



EMERGING BUSINESS STRATEGIES FOR SUSTAINABILITY

NOOR HIDAYAH ABU, EZANEE MOHAMED ELIAS, SITI NORHASMAEDAYU MOHD
ZAMANI, ALMINNOURLIZA NOORDIN

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Foreword

السلام عليكم

Praise to Allah S.W.T. This is another publication produced by STML Press Unit in year 2019. As in previous editions, the simple and informal style of presenting information via the chapters has been maintained. The book provides several examples to illustrate the concepts and points as it presented. A variety of examples under the same thoughts of “emerging business strategies for sustainability” such as leaderships, competitive advantage, environmental, safety, planning and information technology.

I expect that students and lecturers alike will enjoy this edition. Primarily students should aware and gain new information on how to be an effective employees, supported by the requisite knowledge and skills acquired by the study of this book. Moreover, this edition will be a good additional teaching aid for lecturers. I really hope both the students and lecturers will find this book useful.



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Preface

“an approach to facilitate the design, implementation, and evaluation of practical interventions that promote sustainability in particular places and contexts; and to improve linkages between relevant research and innovation communities on the one hand, and relevant policy, private sector and management communities on the other”

~ Anonymous~

This new edition book is organized around the important and prevalent topic of business management especially in business strategy and sustainability. This book describes how every chapter topic fits within the business management framework in an organization and the impact towards the society locally and globally environment.

In overall, this book contains of individual ten chapters that focuses on emerging issues in the business organizations. However other issues also be presented such as Chapter 1 which pointed on the transformational leadership style and the employees engagement. The impact on the leadership may contribute towards the employee enthusiasm at work place. Thus, leaders must show their idealized influence, inspirational motivation, and intellectual stimulation in order to build trusted relationship between them and employees as to prosper the company's goals.

Chapter 2 focuses on organization's strategic planning via the implementation of information technology. Strategic planning is the core organizations' ability to equip themselves for future contingencies and to sense the turbulent environmental threats. In SMEs context, the integration of information technology and business strategy will improve the company's planning in term of operations effectiveness and productivity efficiency.

Fast food business is a type of mass-produced food designed for commercial resale and need strong priority in strategy development. In Chapter 3, this matter was explained details by using Hill's strategy development framework towards some restaurants in Brunei Darussalam. Be creative and innovative are two strategies that can be implemented as well as maintaining and improving the quality for being order winner.

Education is one of the important elements in the nation's capital development. However, to be flying colors is not an easy task since students are insubstantial. Hence, Chapter 4 in this book presenting how three variables influence the student performance to be excellence; stress, workload and time management.

Chapter 5 presents the overview of the literature on aggressive driving behavior among Malaysian motorists. More than 80% of road accidents are caused by driver's violation behaviors like speeding, tailgating and indisposed to comply with road regulations. The study proposed to measure the aggressive driving behavior through the Driving Anger Scale as one of preventive attempts in reducing the fatality in road accidents.

Major current environmental issue may include climate change, pollution, environmental degradation and resource depletion. In this Chapter 6, the issue of environmental prevailing due to massive logistics and distribution services in the chemical industry such as the toxic emissions, hazardous spill and harmful waste. The study's result shows that the sustainable distribution practices among the chemical organizations in Malaysia was moderately implemented.

Chapter 7 highlights the new source of business strategy called as crowdsourcing. It is a practice of organizations to obtain information or input to produce goods and services from group of Internet users. The study found out some benefits include cost savings, reduce delivery time, increase brand awareness and improve design of packaging and work process. Unfortunately, a massive works must be done in order to demonstrate the source can be practically applied in Malaysian business organizations.

Chapter 8 emphasizes on a case study of an automotive organization via design failure and mode effect analysis (DFMEA) towards the designing of headlamp. In particular, the study was investigating the relationship between the applying of DFMEA and the design stage in a new product development. One of the impacts throughout the DFMEA, the organization was able to identify several potential failures at early stage as well as reducing risks associated in the design stage.

Satisfaction is a vital elements in measuring how successful the business organizations in meeting their customer expectations. Chapter 9 explores the implementation of service recovery from some organizations in the United States via the e-Satisfaction. The study has confirmed that perceived justice variables; distributive and procedural have a positive

impact in predicting customers' satisfaction. Thus, service recovery can be a tool to improve satisfaction after service failure.

Finally, this book ended up with Chapter 10 that focusing on the employees' safety information in the Malaysian construction industry. The main topic is about the inefficient mode of information transfer on safety practices among the foreigners.

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1

CONCEPTUAL FRAMEWORK ON TRANSFORMATIONAL LEADERSHIP STYLE TOWARDS EMPLOYEE ENGAGEMENT

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INTRODUCTION

In an organization, employer plays an important responsibility to hire suitable employees who fit with the job and help to achieve the organization objectives. Therefore, employees are also seen as key essential asset of an organization because without them the organization cannot produce goods and services. The word employee means an individual who is hired by the management to manifest their skills, expertise, talent and knowledge according to their job description to achieve organization objectives. Therefore, employees who have positive thinking, high level of energy and dedicated with their job is the most engaged employee. The concept of engagement has gained popularity from the HRM field evolved from past research as involvement of an employee, being proud and happy with their job and loyal towards their organization. Over the past 20 years many topic has been raised on employee engagement from many contemporary human resource which has describe employee engagement as an intellectual involvement and positive work-related state of emotional that motivates them to do their best work (Wayne, Chin, Xingquan & Alyssa, 2017). Generally, engagement is represent by three dimension namely vigour, dedication and absorption. Vigour refers as high level of energy and mental resilience while working and endure difficulties, dedication refers as courteous and being dedicated to one's job includes positive thinking and also taking initiatives to solve a problem at work and absorption refers as feeling of being happy, fully concentrated on the job and being immense in one's work (Schaufeli, 2002; Hubpages, 2009; Lockwood, 2007).

According to Omar, Anuar, Majid and Johari (2012) employee engagement is vital to explore because when an employee engaged with their job, it will boost the profitability and productivity of an organization by increase performance. Therefore, employees will stay loyal and does not have the intention to leave their

organization. However, nowadays to engage an employee is critical for a manager because different employees have different behaviors towards their job. When an employee feels unhappy with their job and is always absent, they will spread the disengagement towards their job. As claimed by Fink (2014) lack of enthusiasm and less likely focus with their job will lead to a downturn of the organization's productivity which has been reported by The Gallup Organization that there are estimated USD \$22 million actively disengaged employees cost the economy as much as \$350 billion dollars per year in lost productivity including absenteeism and low morale issues. Therefore, it is alarming for managers to retrench those disengaged employees or either employees personally intent to leave the organization. As a result, management has to bear all the typical turnover cost when an employee quits such as training cost, advertising cost, time consuming, and loss of future key talent (Berry & Morris, 2008).

Therefore to enhance employee engagement in an organization, a leader plays an important role because a leader is able to influence, share and communicate the company's information effectively towards employees. Taran, Shuck, Gutierrez and Baralt (2009) mentioned that organizations have to take time to fully develop employee engagement and leaders play an essential role by being supportive to their colleagues. By exploring the work of Burns (1978) transformational leadership studies become more evident to have an impact on engagement. According to Burns (1978) transformational leadership is a process of pursuing collective goals through the mutual understanding of leaders' and followers' motive bases toward the achievement of the change in the organization. While, Rafferty and Griffin (2004) re-examine the model developed by Bass (1985) to identify five dimensions of transformational leadership namely vision, inspirational communication, supportive leadership, intellectual stimulation and personal recognition (Keskes, 2013).

EMPLOYEE ENGAGEMENT

The first concept of engagement was introduced by Kahn's (1990) that explains how individuals are personally engaged and disengaged at work. Job engagement refers as the harnessing of organizational members to their work roles where people express themselves physically, cognitively and emotionally during role performance (Kahn, 1990; Schaufeli, 2013; Kular, Gatenby, Rees, Soane & Truss, 2008). Those employees apply their physical and mental state into their job refer as physical engagement, employees who focus on the organizational goal and they are aware of optimal return on their work efforts known as cognitive engagement and employees who feel connected and trust the organization and as well colleagues refer as emotional engagement (Cartwright, 2014). Later on, Kahn (1990) distinguished those characterized into three psychological conditions which contribute to engagement. These conditions are meaningfulness refers as feeling that one is receiving a return on the efforts that they contribute for their job (Landman, 2012; Shuck & Wollard, 2010), safety refers as a sense of being able to work without fear of negative consequences, and availability refers as a physical, emotional and psychological resources needed to be engaged with the

job (May, Gilson & Harter, 2004; Shuck & Wollard, 2010). In contrast, disengagement refers as an individual who feel bored with their task, less enthusiasm, and finally intent to quit from their job (Lee, 2012; Schaufeli & Bakker, 2004). However, Kahn's conceptual theory has a weakness because he did not take into consideration due to lack of literature on employee engagement at that time and he depends on the other psychological constructs such as job involvement and commitment at work (Bakar, 2012). Other than Kahn's study, research on employee engagement has bloomed towards new dimension such as Maslach and Leiter (1997) developed burnout model, and Saks (2006) introduce the multidimensional approach of employee engagement. Therefore, Schaufeli et al (2002) developed three factor of engagement by conceptualized three factors namely vigour, dedication and absorption. Three factor model of engagement has supported by its popularity, most frequently applied and cited in the literature (Ghadi, 2012; Mcbain, 2006; Chughtai & Buckley, 2008; Simpson, 2009; Wefald, 2011). Research based on employee engagement is relatively new therefore three factor model of engagement is helpful to differentiate from other related terms such as job satisfaction, involvement and workaholic (Ghadi, 2012; Bakker, 2009; Wefald & Downey, 2009a; Shuck, 2011).

