as of 2014). Of these, 508,541 employees work in the E&E manufacturing sector. This large workforce has been hired to enhance productivity and to fulfil the E&E market demands in the USA, the EU, Japan, South Korea, and China.

The phenomenon of decreasing employment numbers in the Electrical, electronic, and optical manufacturing firms. This demand for workers is important, however, weak investments in human capital have restricted Malaysia's growth in terms of high-value activities and constrained technology upgrades. Along with the changing global economy, the global export of the E&E manufacturing sector has been revitalized since the early 2000. The Malaysian E&E manufacturing sector must adapt to this phenomenon in order to maintain its productivity and ability to compete with other companies.

The Federation of Malaysian Manufacturers [FMM] (2016) states that the five categories of employee occupations in the E&E manufacturing sector are as follows: 1) supervisors, professionals and executives, 2) technicians and associate professionals, 3) clerical and related occupations, 4) plant and machine operators and assemblers and 5) elementary occupations. In 2014, the manufacturing sector hired 2,096,197 employees, demonstrating its huge demand for skilled labour. If the labour market demands continue to grow and exceed supply, the need for employees to enhance his or her skills will intensify. Moreover, employers look for employees with a high standard of performance, because this signifies a readiness and ability to contribute his or her knowledge, skills and talent to enhance productivity. Hence, employee job performance is a vital indicator that can influence employers in their decision to invest in the E&E manufacturing firms based in Malaysia.

Therefore, this study emphasizes the importance of the E&E manufacturing firms in Malaysia. The evolution of this E&E manufacturing firms is mostly seen in the increase of investment and progression of many local as well as foreign companies to expand their company size and increase the number of employees. Most companies in the E&E manufacturing sector are concerned about performance, effectiveness, profitability and competitiveness. At the same time, the E&E manufacturing firms has avoided several of the potential issues such as low standards of employee job performance in the workplace which can result in the loss of job quality, effectiveness, profitability and competitiveness. In conclusion, employees need provide feedback and outcomes to determine how productive an employee is and to determine whether an employee's productivity can be improved.

1.3 Problem Statement

The past two decades have seen vast changes and an increase in work opportunities and labour demand. As a result, 348,495 new job opportunities were created in 2015, which provided more than 2.5 million jobs in the last five years (FMM, 2016). This development shows that the Malaysian government's targeted labour market demand is growing at a rate of approximately 2.6 percent annually. Employment in the manufacturing sector, specifically E&E manufacturing firms, is one of the key providers of employment in the labour market. However, literature has revealed that employees in the manufacturing firms encounter various issues in the workplace, particularly related to employee job performance (Fu & Deshpande, 2014). Employees in this industry face unique challenges with issues relating to productivity. In addition, more research is needed to investigate direct and indirect effects of individual variable on an employee's job performance, particularly from the perspective of engineers (Jaramillo, Mulki, & Solomon, 2006; Kuan, 2016). Job performance is one of the most critical components in the manufacturing industry for enhancing productivity and profitability.

In recent years, the level of employees' job performance within the E&E industry has been inconsistent, mainly, because many E&E manufacturing firms did not provide comfortable work environments for their employees namely work method, work schedule, and work criteria (Kuan, 2016). This was proven in a study Chelniciuc (2010) who discovered this critical issue in the manufacturing industry. The issues are the lack of follow-up between managers and their employees with regard to work progress despite company objectives and performance expectations. This situation has deteriorated with employees encountering difficulty achieving their organization's goals. Moreover, over reliance on process manuals in the

workplace have affected employees' job performance. In conclusion, employees' job performance is affected when an employee does not interact or communicate because there is no feedback from managers about their job performance (Fair Work Commission of Australian Government, 2017).

Job performance issues have become more complicated from the viewpoints of the main stakeholders such as businesses people, policy makers, academicians, and employees. The different viewpoints concerned on job performance, typically concern issues such as 1) work problems between superiors and his or her employees, 2) the actual work progress compared with work expectations and 3) job descriptions not synchronized between superiors and his or her employees. The above reasons emphasized that interaction between two or more employees in an organization will influence employees' job performance. With this context in mind, this study will investigate and endeavour to understand why manager as a superior become frustrated with his or her employee's performance. According to Kuan (2016), this phenomenon arises in Malaysia when engineers did not have the motivation to do his or her work. Instead, the managers often did not take enough time to determine the source of the problem.