According to Schaufeli et al. (2001) employee engagement refer as a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication and absorption (Schaufeli, 2013). These three factor of model provide the most precise, valid and comprehensive conceptualization (Schaufeli, 2002). From the Figure 1.1 shows the dimension of employee engagement namely, vigour, dedication and absorption. Vigour is characterized by high level of energy and mental resilience while working, the willingness to invest effort in the work and endure difficulties (Schaufeli, 2002). Vigour also refers as affective constructs and subjective experience of energy and alive at workplace (Sonnentag & Niessen, 2008; Shirom, 2004; Peterson & Seligman, 2004). Another scholar has defined vigour as physical strength, emotional energy and cognitive liveliness (Shirom, 2004; Sonnentag & Niessen, 2008). A person can be differentiated from other energetic experiences such as tension by its positive feeling and happiness by its high level of activation, thus, vigour is important for engaging employee at workplace (Sonnentag & Niessen, 2008; Nix, Ryan, Manly & Deci, 1999).

The second dimension of employee engagement is dedication. A person dedicated to their work is engaged and give their best at work, it has purpose in one's work and being enthusiastic, inspired and proud of their work (Menguc, Auh, Fisher & Haddad, 2013). According to Tavakoli (2015) dedicated employee more likely engaged with their work which is also important to the long term growth of any organization. Moreover, dedication also refer as being on time while employee at work, they are more likely courteous and being dedicated to one's job includes positive thinking and also taking initiatives to solve a problem at work (Hubpages, 2009).

Absorption is the third dimension in employee engagement. This dimension describe the feeling of being happy, fully concentrated on the job and being immense in one's work (Lockwood, 2007). Absorption also refer as an engaged

person in a state which time passes quickly and one has the feel to be attach with the work although they feel tired of whole day on their working hours they also tend to find pleasure in dealing every given task (Bakar, 2012). Therefore, adequate training given by the management for skilled worker especially at the operational sites will be sufficient and effective to absorb with their related job requirement.

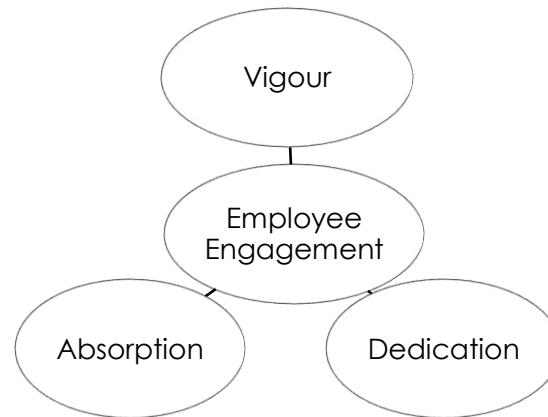


Figure 1.1

Three factor of engagement

Source: Schaufeli (2013)

In conclusion, this chapter has discussed on the differentiation of scholar and practitioner's thought on employee engagement in various ways. To create a solid basement for the definition of employee engagement has caused many breach and overlaps construct in the research area. Therefore, in this chapter presented and justify why Schaufeli (2002) conceptualization of employee engagement is the most comprehensive and valid to be adopted for this study. Hence, engaged employee tend to be positive and fulfilling of performing their job, thus, engaged employee must be vigorous, dedicated and absorbed in their daily work life.

LEADERSHIP

The impact on the leadership contribution towards employee engagement is a leadership style that is adopted to improve employee enthusiasm at work (Ariani, 2014; Alok & Israel, 2012). Several types of the leadership styles are addressed in the literature have its own set of unique behaviors of which some are related and some are completely opposite (Landman, 2012). Leadership can be defined as the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives (Laguerre, 2010; Yukl, 2010). Another researcher has focused narrowly on the definition of leadership whereby leadership can be defined as a process of an individual influence a group of individuals intentionally to achieve a common goal (Northouse, 2010). Therefore, leadership is an important factor for making an organization successful because managers will decide who is going to assign the necessary task given and how they will fit into the organization (Mills, 2005). Anyhow, there are many elements to

make a good manager. One of the critical qualities is leadership style practice by the management (Hopkin, 2014). Leadership and management must go side by side, but they are not the same (Lunenburg, 2011; Hopkin, 2014, Hughes, Ginnett & Curphy, 2005; Nguyen, 2013). However, leadership and management are complementary, but it is important to understand how they differ. Table 1.1 reflected the comparisons between leadership and management. It is vital to be aware of the differences because a good manager is also a good leader (Hopkin, 2014).

Table 1.1
Comparisons between leadership and management.

Category	Leadership	Management
Thinking process	Focuses on people Looks outward	Focuses on things Looks inward
Goal setting	Articulates a vision Creates the future Sees the forest	Executes plans Improves the present -Sees the trees
Employee relation	Empowers Colleagues Trusts and develops	Controls Subordinates Directs and coordinates
Operation	Does the right things Creates change	Does things right Manages change
Governance	Serves subordinates Uses influence Uses conflict Acts decisively	Serves subordinates Uses authority Avoids conflict Acts responsibly

Source: Lunenburg (2011; 2007)

Good management skills will transform a leader's vision into an action and successful implementation of effective leadership functions could stabilize an organization to cooperate among colleagues and management (Lunenburg, 2011; Lunenburg, Thompson & Pagani, 2010). Several studies use the terms interchangeably because managers and officers are people who occupy positions in which they are expected to perform a leadership role (Duncan, 2011; Yukl, 2010). Therefore, manager plays an important role to perform leadership qualities in order to produce good employees in an organization.

INFLUENCE OF LEADERSHIP STYLE

Researchers around employee engagement is emerging and suggested leadership as a crucial element in the development of employee engagement, therefore understanding what leadership behaviors could affect engagement and encouraging cultures as well as the processes around which leader behaviors bring about higher levels of engagement (Soieb, Othman & Silva, 2013; Shuck &

Herd, 2012). But success or failure of an organization is depends on the leadership styles practice by the management (Nave, 2006).

Therefore, in today's organization are not only focusing on developing enough leader but someone who make wise decision making, flexibility to share ideas and able to lead others in uncertain situations at every level produce an effective leader (Trapp, 2014). According to Rao (2013) leaders who able to think out of the box and come out with new solutions and ideas can lead to creativity. Therefore, leader also able to manage complexity of an issue arouse in an organization.

One of the strategies to increase the level of employee engagement is by identifying the leadership style of a leader of any organization. Committed leaders can achieve the desired level of engagement in an organization in any situation when there is cooperation between the members. However, leadership style is contingent toward present workforce and not all leadership styles can be practice to all situations. Research also revealed that there was a direct positive relationship between transformational leadership style and employee engagement compare to transactional leadership style (Kwatra, 2015).

TRANSFORMATIONAL LEADERSHIP

Figure 1.2 shows elements of transformational leadership. Transformational leader is a person who is being passion with their work, help colleagues to achieve clear goals and make others feel energetic. The concept of transformational leadership first coined by Burns (1978) as a process that occurs when an individual engage with others in such way that leaders and followers raise one another to higher level of motivation and morality (cited in Taran, Shuck, Gutierrez & Baralt, 2009). Building on this initial conceptualization Bass (1998) extends the concept of transformational leadership by describing a leader always motivates their followers to generate their own ideas for the organization. Therefore, in transformational leadership, followers feel trust, admiration, loyalty and respect for the leader. In this regard, leader tends to provide their followers with an inspiring mission and individual consideration.

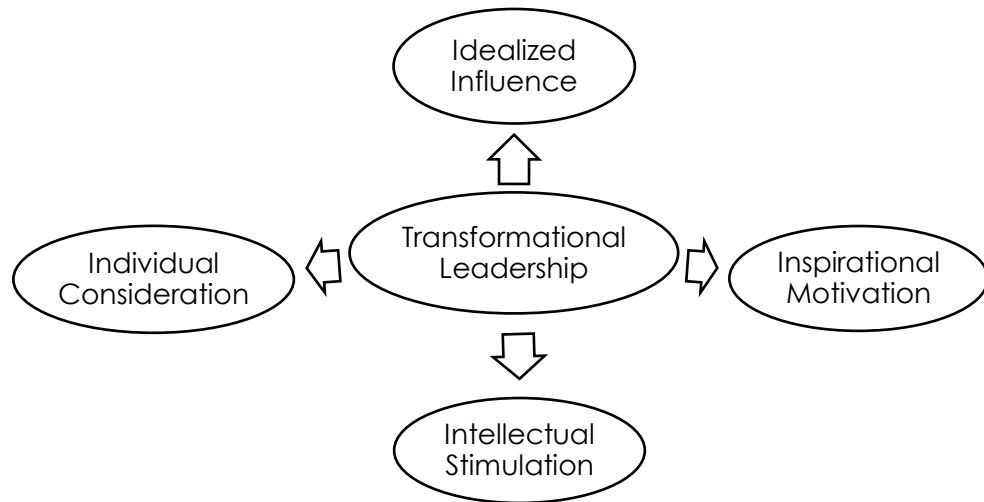


Figure 1.2
 Elements of transformational leadership
 Source: Burns (1978)

Transformational leadership is divided into four elements which are idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. Idealized influence refers a person who deals with confidence and trust. Idealized influence refers to behaviors like showing that benefits of the group are more important to leader than benefits of the individual. The leader demonstrates high ethical norms and becomes a role model for the subordinates (Bono & Judge, 2004). Therefore, a leader who has idealized influence will indicate that they have the trust from their follower, faith and respect, dedication, appeal to their hopes and act as their role model (Xiao, Xiao & Jing, 2006).

The second dimension, inspirational motivation, refers as a person who deals with motivating the whole organization. Inspirational motivation is related to idealized influence but held to motivate individuals where else inspirational motivation is about motivating employees within the entire organization. Transformational leaders display inspirational motivation and encouragement of their followers to become part of the overall organizational culture and environment (Stone, Russell & Patterson, 2003).

The third dimension, intellectual stimulation, refers as people who arouse his followers to able to solve the problems occur in the organization (Bono & Judge, 2004). Leader who willing to accept ideas of their follower and encourage them to be creative would able to solve old problems in new ways (Barbuto, 2005). Therefore, the leaders would able to encourage their followers to propose innovative ideas without fear of intellectual sharing (Stone, Russell & Patterson, 2003). Through intellectual stimulation, the leader challenges assumptions and takes risks to apply followers' ideas (Stone, Russel & Patterson, 2003). Leaders with

this style may prompt and urge creativity in their followers lead to higher engagement levels.

Last but not least, individualized consideration refers as people who are treated individually and differently on the basis of their skills and knowledge (Shin & Zhou, 2003). Therefore, allowing their skills and knowledge to reach higher levels of achievement towards their organization (Chekwa, 2001; Stone, Russell & Patterson, 2003). The leader should acknowledge followers' feelings, their need to grow and develop themselves in their career (Hartog, 1997). Therefore, these four elements enable the leaders being admired by the follower into developing productive individuals.

CONCLUSION

Based on the above discussion, it is concluded that the role of leaders are very important in order to instill the spirit among employees in the organization as well as to maintain employees' loyalty in the organization. Furthermore, by focusing on several elements under the transformational leader such as idealized influence, inspirational motivation, intellectual stimulation and individual consideration may enhance and significantly impact the employees' engagement in the organization. Being a good leader is the most important part of having an engaged and productive team. Thus, building a good relationship between leader and follower will foster trust and respect to each other.

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2

INFORMATION TECHNOLOGY STRATEGIC PLANNING AS AN ENABLER FACTOR OF SUSTAINABLE COMPETITIVE ADVANTAGE OF MALAYSIAN SMES: CONCEPTUAL STUDY

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INTRODUCTION

Resource-based view scholars Raduan, Jegak, Haslinda and Alimin (2009); Jafari and Rezaee (2014); Gerow, Thatcher and Grover (2015); and Cassidy (2016) argued that successful integration between IT strategy and business strategy will significantly influence firms SCA which this critical interrelationship allow manufacturers to be more responsive with business changes along with understanding customers preferences, hence enable firms to survive and grow on long-term. So, firms that provide customers with distinctive products which difficult to be replicated tend to be more powerful in maintaining long term SCA (Raduan et al., 2009). Authors Metcalfe, Uyarra and Ramlogan (2003) viewed competitiveness as effectiveness and efficiency of firms using its existing resources, linking firms profitability growth based on existing capabilities, and last innovation capability and its role in improving firms new product development.

Due to the high pressures of internationalization as well as the uncertainty of business operations along with the fierce competition among manufacturers Makhloufi and Al-Rejal (2016), the need for renovation of business processes and generating new products in line with responsive with customer preferences and markets expectation is much strategically important in order to keep SCA in long term. Critically, since SMEs are limited in terms of resources and lack of clear vision with few exceptions, these critical challenges are making those firms in serious position about their future businesses.

Even though several empirical studies have examined the role of IT strategic planning among large firms and found that playing a significant influence on business performance. In addition, IT executives have acknowledged that IT strategic planning is an important factor for successful business growth and is one

of the key issues among success/failure of modern businesses (Luftman & Ben-Zvi, 2011). While investigating this issue among low-tech industry and in developing country like Malaysia is quite important since very few studies if any, have made a look into the phenomenon under analysis. This overlooked analysis by prior scholars leads to question whether IT strategic planning has an impact on SCA within SMEs context (Silvius, De Waal & Smit, 2009). Given that the IT strategic planning is more important and surely support firms to create SCA and superior performance. Thus, the success of SMEs in the furniture industry will significantly rely on how IT-business applications will be strategically linked with business strategy. To conclude, while IT/IS literature has provided deep analysis and contradictory results as well as most of these studies done in developed economies and within large organizations, poor attention have been made to study the effect of IT strategic planning in SMEs even though furniture industry has witnessed in these last few years huge IT infrastructure deployment among SMEs sector. So, the reasons behind the need to explore the role of IT strategic planning among SMEs is that because usually majority of these firms are characterized by poor comprehensive about IT benefits and its role in business growth which in turn this study will provide significant evidence for both policymakers and professionals as well as for scholars concerning the strategic role of IT-business strategy. Despite the critical role of IT strategic planning in business growth as well as SCA achievement, IT executives and scholars are taking these two issues as the main concern of any failure/success of businesses. Thus, the need to explore this interrelationship between these factors are more important in IT/IS studies particularly within SMEs context and more specifically in the industry that grow very fast and witnessed huge changes in terms of IT-applications and customer needs and preferences.

OVERVIEW OF MALAYSIAN SMES IN THE FURNITURE INDUSTRY

This section reviewed the significant role of SMEs in Malaysia furniture industry and its contribution to the economy earning.

Definition of SMEs

Everywhere, nations and governments give more attention to supporting and ensuring the survival of SMEs because of its crucial role in the economy (wealth, stability, growth). However, according to economic circumstances of the nations, the extent of growth, and the economic and social development which differs amongst countries resulted in various definitions of this sector (Rujirawanich, Addison & Smallman, 2011). Thus, there is no single definition of SMEs both nationally and internationally are recognized, and the common parameter used to define SMEs is based on two criteria namely number of employees and sales turnover.

In the case of Malaysia, also, there is no common definition of SMEs as highlighted by (Hashim & Mahajar, 2002). Each agency defined SMEs based on their own parameter such as annual sales turnover, the number of employees, shareholders' funds, production capability, total assets and so on (Hashim & Mahajar, 2002).

Following the National SMEs Development Council (NSDC) definition, SMEs is defined based on two criteria namely; annual sales turnover and a number of employees. The proposed definition is used across all government agencies and institutions related to SMEs development for purpose of formulating and implementing suitable policies and strategies. Below the proposed definition by (NSDC, 2005):

- Manufacturing (including agro-based) and Manufacturing-related services: Full-time employee's less than 150 or annual sales turnover less than RM 25 million.
- Primary agriculture and services (including ICT): number of full-time employee's less than 50 or annual sales turnover less than RM 5 million.

According to the changes witnessed in the economy since 2005, with respect to the structure and economic indexes such as business trends and its growth, price inflation, business variations, the National SMEs Development Council in 2013 had reviewed and established a new definition of SMEs as follow:

- Manufacturing: Number of full-time employees not exceeding 200 or annual sales turnover not exceeding RM 50 million;
- Services and another sector: Full-time employees not exceeding 75 or annual sale turnover not exceeding RM 20 million.

Table 2.1 below illustrated the proposed new definition of SMEs according to the (NSDC, 2013) based on annual turnover and number of employees.

Table 2.1
New definitions of SMEs in Malaysia based on size.

Category	Micro	Small	Medium
Manufacturing	Sales turnover less than RM 300,000 Full-time employees less than 5	Sales turnover between RM 300,000 to not exceeding RM 15 million Full-time employees between 5 to not exceeding 75	Sales turnover between RM 15 million to not exceeding RM 50 million Full-time employees between 75 to not exceeding 200
Services and another sector	Sales turnover less than RM 300,000 Full-time employees less than 5	Sales turnover between RM 300,000 to not exceeding RM 3 million Full-time employees between 5 to less than 30	Sales turnover between RM 3 million to less than RM 20 million Full-time employees between 30 to less than 75

Source: National SME Development Council (2013)

Effect of SMEs on Malaysians Economy

Today, SMEs in Malaysia constitute about 97.3% of the total business establishment which play a significant role in the strengthening economy and social stability. The sector proved their performance in terms of job creation, wide diffusion, provide a set of products/services, upgrading employee's skills, reduce the power of competition, and powerful wealth generation. In addition, SMEs supports the interrelationship between firms domestically and considered as a complement pole for large companies which contribute to developing and attracting more opportunities for the local economy (Hashim, 2012).