E&E manufacturing firms in Malaysia recognize the main role of engineers as the key enablers to enhance production and profitability. Nowadays, working as an engineer in diverse and diffused teams is challenging, because engineers require creative solutions while working within various limitations. For example, Vault (2017) identified three common issues relating to employee creativity. These include the work environment perspective, work organization, employment conditions and communication issues. First issue is the work environment issues encompasses poor working conditions, inadequate equipment and safety which will affect employees'

job performance. Second issue is work organization which appear when the employee makes mistakes within a workflow and the mistakes are not corrected. Third issue is employment conditions and communication such as when employees are struggling with insufficient salaries and excessive workloads. In this study, engineers are disgruntled because of unclear job roles and conflicts within the division of responsibilities.

Furthermore, Pelled and Hill (1997) found other evidence or factors that influence employees' job performance. They found that participative decision-making has contributed to better employee job performance and reduced employee turnover in Northern Mexico production facilities as was found participative decision-making had to be significantly correlated and predictive of performance (Denison, 1984). A study by Correa and Coan (2002) discovered that traditional corporate performance measurements to gauge the impact of returns on assets and returns on sales were insufficient for participative decision-making by executives since they did not reflect the level at which the organization was able to meet strategic goals. Furthermore, the elements of employee effectiveness are well maintained through participative decision-making. Most importantly, employees who are aware and made part of the decision-making in the firm's financial and production performance are more motivated and determined to contribute to the growth of the firm.

Several companies in the Malaysian E&E manufacturing firms have ignored their employees' job performances because of the lack of participative decision-making and improper empowerment practices in their organizations (Kuan, 2016). A lack of employee participative decision-making has been seen as a motivating factor for people to leave their professions and is a source of job stress (Chan et al., 2016).

This is happening in the E&E manufacturing firms because the budget for human resource development is at the bottom of its list of priorities. The situation requires immediate remedial action given that inconsistent employees' job performance can lead to negative effects for both employees and the organization. In the effort to achieve a high standard of employee job performance, employers need to understand the fundamental drivers of participative decision-making.

Studies of job performance among engineers indicate that engineers are among the unhappiest employees in Malaysia according to a Work Happiness Survey conducted in 2013 (Boo, 2014). The Work Happiness Survey revealed that due to insufficient advancement opportunities employees felt very negative about their workplace. Therefore, it is necessary to find out the main factors affecting job performance. Among the variables related to job performance are participative decision-making and empowerment opportunities in the workplace. There is broad agreement that participative decision-making and empowerment are the main factors in determining job performance levels.

From the practical view, meta-analysis studies conducted over the years to examine participative decision-making and empowerment are the individual's willingness, desire and ability, and the work environment factors that influence job performance (Meyerson & Kline, 2008). A high standard of job performance is a result of the employee producing a desirable outcome, where his or her actual performance is a product of the involvement and interaction of behaviours such as participative decision-making and managerial empowerment among employees. Little attention is given in many literatures investigating the role participative decision-making and empowerment of managers (managerial role) and his or her engineers (technical role) has a substantial impact on job performance and therefore

on company productivity in Malaysian manufacturing firms, particularly E&E manufacturing firms. In order to achieve satisfactory job performance, managers and engineers must interact and communicate with a view to understanding how participative decision-making and empowerment can be implemented effectively.

All of the abovementioned studies deal with participative decision-making and empowerment factors in organizations and how they affect job performance. In theoretical view, further discussion of the issues could determine whether participative decision-making contributes to job performance in the E&E industry. In addition, the question to be considered would be how empowerment mediates the direct relationship between the study variables. This study will also examine the relationship of participative decision-making as the independent variable and empowerment as a mediator to maximize performance in the E&E manufacturing firms. This study is underpinned by the use of the Social Exchange Theory (SET).

1.4 Research Question

In line with the problem statement of this study, this study aims to address the following research questions.

- 1) Does participative decision-making have a relationship with the three dimensions of psychological empowerment?
- 2) Does participative decision-making have a relationship with the three dimensions of environmental empowerment?
- 3) Do the three dimensions of psychological empowerment have a relationship with in-role performance?

- 4) Do the three dimensions of environmental empowerment have a relationship with in-role performance?
- 5) Do the three dimensions of psychological empowerment have a relationship with creative performance?
- 6) Do the three dimensions of environmental empowerment have a relationship with creative performance?
- 7) Do the three dimensions of psychological empowerment mediate the relationship between participative decision-making and in-role performance?
- 8) Do the three dimensions of environmental empowerment mediate the relationship between participative decision-making and in-role performance?
- 9) Do the three dimensions of psychological empowerment mediate the relationship between participative decision-making and creative performance?
- 10) Do the three dimensions of environmental empowerment mediate the relationship between participative decision-making and creative performance?

1.5 Research Objective

The key aim of this study is to investigate the relationship between participative decision-making, psychological empowerment, environmental empowerment, in-role performance, and creative performance in the Malaysian E&E manufacturing firms. The objectives are as follows:

- 1) To investigate the relationship between participative decision-making and the three dimensions of psychological empowerment;

- 2) To investigate the relationship between participative decision-making and the three dimensions environmental empowerment;
- 3) To investigate the relationship between the three dimensions of psychological empowerment and in-role performance;
- 4) To investigate the relationship between the three dimensions of environmental empowerment and in-role performance;
- 5) To investigate the relationship between the three dimensions of psychological empowerment and creative performance;
- 6) To investigate the relationship between the three dimensions of environmental empowerment and creative performance;
- 7) To examine the mediating role of the three dimensions of psychological empowerment between participative decision-making and in-role performance;
- 8) To examine the mediating role of the three dimensions of environmental empowerment between participative decision-making and in-role performance;
- 9) To examine the mediating role of the three dimensions of psychological empowerment between participative decision-making and creative performance; and
- 10) To examine the mediating role of the three dimensions of environmental empowerment participative decision-making and creative performance.

1.6 Significance of the Study

This study's findings will contribute to the theoretical and practical aspects of employee job performance in the Malaysian E&E manufacturing firms' context.

1.6.1 Theoretical Contribution

Managing employee job performance is vital for long-term business success. This is particularly important in a competitive field where the only differentiator may be the respective performance of individuals such as managers and engineers within the competing E&E manufacturing firms. The development of managers and their engineers' job performance is a crucial concern for the future well-being of the Malaysian E&E manufacturing firms. Based on the comprehensive review of literature concerning employee job performance, there are potential contributions in the theoretical area.

This study seeks to focus on the body of knowledge from the industrial, academic, and policy maker perspective in measuring job performance, namely in context of in-role performance and creative performance. In this context, in-role performance and creative performance are introduced as a dependent variable to examine engineers' job performance. This allows the study to examine how participative decision-making, psychological empowerment, and environmental empowerment affect different types of job performance measures. The most important contribution can be seen from creative performance perspective. For creative performance, employee perceived that freedom is more important than company's regulation. Considering this justification, freedom is perceived as an individual's ability to create useful ideas regarding procedures and processes at work

(Adler & Chen, 2011; De-Stobbeleir, Ashford, & Buyens, 2011; Yeh & Huan, 2017). Prior studies combining both dimensions of job performance are rare, particularly creative performance in term of Malaysian manufacturing firms. The result of the study contributes to the E&E employee management itself and government as a policy maker to strengthen E&E sectors.

Social Exchange Theory (SET) is one of the most widely used conceptual perspectives in management research (Cropanzano, Anthony, Daniels, & Hall, 2017). This theory examines social exchanges between two or more individuals (Mitchell, Cropanzano, & Quisenberry, 2012). SET assesses the quality of social exchanges with predictions influenced by the relationship between the actor and the target (Blau, 1964). The actor is seen as the manager and the target is the engineer. In this study, SET will be used to discuss perspective of the manager on their engineers' job performance supported by participative decision-making and empowerment in the workplace. This is because limited empirical evidence has yet been found regarding the role of management evaluations of employees' job performance in the context of the Malaysian E&E manufacturing firms. Moreover, there is also limited empirical study that has proven that the role of participative decision-making and empowerment influences employee job performance in the same sector. Participative decision-making and empowerment in this study will contribute to new empirical evidence in this research framework.

In conclusion, this study will utilize the SET theory to investigate the perspective of the manager on his or her engineers' job performance supported by participative decision-making and empowerment in the E&E manufacturing firms. Managers are recognized as the individuals who often encourage engineers to participate in decision-making and empower them. As a result, employee job

performance can provide an opportunity for managers and engineers to discover performance obstacles and the implications on performance management. A great manager knows the relevant actions and has unique abilities in the workplace and can encourage participative decision-making and empowerment to motivate employees to meet both their individual and organizational goals.

1.6.2 Practical Contribution

Several practical contributions are highlighted in this study to keep the E&E manufacturing firms on track to be productive, profitable, and guarantee overall effectiveness. Several practical contributions in this study relate to employee job performance. An employee job performance study depends heavily on in-role and creative performances in the organization. Therefore, this study attempts to link the gap between in-role performance and creative performance in the E&E context.