The existing effect of the sector in the economy is evidenced through various aspects. First, SMEs contribute to the country GDP which increased from 29.4% in 2005 to 32.7% in 2012 with an annual growth rate of 6.3% and, thus proved their performance compare the average growth rate of the overall economy of 4.5% (NSDC, 2013).

Furthermore, SMEs in the furniture sector has a significant impact on the domestic economy with respect to the overall export earnings. Second, SMEs is a flexible pole in the job creation which contributes by 57.1% in 2010 and increased to 57.4% in 2012.

Additionally, statistics from different report and agencies indicate that some of the Malaysian SMEs have strong ability in penetrating in the global markets which recognized as a further opportunity to generate more earnings and as a source of foreign exchange such as SMEs in the furniture industry which this sector is the third ranking in terms of export earnings to the national economy (Ng & Thiruchelvam, 2012).

Another crucial role of SMEs is that clearly demonstrated their flexibility during the economic crises 1997-1998 which have the superior capability of survival resulting from the flexibility of adapting during the economic slumps, and in fact, this is one of the main characteristics of SMEs that makes them crucial from policymakers point of view (Abdullah, 2002).

More importantly, SMEs in the low-tech especially SMEs furniture industry is more suitable and powerful sector to face economic crises due to their close relationship with special markets and customers. Considering the role of SMEs as an engine of economic growth, their long-term viability is crucial. For this reason, the Malaysian government has drawn strategies and implement various programs in order to support, guide the development of SMEs (Lindman, Scozzi & Otero-Neira, 2008).

LITERATURE REVIEW

The literature focused on the effect of SMEs on the Malaysian economy through the strategic role of IT strategic planning on firms sustainable competitive advantages among Malaysian SMEs in the furniture industry.

Information Technology Strategic Planning

The strategic planning concept has emerged early of the 1950s, and the strategy is closely related to management. Based on the corporate perspective, the strategy is methods and techniques that allow firms to reach their planning goals in order to be successful on a long time of business operation. Generally, strategic management is regarded as long-term oriented directed towards promoting future survivals and further growth potential and mostly associated with the top management level that determines both visions and mission of the organization (Kapferer, 2012).

Strategic planning is the firm's ability to prepare themselves for future contingencies and thereby sensing the turbulent environmental threats. Hence, firms are required to build alternative future scenarios which allow them to predict opportunities and avoid threats (Bryson, 2012). In addition, strategic planning deals with extrapolation present tendencies in the future and thereby provide suitable guidelines and programs in order to achieve the planned visions and goals. In fact, previous empirical studies Sexton and Van Auken (1985); and current investigations Dibrell, Craig and Neubaum (2014); Sandada, Pooe and Dhurup (2014) they have identified that success, survival rates, growth, as well as failure, is significantly associated with the extent of SMEs toward using and applying strategic planning techniques. Furthermore, Day (1984); Michalisin, Smith and Kline (1997); Arasa and K'Obonyo (2012) found a close relationship between firms strategic planning and sustaining competitive advantage which in turn increase performance capability of the firm.

To support the above arguments, another empirical study by Berman, Evans and Lowry (1995) indicates that the sales growth of small firms is influenced by the implementation of sophisticated business planning techniques. Lyles, Baird, Orris and Kuratko (1993) argued that a well-established strategic planning system promotes firms for more survival and growth. To conclude, firms that are adopted formal planning process is much able to be survival, growth, and thereby emphasizes the quality of the strategic decision-making processes. Again, the literature provides and indicates that IT strategic planning play a significant role in the success and growth of the firms regardless sizes where both scholars and professionals they look to IT strategic planning as a valuable source of sustainable competitive advantage (Makhloufi et al., 2017).

A study by Issa-Salwe, Ahmed, Aloufi and Kabir (2010) viewed IT strategic planning as a firm's activity that ensures the implementation of IT in line with business needs and units which in turn enhance firm's effectiveness, generates new business opportunities, and further increases the competitiveness of the corporate. While

Peppard and Ward (2004) demonstrate that IT strategic planning is a multifaceted process: firms are required to understand how IT will influence the business hierarchy, quantifying technological innovations, identifying new business opportunities, deploying the suitable IT resources Makhloufi et al. (2018), ensuring valuable use of IT in line with employees skills and experience, establishing well-relationship between firms customers and suppliers, and ultimately confirming that IT asset does not become a source of competitive disadvantage.

In SMEs context, a study by Blili and Raymond (1993) indicate that information system planning in SMEs had become more critical where technology also is considered as the most key resource influence a firms products and processes and thereby, planning should integrate with business strategy. Yet, few SMEs plan their IT. Indeed, the limited planning that undertakes by small firms is to focus on the operational aspects in order to improve its effectiveness and efficiency where sustainably provide them with great benefits and earnings.

To note, one of the proposed reasons for SMEs limited view toward planning is that most of the investment in IT system needs to upgrade and normally in response to specific needs, particularly to easier basic management tasks (Hashmi & Cuddy, 1990). A study by Naylor and Williams (1994) demonstrated that managers in SMEs are increasingly willing to use and upgrade their IT system when they earn tangible and intangible benefits of IT in several aspects. More critically, empirical studies strongly suggested that when IT strategy has been perfectly aligned with the business strategy of the firms, then the generating and sustaining a competitive advantage can be achieved Almajali and Dahalin (2011); Luftman and Brier (1999) Makhloufi L et al. (2018) and thereby the performance can be sustainably raised (Chan, Sabherwal, & Thatcher, 2006; Raymond & Bergeron, 2008). To conclude, several authors suggested that the non-alignment between business needs and IT would result in business failure and hence impede firm performing (Bartenschlager & Goeken, 2009).

A number of studies have found that the operational outcomes of the alignment between business strategy and IT is can be on the productivity, agility in responding to the market pressures and changes Gosain, Malhotra and El Sawy (2004), market positioning, improve reputation, profit Kearns and Lederer (2003), sales growth, efficiency Tallon and Pinsonneault (2011), electronic linkages, achieving and sustaining a competitive advantage Oh and Pinsonneault (2007) and thereby ultimately sustaining superior performance (Ashrafi & Mueller, 2015). The effect of alignment between IT and business units would assist firms to create, share, and use knowledge Barki and Pinsonneault (2005), as well as improving and developing a common understanding between IT and business units (Kearns & Lederer, 2003), and thereafter bundling and allocating valuable resources that is the key driver of sustainable competitive advantage (Bharadwaj, 2000).

Another empirical investigation by Abdi Mussa, Dominic, Downe, Loke and Thamaraiselvan (2013) found that the close integration between IT strategy and business strategy has a positive influence on the use of IT as a major source for sustainable competitive advantage. Ultimately, based on the literature review, IT

strategic planning were reported to be one of the most influential capability or have the potential to generate value creation and thereafter, generating a sustainable competitive advantage.

Sustainable Competitive Advantages and Its Related Issues

The concept of competitive advantage is at the heart of strategic management scholars and professionals since 1980. According to Porter (1985), a competitive advantage is at the central goal of a firm's performance in competitive markets. He stated that firms are able to perform better than its competitors when it's able to translate one of the four competitive strategies toward competitive advantage.

A competitive advantage is the firm's ability to provide a customer with unique valuable products or the firm's ability to compete with the lowest cost in the market. Porter also indicate that firms that seek to get success in the industry should consider on the five competitive forces. Thus, based on the Porter framework, achieving a competitive advantage is determined primarily by the firm's ability to respond effectively and efficiently to industry-specific requirements.

In his book, "Competitive advantage: creating and sustaining superior performance" Porter (1985:11), defined sustainable competitive advantage as "above-average performance in the long run, without identifying the specific amount of time that refers to a long run". Resulting from the absence of a definitive period of time indicating sustained or temporary advantage, most of the scholars utilize terms like long-term d'Aveni and Gunther (1995), long run (Ghemawat & Kennedy, 1999), or short-term (Eisenhardt & Martin, 2000) to describe whether it is sustainable or temporary competitive advantage based on periods of time. Actually, these varieties of terms are very fuzzy and not useful for firms regarding its strategic and operational decisions as well as for scholars.

In the traditional view, Porter (1985); Ghemawat (1986), sustainability emerged from two sources such as a number of cost or differentiation advantages. Sustainability based on cost advantages can be achieved through the entry or mobility barriers such as economies of scale (Ghemawat, 1986) and proprietary learning (Porter, 1985). Firms that seek to achieve sustainability based on differentiation advantages need to possess a unique activity or provide customers with a valued product that competitors can't imitate (Grant, 1991; Porter, 1985).

During the decade of the 1980s, Porter framework of CA and SCA was the dominance in strategic management. Later on, ten years ago (the 1990s), the emergence of resource-based view became the very well-known theory introducing a firm SCA which gained the popularity among scholars (Barney 1995; Newbert 2007). Some strategy scholars still recognize Porter theory even through start to receive less attention among most of the researchers as evidenced by the exclusive use of RBV in strategy perspective.