This study is for managers to assess his or her engineers in order to understand the linkage of the important roles of a leader and his/ her employees, from the perspective of employee job performance. It can be seen through the matched-pairs of individuals, based on a hierarchical relationship, namely the superior and the employee as explained by the SET. A relationship is stable when both individuals cooperate positively or like each other enough to make it work. The organization's mission will show negative effects if one of the two has a conflict, which means the teamwork would fall apart. Basu and Green (1997) found in their study of 225 supervisors and employee dyads in a Fortune 500 firm in the USA, that employees are more likely to generate, support, and apply ideas by engaging in unfamiliar behaviours if they are confident that they will not be penalized for doing

so. For example, employees will participate less in a discussion when they interact with a powerful dominating individual than with a powerful individual who does not dominate with over confidence (Locke & Anderson, 2015). This is due to the significance of interaction stability and teamwork in the E&E manufacturing firms.

There have been many previous studies of employee participative decision-making, psychological empowerment and environmental empowerment whose findings have been implemented in other countries, for example in Hong Kong, China, and Canada. However, there is very little in the way of studies conducted in Malaysia (Ting, 2012). Furthermore, most participative decision-making, psychological and environmental empowerment studies have focused on the service sector rather than the manufacturing firms (Chan et al., 2016). Therefore, this study will expand the investigation of participative decision-making, psychological and environmental empowerment in the E&E manufacturing firms in the Malaysian context.

The aim of the study is to investigate how organizational practices enhance employee's contribution to the organization. A conducive workplace and an efficient work system have been hypothesized to influence job performance. The result of the study assists manager to understand his or her employees' issues related to job performance, especially in-role performance and creative performance.

The results of this study will yield a greater understanding of the factors and reasons why the E&E manufacturing firms is more likely to keep on track to achieve organizational goals and the need for reform in the Malaysian E&E manufacturing firms in terms of employee job performance. Through this study, managers and

engineers will benefit by encouraging their performances to be consistent with personal and organizational goals.

1.7 Scope of the Study

The respondents of this research are the engineers who are working in E&E manufacturing firms. Furthermore, this research will involve managers to evaluate their engineers' job performance. It can be seen that the matched-pairs approach between managers and engineer in this study. The managers and engineers were drawn from the FMM directory of E&E manufacturing firms. The E&E manufacturing firms was chosen because: 1) it is the largest employment provider in Malaysia i.e. managers, engineers, supervisors, operators, technicians and 2) it is the biggest contributor to Malaysian economic activities.

More importantly, data was collected from managers and engineers who currently work in the Malaysian E&E manufacturing firms. Prior studies have drawn on implicit interaction theories such as SET to explore and understand this phenomenon through the interaction relationships between managers and engineers. The engineer has a direct interaction or is one who frequently communicates with the managers in the workplace. In summary, to fulfil this research objective, the E&E managers will assess, through two dimensions, their engineers' in-role performance and creative performance. Furthermore, these engineers are those who are reporting to a manager regarding their job performance within a work reporting relationship. Hence, the unit analysis is engineers based on the criteria prescribed above in this study.

1.8 Definition of Key Terms

Different terms of operational definitions are used throughout this study and are elaborated upon below.

1.8.1 Job performance

Job performance refers to the overall output in the organization including skills, opportunities, and dedication (Warraich, Raheem, Nawaz, & Khoso, 2014). The original concept of job performance has two categories of measurement in the workplace namely in-role performance and creative performance according to many previous studies. For example, Alge et al. (2006) identified two categories of job performance when taking a holistic approach. The two categories of job performance have received more attention when conducting a study of the behavioural aspects. There are in-role performance and creative performance in this study.

The study investigates in-role performance and creative performance as separate job performance dimensions because the theoretical and practical aspects are different from job descriptions or responsibilities. These categories will be useful when applied to manufacturing companies, particularly in the E&E manufacturing firms.

1.8.1 (a) In-Role Performance

In-role performance is defined as the degree of action taken regarding the job description, the conducting, mandating, rewarding and behaviour demanded for a

formal job by the head administration at headquarters (Riketta, 2002; Janssen & Van-Der-Vegt, 2011). For the purpose of this study, operational definition of in-role performance refers to an individual's formal job list assigned by the organization and whether an employee does his or her job well. It consists of behaviours that employees perform in their jobs that are relevant to the organizational objectives.

1.8.1 (b) Creative Performances

Creative performance is defined as the degree of creativity behaviour; it is very different from in-role performance. The works listed are not specified and no particular standard is set for them by the companies. It will be based on the employees' decisions and initiatives (Zhou & George, 2001). To measure employees' creative performance in this study, they were asked whether they tried their best to achieve predetermined objectives for their jobs.

1.8.2 Participative Decision-Making

Participative decision-making is the extent to which employers allow or encourage employees to share or join in the organizational decision-making process. According to Cotton et al. (1988), participative decision-making is a formal and informal involvement. For the purpose of this study, operational definition of participative decision-making is essentially asking engineers to indicate the degree of actual and desired participation in job-related decisions.

1.8.3 Psychological Empowerment

Psychological empowerment is defined as the extent to which the engineer is determined to carry out his or her jobs. Their jobs will be based on their competence (Spreitzer, 1995b). This variable includes perceived meaning, perceived competence and perceived impact.

1.8.3 (a) Perceived Meaning

Perceived meaning refers to the value an employee places on the purpose and target of work with respect to his or her personal desires (Spreitzer, 1995b). For the purpose of this study, operational definition of perceived meaning is the engineers' involvement in work roles, beliefs, values, and behaviours.

1.8.3 (b) Perceived Competence

Perceived competence refers as the ability of a person to carry out job duties skilfully (Spreitzer, 1995b). For the purpose of this study, operational definition of perceived competence is the confidence of the engineers to implement a mission successfully.

1.8.3 (c) Perceived Impact

Perceived impact refers to the extent to which a person has faith in his or her ability to influence the results of strategy and affect the organizational system (Kramer, Seibert, & Liden, 1999; Spreitzer & Mishra, 2002). For the purpose of this

study, operational definition of perceived impact is the engineers' influence on a situation and his or her plan of action in the future.

1.8.4 Environmental Empowerment

Environmental empowerment is defined as the extent to which the engineers perceived their autonomy with regard the workplace environment (Meyerson & Kline, 2008). This study includes work methods, work schedule, and work criteria.

1.8.4 (a) Work Method

Work method is defined as the work system through which the employees choose to complete his or her workplace tasks (Meyerson & Kline, 2008). In this study, operational definition of work method is evaluating the individual's ability to follow work system provided by E&E manufacturing firm.

1.8.4 (b) Work Schedule

Work schedule is defined as the extent to which employees are able to manage his or her work (Meyerson & Kline, 2008). In this study, operational definition of work schedule is the evaluation of the employees' ability to plan his or her work according to the given time provided by E&E manufacturing firm.

1.8.4 (c) Work Criteria

Work criteria is defined as the employees' proficiency within a set of standards for accessing self-determination based on work quality (Meyerson & Kline, 2008). In this study, operational definition of work criteria is the individual's self-assessment to fulfil a set of standard work quality provided by E&E manufacturing firm.

1.9 Organization of the Thesis

In this study, Chapter 1 provides the background to the study and provides an overview of in-role performance and in-role performance scenario in Malaysia, as well as the E&E sub-sector of manufacturing. Chapter 2 reviews the available literature concerning participative decision-making as the independent variable, psychological empowerment and environmental empowerment as the mediator variables, and in-role performance and creative performance as the dependent variables. In addition, it continues with the theoretical framework and hypotheses development. Next, Chapter 3 deals with the research methodology including the instruments, respondents, sampling design, and techniques of data analysis.

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

The Malaysian Electrical and Electronic (E&E) sectors is a key economic activity that contributes significantly to the export market. According to MIDA (2017), the major export destinations are to China, Hong Kong, Singapore, the United States, the Netherland, Germany, and Japan. Furthermore, this sector has in operation estimated 274 manufacturing firms including foreign and local companies. This is a strong basis to investigate this industry, particularly to enhance job performance of the employees.

This study has three literature focuses, firstly, previous researchers of job performance have focused on individual in-role performance and creative performance using a matched-pair analysis method. In other words, a matched-pair analysis was carried out by managers to evaluate his or her engineers' job performance. Secondly, researchers have considered the research framework benefits of participative decision-making, psychological empowerment, and environmental empowerment among engineers to enhance his or her job performance. Thirdly, this study tests empirical hypotheses development drawn from a research framework the E&E from data collected from 173 managers and engineers employed in E&E manufacturing firms in Malaysia.

To conclude, this chapter provides a wide overview and evaluation of relevant literature embracing participative decision-making, psychological empowerment, environmental empowerment, in-role performance, and creative performance variables. The discussion in this study begins with the underpinning