In his study, Wernerfelt (1984) recognized as the very well-known study uncover the RBV (knowledge creation) while Barney (1991) article is often considered as

the most influential study that specifying RBV application (knowledge application) within business level competitive strategy. Barney (1991), was the first who place the popular RBV framework and identifying which sources and conditions that firms are able to generate SCA.

An organization with special unique resources (e.g., assets, capabilities, competencies, processes) are considered the source of sustained competitive advantage (Newbert, 2007). Thus, the achievement of SCA occurs when a firm possess rare and valuable resources and those resources are inimitable (i.e., can't be duplicated by competitors), non- substitutable (i.e., resources can't perform the same function), and nontransferable (i.e., can't be gained in the marketplace) (Barney, 1995). Thus, in contrast to the traditional view, the RBV explain how organization able to achieve an SCA from external forces (i.e., the industry) to internal factors (i.e., a firm's resources). Based on the unit of analysis (firm or industry), Barney (2001) recognize that the definition of competitive advantage is varied. He prefers to use the firm as the unit of analysis in order to define a competitive advantage and he provides two different definitions.

First, an organization able to have a CA when it is focusing on activities that lead to enhancing its efficiency or effectiveness in unique ways over their competitors, regardless of whether those other firms are in a particular firm's industry. Second, firms that tend to generate higher returns as comparing what stockholders are expected may lead to creating a competitive advantage were this definition of CA is often called economic rent. Barney and Arkan (2001) viewed that although these two definitions are different but still can be connected. He stated that a firm that generates higher returns that its stockholder's expectations are perhaps capable to do so because it is more efficient and effective as compare its rivals. Furthermore, the study proposed that a firm is able to create SCA when an organization engaging in enhancing its process efficiency and effectiveness which in turn competitors are unable to imitate what it is doing.

Because "competitive advantage" is such a commonly used term in strategy literature, researchers often neglect to state which of the aforementioned definitions they are using. Such an omission is problematic as it is quite difficult or impossible to determine whether the concept has been properly operationalized and hypotheses properly tested, and to compare results across studies. Moreover, even if a common definition of competitive advantage is adopted, conceptual and operationalization problems are inherent in studies investigating "temporary" or "sustainable" competitive advantage because there is no commonly accepted period of time or any other measurement that clearly distinguishes a temporary competitive advantage from a sustained one (Makhloufi & Al-Erjal, 2014).

While the RBV provides a framework for determining whether a firm possesses a sustainable competitive advantage, it too does not specify the amount of time that constitutes a sustained versus a temporary advantage. Thus, there remains a lack of specificity regarding the concepts of temporary and sustainable competitive advantage. McGrath (1995), stated that gaining a competitive

advantage is not only the main objective of the firm but neither the sustainability is the crucial core objective of the current business and become more meaningful and paramount.

Furthermore, the term "sustainable competitive advantage" is utilized to describe a firm's superior performance attributes and its unique resources that current and potential competitors are unable to be duplicated or imitated through a long period of time (Barney, 1989).

According to Barney (1991) viewed competitive advantage as "the firm's strategy to create business value at the same time not implemented by any current or potential competitors; whilst sustainable competitive advantage is viewed as firms strategy to create business value at the same time not implemented by any current or potential competitors and definitely other firms are unable to duplicate the benefits of this strategy" (Barney, 1991, p.102).

In his study, Ma (2000) the probably sustainable competitive advantage is the largest term utilized in strategic management perspective, yet it the term remains poorly defined and operationalized (Ma, 2000). He also posted three critical observation regarding how firms tend to sustain its competitive advantage and from conceptual view he discovered the various patterns of relationship between SCA and firms performance, namely (1) sustainable competitive advantage does not equate to superior performance; (2) sustainable competitive advantage is a relational term; and (3) sustainable competitive advantage is context-specific.

Also, he examines the three patterns of relationship between SCA and organization performance that is (1) sustainable competitive advantage leading to superior performance; (2) sustainable competitive advantage without superior performance; and (3) superior performance without a sustainable competitive advantage in order to provide the deep understanding and generate a powerful debate among strategy researchers on the usefulness of the sustainable competitive advantage construct for theory building and testing (Ma, 2000).

As for the continued relevance and validity of the resource-based view of the sustainable competitive advantage, we agree with (Fahy, 2000) that better understanding of the resource development dynamics keeps being essential in advancing resource-based theories of competition. Even though RBV has had its critics, it remains relevant and valid in conceptually clarifying and underpinning the concepts of a firm's sustainable competitive advantage. Indeed, RBV relies on two essential statements: heterogeneity of resources (resources, capabilities owned by firms might differ from firm to another), and the immobility of resources (these differences might be indefinite) (Mata, Fuerst & Barney, 1995). Thus, if firm possessed the same resources that other competitors have then these resources unable to generate a sustainable competitive advantage (Makhloufi, Al-Rejal, & Mohtar, 2018).

Clearly, the heterogeneity of resources is crucial and essential for attainment at least a temporary competitive advantage. Also, the immobility of resources is the

main requirement for sustained competitive advantage were competitors would encounter cost disadvantage in achieving, developing and utilizing it compared to the firms that already possessed it (Rivard, Raymond & Verreault, 2006). Another perspective for SCA is the causal ambiguity that is discussed in the literature as the strategic key for firm's inimitable resources. This mechanism protects the firm's capabilities from imitation, especially technological resources.

Variety of empirical evidences Dierickx and Cool (1989); Levin et al. (1987); Cohen, Nelson and Walsh (2000), they found the positive relationship between the existence of causal ambiguity and the level of protection of the resources which in turn lead to becoming inimitable resources that are the main key for SCA as stated by (Barney1991). However, the concept of causal ambiguity in the literature refers to a similar lack of understanding of the logical linkages between actions and outcomes, inputs and outputs, causes and effects that are concerning to technological or process know-how (González-Álvarez & Muñoz-Doyague, 2006). Thus, competencies with causal ambiguity lead to keep a sustainable competitive advantage for the long term in the turbulent environment.

Huang, Dyerson, Wu and Harindranath (2015) stated that a stable business environment becoming uncertain due to rapid technological changes, globalization, and fierce competition behavior. In order to develop and generate sources of sustainable competitive advantage, organizations need to own rare, inimitable and heterogeneous resources, then a challenge occurs for those firms that operate in an industry where resources are mobile and homogeneous across firms. While it is significant for firms to own valuable, rare, hard to imitate and immobile resources to develop primary sources of competitive advantages (Makhloufi, Al-Rejal & Mohtar, 2018), for these competitive advantages to be sustained, an organization should develop core competencies that will continue regenerating rare, non-imitable and immobile processes that are difficult for competitors to imitate. Resource-based view advocates that a firm's SCA is derived from its resources, many cases exist where an organization is unable to control its resources they need. This is clarified by dynamic capability theory.

Whereas dynamic capability theory demonstrates how firms turn its valuable and rare resources over time into valuable capabilities to ensure their SCA among competitors through developing unique capabilities that are unable to imitate by competitors which are resulting from the deployment of firms core competencies that play a significant strategic role in regenerating rare, inimitable and immobile processes that are difficult for competitors to imitate and become a key strategic source of SCA. Through the existence of complementarity among these three theories that link each other, there is a critical need to explore how each of them to complement the weakening of the other (Makhloufi et al., 2018).

This study, therefore, views that any firm in an industry without valuable, rare, heterogeneous and inimitable resources may develop key competencies that will be a source of SCA of the firm. Thus the unique strategic role of developing competencies while integrating key resources to create a sustainable competitive

advantage through corporation processes needs consideration by theorists and scholars. Hence, while undertaking this, need to give attention to the existing complementarity proposed by diverse theories explaining firm strategic perspective.

DISCUSSION AND CONCLUSION

Malaysian SMEs in the furniture industry play a critical role in the growth of external earnings along with creating considerable jobs and improving industry capacities to be smart factories in subsequent years. Following the significant contribution of SMEs in the furniture sector to Malaysian public treasury, and based on the high advancement of furniture industry technology, Malaysian SMEs still need to apply strategically IT-business applications among its business units and operations. Thus, due to the periodical changing in the furniture design and style among manufacturers as well as customers, achieving a close interaction between IT applications and business strategy will allow Malaysian furniture industry to be more realizing and attracting new business opportunities and extending its targeted international markets along with avoiding any cases of business failure.

Studies indicate that IT strategic planning is a valuable asset for those firms that are seeking to achieve sustainable competitive advantages. In addition, top-management look to the strategic planning as one of the inimitable assets which in turn allow firms to be distinguished from rivals. To note, so far very few studies if any have been examined the issue of aligning between IT and business strategy and its influence on the firm sustainable competitive advantages particularly within SMEs Sector. Hence, this study aims to fill this gap that emerged in the IT/IS literature and empirically testing the effect of this factor on SCA.

Importantly, IT strategic planning is one of the main concern of IT executives across the globe regardless of the firm size or nature. The more successful in strategic planning, the more integration of IT-business application into firm strategy, the more understanding of business needs, hence the more tracking new customers which in turn leading in achieving considerable strategic benefits and keeping SCA in long term. To conclude, IT/IS strategic planning is a crucial strategic input for long term SCA.

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3

AAPPLICATION OF HILL'S STRATEGY DEVELOPMENT FRAMEWORK ON FAST FOOD RESTAURANT BUSINESS IN BRUNEI DARUSSALAM

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INTRODUCTION

A strategy development framework that based on integrated working partnership is gearing towards meeting customer needs. It consists of defining corporate objectives, developing marketing strategies to achieve these goals, assessing how different products win orders, establishing the most appropriate means to manufacture, and providing the necessary manufacturing infrastructure. There are various frameworks and approaches used in the analysis of a company's strategic position. One of the most straightforward is the SWOT analysis; SWOT is an acronym for "strengths, weaknesses, opportunities, and threats." Nevertheless, the research of the usage of such a tool is comparatively rare. Fast Food Restaurant Business is restaurant chain and international franchise. It has over 15,000 locations worldwide as of 2015. It is not only a restaurant business but also does delivery services. It is known for its Italian-American cuisine menu including pizza and pasta, as well as side dishes and desserts. It has diversification of product especially in their pizza, for example, different country has a varied menu with a unique local taste. In Brunei, its signature Fast would be *Honey Garlic Chicken* and *Tuna Delight*. These two pizzas are favorite as it has been on their menu for over a decade. Fast Food Restaurant Business in Brunei Darussalam started its operation in over two decades, under a Registered Local Corporation (RLC). RLC handle two brands of Fast Food Restaurant Business. Currently, Fast Food Restaurant Business Brunei has branches nationwide, including three (3) Primo Fast Food Restaurant Business. The primary objective of Fast Food Restaurant Business Brunei is to be the number one favorite fast food restaurant brand in Brunei, and other purposes discussed in following a section of Table 1; the application of the Hill's Strategy Development Framework.

HILL'S STRATEGY DEVELOPMENT FRAMEWORK

The Hill's Strategy Development Framework is a useful framework for strategy development that ties up with corporate objectives.

Table 3.1
Application on Hill's Strategy Development Framework to
Fast Food Restaurant Business at Brunei Darussalam.

Corporate Objective	Marketing Strategy	Competitive Priorities Ranking	Operation Strategy	
			Operation Design Choices	Infrastructure
To drive aggressive growth	<ul style="list-style-type: none"> ➤ Suggestive selling ➤ On-going promotion 	Quality Product	Standardize in order taking, food preparation & delivery time Store location, warehouse, call center & a system Food quality control	Recruiting proactive individuals 1-month training Recognition and Rewards Enthusiasm to achieve daily target sales
Excel at providing product quality and customer satisfaction	<ul style="list-style-type: none"> ➤ Get customer feedback to see what need to be improve ➤ Announce CHAMP! Challenge publically Entertainment 	Quality Product	Standardize CHAMP! principles Internal & External Product Audit	Challenges program CHAMPS Challenge Quality & Expiration check
Develop and support workforce and proactive leaders through learning and growth	Empowered & enriched working environment	Quick Service	Monthly Teamwork building (HWWT) Safe & Healthy Environment	Focused on employee's well-being on serving customer
To be the leader in creation & innovation of products and services	Produce new pizza flavor occasionally & twice per year Pizza customization	Demand Flexibility Product Variability	Using one Information systems for all process ties from call center and stores	Food testing Central Kitchen Order via Website & Mobile Application
Intensify Social Responsibility	Partnering with local community	Brand Image	Packages use recycling materials	Mobile donation health center Financial support to charities

It provides the organizational direction, and marketing strategy that defines how the organization will compete in its chosen markets, and the operation strategy

that includes the capability to compete in those markets (Hill & Hill, 2009). It seeks to establish how the operations of a company contribute to the competitive advantage of the company. This framework defines the critical elements of an effective operations strategy that includes operations design choice and building the right infrastructure. To use this structure, it consists of five steps: Define corporate objectives; determine marketing strategies to meet these goals; assess how different products win orders against competitors; establish the most appropriate mode to deliver these sets of products and provide the infrastructure required to support operations. As summarized in Hill's Strategy Development Framework application in Fast Food Restaurant Business Brunei demonstrated in Table 3.1.

RLC Corporate objective defines the company directions to continue to be competitive in the industry. The corporate goals provide a path for the organization and performance indicators that allow progress in achieving those goals to be measured. The organizational goals for the internal and external stakeholders dependent on the financial measure that includes profit and growth rate, employees practices such as skills development and environmental policies. The RLC and Fast Food Restaurant Business Brunei corporate objectives, vision, and mission, are similar. The visions have been translated into following areas of findings:-

Driving Aggressive Profitable Growth

It is an attempt to achieve the highest capital gain and cash flow growth. The marketing strategy in Fast Food Restaurant Business Brunei support this is by continuous promotion. Fast Food Restaurant Business products are slightly expensive from other competitors. An example of their continuous promotion is *Double Every Day*. It is where the customer buys two pizzas with a lower cost - 15% lower than the original price. The development done over decades and customer are well aware of this event. The marketing strategy is to carry out suggestive selling by the operator and restaurant server. Employees need to recommend another menu as an appetizer, to the customer before their order is confirmed. The core competencies of this corporate objective are maintaining high-quality product and quick service. The operational decision is to have their standard order taking process, the usual duration of food preparation and approved delivering time. Any flaw in this matter would be reported and investigated. For taking order either by phone or over the counter, the employee needs to respond less than two minutes because they have another customer that is waiting for their order to be taken. Fourteen minutes is the standard duration of food preparation. Delivering food to the customer must be done within 30 to 45 minutes. 1 hour would be taken into consideration such as on peak time. Hence, the company needs to hire a proactive employee. In a call center, most of its employees are Bruneian as it would not have a language barrier when communicating with the customer. Moreover, to achieve this standard, Fast Food Restaurant Business Brunei employees will be given one-month training after joining the organization. When employees can follow the standard operating procedure, they would be motivated by recognition and rewards. By continuously manage to support the

standard and expectation, the company can achieve the corporate objective that will contribute to customer satisfaction and repetitive order form Fast Food Restaurant Business Brunei.

In practice, before the business operation, the manager usually conducts a briefing, motivate their team members and remind them to achieve targeted sales, as well as to maintain excellent service to the customer. Should they reach their target, a team member would be rewarded, and each member will be given recognition for their hard work. For the business operator, their goal will be promoting a new product and do the suggestive selling. All the branches of the Fast Food Restaurant Business Brunei stores located at strategic places. Most of it situated in the central business district (CBD). Hence, it is easily reachable for the customer. Other than stores, Fast Food Restaurant Business Brunei has its warehouse, central kitchen, and central call center equipped with advanced technology, as well as a system that connects call center to all stores. With this method, the company can monitor and organize Fast Food Restaurants Business activities such as food preparation, delivery time, and targeted sales. By having their warehouse that facilitates dry and frozen products that serviced to their central kitchen and all the restaurants, this makes them have total control of their product quality. For example, they use freezer or chiller trucks that keeps frozen product to be at the standard temperature (-13C to -23C) while transporting it to all stores. Hence, Fast Food Restaurant Business serves fresh ingredients on their menu.

Excel in Providing Quality Product and Customer Satisfaction

In achieving this corporate objective, marketing team collected customer feedbacks from a survey that were done by the customer once they received their receipt. This study called *Guest Experience Survey*. Customer will get a free appetizer for their next purchase item BND\$10 above by filling in the study. With this information from the study, operation management can decide on what needs to improve to satisfy the customer experience. Fast Food Restaurant Business valued their customer and their feedbacks. They continuously attempt to improve their product and services as well as keeping customer needs as priorities. Hence, the company trained their employee to maintain and understand Fast Food Restaurant Business standardize the method of producing high food quality and its consistency. On the other hand, speedy delivery is crucial for customer satisfaction as they need to deliver to the customer within the time given.

Every employee of Fast Food Restaurant Business needs to undergo challenge program called *CHAMPS! Challenge*. It is used by manager and mystery customers to train, assess, and reward employee on specific aspects of each restaurant or branches. These issues are; Cleanliness, Hospitality, Accuracy, Maintenance, Product, and Speed. It is a challenge to formalize best-practice sharing with other Fast Food Restaurant Business from different countries.



Figure 3.1
CHAMPS Principles

The CHAMPS is applied to their daily business activities, such as anticipating speedier delivery service and more accurate order taking will retain the regular customer and invite new customers in the long run as shown in Figure 3.1.

Marketing Department has announced this challenge to the public to get the customer attention and for attraction by providing positive feedbacks that Fast Food Restaurant Business has a high-quality product and services delivered are as what the customer expected. Also, Fast Food Restaurant Business Brunei restaurant always put high awareness of the product expiry date. Every month, Fast Food Restaurant Business undergoes internal and external product auditing. This is to ensure ingredients are fresh and no expired foods served to the customer. Furthermore, customer satisfaction is not only of the food quality but also how they perceived when dining in the restaurant. For example, the ambiance of the restaurant, the music, free Wi-Fi and a big screen television. Fast Food Restaurant Business Brunei restaurant is not only an eating space but used for socializing and doing the events.

Develop and Support a Workforce and Proactive Leaders through Learning and Growth

XYZ Business also values their employee as their significant asset. In line with the corporate objective, they created corporate values that can share with team members will drive both leader and team member to work together. This corporate value called How We Win Together (HWWT), illustrated in Figure 3.2. It has a unique set of principles guiding all aspect of daily work lives, professional and personal development, and customer interaction.



Figure 3.2
How We Win Together (HWW)

Producing a quality product and services is essential. Apart from that, employees' safety and health are also necessary for the manager to emphasize on preventing or eliminating all possible causes of accidents where inspections conducted monthly. Having a positive working environment and organized sanitary facilities are influence factors for an employee to do better. Furthermore, Fast Food Restaurant Business provides an initiative atmosphere and value their employee creativity. They listen to all employees feedbacks and give the opportunity to them to improve and develop their skills and abilities within the company.

Leader in Creation and Innovation of Products and Services

Fast Food Restaurant Business is innovative when it comes to producing a new product. Their strategy is diversification of their pizzas. Fast Food Restaurant Business is always trying to mix up ingredients in an innovative way to make a pizza into something slightly different especially following the local taste. For example, the bestselling pizzas that do not sell in other country are Honey Garlic Pizza and Tuna Delight Pizza. Another local taste pizza created was Chicken and Beef 'Rendang' Pizza. The current topping, they created is Floss 'Serunding' Pizza. The preparation to develop this is made at their Central Kitchen, provided with highly automated equipment that allows the customer to customize their pizza or create their pizza with additional charges.

Regarding information technology (IT) Fast Food Restaurant Business information system from the call center to other stores called One System license under Fast Food Restaurant Business. It monitors the progress of the business activities at anytime, anywhere via remote login functionally. It serves as the core of information and communication between customer and stores. The operator will receive a call from a customer, then enter their number, address and order. With just pressing enter, it instantly sends to the respected branch as demonstrated in Figure 3.3.

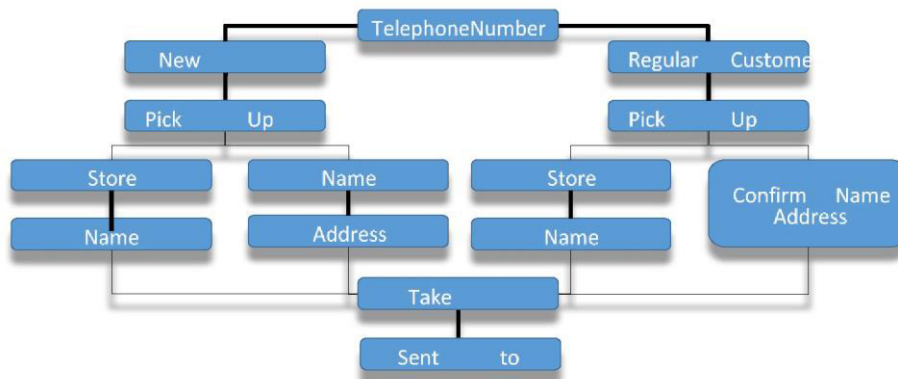


Figure 3.3
Fast Food Restaurant Business information system
from call center to other stores

Figure 3.3 is the system flowchart when the order is taken via phone call. The operator can also know customer order's status has been away, cooked and delivered. With this, it can eliminate waiting time wastage like manually transferring order to store. Hence, with this system, it makes some more efficient business activities. Other than innovation in developing food product and information system innovation; recently Fast Food Restaurant Business launch ordering from the website and mobile application that eases the customer and lessens the waiting time when calling to the call center. The wastage mention here can be waiting call time as Fast Food Restaurant Business only have 20 operators when they received minimum 500 calls per day and maximum 2000 calls per day in peak season such as payday. Moreover, with the launching of ordering via the website and mobile application, the customer can pay their order online.

Intensify Social Responsibility

Food Restaurant Business believes that they need to invest in giving back to the communities, making a positive difference in the lives of customers, and employees in making food accessible to the less fortunate such as providing financial support to charities. The latest social responsibility activity they did was \$10,000 donation to SMARTER Brunei. Their vision is to help the community and strengthen ties with the communities. Also, they engaged in donating blood that usually twice a year. They collaborated with RIPAS Blood Donation Bank. This help raises awareness for the benefit of giving blood. The donor gets free pizza and baked garlic chicken Rice. Every time they did this activity, they successfully received minimum 100 donors. With this event, they could also use it to test their new product to the customer and get their feedback. Furthermore, Fast Food Restaurant Business social responsibility is by using disposable material packages such as take away paper box for pizza and appetizer, as well as an aluminum foil for their pasta and dessert.

Marketing Strategy and Competitive Priorities

Marketing strategy defines how the company will compete in the chosen market. The marketing strategy involves identifying a target market and how to compete in these markets. Competitive Priorities represent the strategic emphasis that a company places on specific performance measures and operational capabilities within its value chain. Often, however, competing priorities led to tradeoffs between quality and cost.

For Fast Food Restaurant Business Brunei, their strategy is to sacrifice price to develop high-quality products for competitive advantage as demonstrated in Figure 3.4. The list of Fast Food Restaurant Business Brunei's competitive priorities was distinguished either within or under the category of order winner or order qualifier. Fast Food Restaurant Business Brunei apply order qualifier by maintaining high food quality and high standard of services which are the primary customer expectation.

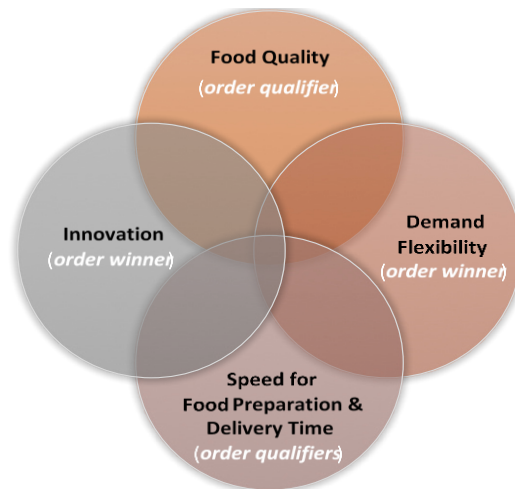


Figure 3.4
Order qualifier and order winner

As for order winner which is understanding the customer demand and adding its value, Fast Food Restaurant Business Brunei has created unique taste such as a touch of local food in their pizza. Also, they also always update their variety of menus every twice a year. They also took customer feedback and created new product or promotion. Moreover, they have more branches compare to other competitors. Another factor is Fast Food Restaurant Business Brunei innovation where customer order via the website and mobile application so that customer can order anywhere at any time.

Operations Strategy

This framework complements corporate objective, competing priorities, and

marketing strategy, and essential elements of an active operations strategy for operation design choices, to build the right infrastructure. Operation Strategy is a vision of operational function that sets the overall direction or thrust for decision making. This idea is integrated with business strategy and often reflected in formal planning. The operating procedure produces a consistent pattern of operational decision-making and a competitive advantage for the company. In formulating a working strategy and business strategy issues, an analysis must be made with the external and internal environment. The external environment usually includes competition, customers, economics, technology and social conditions. External environment in addition to forming a business strategy and corporate strategy can also develop an operating approach.

Similarly, the internal environment can affect the operation strategy through the availability of resources, the existence of organizational culture, skills and abilities of the workforce, location and facilities, the form of control systems. Hill (2000) argued that operation design choices or delivery system choice means the decision of operation management must make as to what type of process structure is best suited to produce goods and create services. Also, building the right infrastructure focuses on the nonprocess features and capabilities of the company. The delivery system of choice means how and where the Fast Food Restaurant business is going to provide their products and in what type of volume and size. The Fast Food Restaurant offers their services by that require consumers to go through their Apps to request for their services (fish and chips, sandwiches, pitas, hamburgers, fried chicken, French fries, onion rings, chicken nuggets, tacos, pizza, hot dogs, etc.). They also provide home delivery and drive through take away services without extra charges for customers. As for infrastructure such as computerized information systems can improve and link food preparation and serving operations. Touch screen ordering programs ensure accurate communication of customer orders. Timing systems monitor meal progress and can alert staff if a request is running behind schedule. Reservations programs maximize traffic flow and seating. Inventory management systems track supply levels and can help reduce waste due to spoilage. Cost accounting programs help companies determine the profitability of individual menu items. Handheld point-of-sale (POS) devices allow servers to place orders and print checks tableside, improving accuracy and reducing ordering time. Some handhelds can also print customer checks and process credit card payments (Ringim, 2018)

Pricing Strategy at the Fast Food Restaurant Business Brunei, cost accounting is essential, since the profitability of individual dishes can vary significantly and will initially determine the cost of the menu items. Fast Food Restaurant Business Brunei takes advantage of excellent credit terms with suppliers and also update their menu to take advantage of seasonality for example in local produce items. Fast Food Restaurant Business Brunei also closely monitor the Prime Cost Report which focuses on the controllable expenses of Cost of Goods Sold and Labor. They can currently control employee cost by hiring family members who will work for low and reduced wages (Hoa Quynh Tran, 2015).

Promotion and Advertising Strategy includes: Location- the Fast Food Restaurant

Business Brunei branches are located in a strip city center at the busy central business area with easy access to their outlets from public and private offices. Fast Food Restaurant Business Brunei has signage on the Roads Shopping Plaza as well as signage over the entrance. Also, Fast Food Restaurant Business Brunei had a database of existing catering customers and relied heavily on word of mouth approach to attract and grow their business. Fast Food Restaurant Business Brunei leaves the menu, a fishbowl for business cards and a small 'homey' display with the retailer announcing their presence in an area (Arnorsson, 2013).

FAST FOOD RESTAURANT BUSINESS BRUNEI'S CUSTOMER BENEFIT PACKAGES

Based on the analysis Fast Food Restaurant Business has implemented Customer Benefit Packages (CBP) as demonstrated Figure 3.5 below. Their quality of food product and services provided are aligned to the company objectives, and this is supported by other primary factors such as; promotion, CHAMPS! Challenges (help to provide better service the customer), ease and speed up ordering via the website and mobile application, delivery, and strategically stores location. By combining the design CBP and operation systems to produce and deliver it, this has contributed to accomplishing corporate objectives and marketing objectives of the organization.



Figure 3.5
Fast Food Restaurant Business Brunei's customer benefit package

RECOMMENDATIONS/SUGGESTIONS

Fast Food Restaurant Business Brunei can apply operation strategy to retain, gain customer and be competitive in the industry while making a profit. The recommendations as follows:

- i) It is essential for Fast Food Restaurant Business Brunei to focus on customer service relationship (CSR) to enhance its brand value. As a company with high CSR value has a high chance to have excellent image rating in the business environment that would contribute to its sales and attract new consumers.
- ii) Fast Food Restaurant Business Brunei should also create a new market such as selling frozen pizza in their store or export their signature product to another country.
- iii) Fast Food Restaurant Business Brunei can promote their product by joining any special occasion like Brunei Consumer Fair leading, most popular consumer and trade event in Brunei Darussalam.

CONCLUSION

In conclusion, all these interrelated corporate objective, marketing strategy and operation strategy, are vital in decision making for a long-term run to sustain in the industry and retain their regular customers, especially in the competitive food industry. Even though there are many competition and possible potential entrants who are offering a lower price, they can't compete when it comes to the Fast Food Restaurant Business product quality and its taste (*order winner*). Hence, Fast Food Restaurant Business adopts Quality-based strategy - *quality at the source*. It focuses on maintaining and improving the quality of the company's product and services as well as being creative and innovative in introducing new product and service. Moreover, compared to other competitors, Fast Food Restaurant Business Brunei has more stores nationwide which make them more reachable to the customer one step ahead.

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4

STRESS, WORKLOAD, TIME MANAGEMENT AND STUDENT PERFORMANCE

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INTRODUCTION

Education becomes one of major contribution to capital development in Malaysia. Education plays a great role in the life of everyone all through the life. Getting proper education is very necessary to get success and have a better life. Education develops personality of the people, provides physical and mental standard and transforms people's living status. It promotes the feeling of physical, mental and social well-being by providing better life. Good quality education is constructive in nature which constructs the future. It helps a person to improve status of mind, body and spirit. However, the opportunity that have given to the community or workers for continue the study will affect to their daily routine, especially for those workers who done two different task at the same time. They need to be smart in order to balance their life, responsibility towards work and study. Otherwise, they will face a lot of issues when they failed to cope with their study due to working duration constrain. Equally important, their study performance also needs to be concern so do with their work performance. Realizing this solemn effect, this study attempts to examine the relationship between stresses workload and time management of part time student towards their performance in studies. The outlined objectives are:

- i. To identify relationship between stress towards part time student's performance.
- ii. To identify relationship between workload towards part time student's performance.
- iii. To identify relationship between time management towards part time student's performance.

LITERATURE REVIEW

Student Performance

According to Alfian and Othman (2005), student performance refers to the ability of the student to perform their task, good in academics and also able to fulfill the criteria in labor market. Previous study by Papageorgiou and Halabi (2014) revealed that prior knowledge and academic ability are both significantly associated with student performance. Other study by Baird and Narayan (2010) stated that the effects of a change teaching structure can influence student performance. Recently, Callaghan and Papageorgiou (2015), examines on the gender differences in locus of control and student performance. Their finding reported females were therefore found to have fundamentally larger amounts of both LOC and understudy execution; yet, the majority of tested items were not found in their affiliations, and aggregate LOC was not observed to be connected with higher performance for female or male understudies. Certain individual items were, be that as it may, observed to be connected with performance for male understudies.

Stress

Stress entails mindful or mindless states of arousal and it can prove debilitating in organizational settings (Strutton & Tran, 2014). According to Smollan (2015), some level of stress is available in any employment whenever and second, while some progressions expand stress, others may lessen it or have little effect on it. Panagiotakopoulos (2014) analyzed on the degree to which post-secondary educational institutions have merged into their curriculum modules related to occupational stress management in order to equip graduates with the required knowledge to cope with the stress affected by the risky and intensified nature of contemporary jobs. Meanwhile, a study by Strutton and Tran (2014) explained on how to convert bad stress into good. As such, supervisors should use to channel formerly bad stressors and fears into productively motivated behaviors and shows that the conscious choice to manage through impossibility as bad stresses arrive offers managers actual tools through which they could convert the threatening stresses into challenging into motivating and anxieties (Strutton & Tran, 2014).

Workload

According to Marsh and Blau (2007), workload is the amount of work or working time expected to finish the task and employee always work hard to fulfill their responsibilities with daily interruptions came from expected sources, like direct reports and supervisors. According to Maslach and Jackson (1986), increasing workloads have an on-going relationship with burnout, particularly emotional collapse. People who do not have enough time and support to fully recover from the demands of work exposed to stress. Burgen (2015) conducted a study on the effect of workload on quantitative and qualitative job performance. Workload can affect performance of employee in different levels and it is important for firms to assess the effect of this in order to improve the capacity of decisions (Burgen, 2015). Moreover, organization needs to balance the workload in order to be able

to maximize the performance of their workers.

Time Management

Time management refers to a technique for effective time use, especially having enough time to accomplish the many tasks required (Orpen, 1994). According to Guoqing and Yongxin (2000), a good time management is one of the important things in organization to make sure the whole management activities run effectively. Fourie (2013) strongly emphasis is on productivity, time management and creativity: getting innovative, high quality work comp. likewise, , there might be simplistic solutions on offer to get work done on time such as the use of productivity and time management tools (Fourie, 2013). Wu and Passerini (2013) found that both explicit and tacit practices of individual time management are a vital segment of how experts complete the project within their every day schedules. As well as project managers have an important role in driving an effective project, and their time orientations specifically influence all project stages.

Self-efficacy Theory

Self efficacy theory refer to an individual belief that he or she is capable to performing task, achieving their goal and what they want (Glaser & Hecht, 2013). This study aim the central belief that individuals have about themselves, encompassing perceptions of their abilities to deal with stress, workload and also how she or he manage their time to make it balance between work, life and also as a part time student. People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided (Endress, Chowdhury & Alam, 2007). Besides that, in the context of this study, the individual will set themselves challenging goals and maintain with strong commitment to achieve their goal and perform well in their work and also as a student. They work hard and dismissed the barrier.

THEORETICAL FRAMEWORK

In this study, the independent variable was defined as element or component in work life balance either it has the relationship with part time student performance. Three elements or component of work life balance that represented by independent variables are stress, workload, and time management. The dependent variable is student performance. Generally, the aims in this study are to identify the relationship between stresses, workload and time management with student performance.

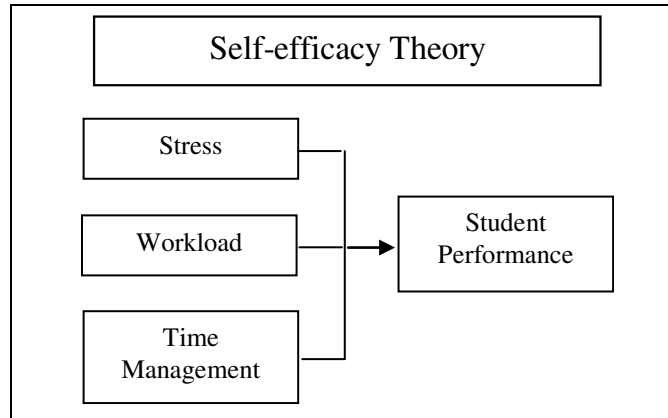


Figure 4.1
Research framework

RESEARCH METHODOLOGY AND DESIGN

The questionnaire was distributed among part time postgraduate students from several public universities located at northern peninsular of Malaysia. They were selected to be respondent because part time students are facing with a lot of commitment in a day to balance their work, life and study. Primary data is obtained using self-administrated questionnaires. Snowball sampling was employed for obtained primary data where researcher distributed the questionnaires through several personal referrals that are part time student and also working at the same time. The total number of questionnaires that were distributed is 170 (100%). The number of quantity of questionnaire that researcher obtained same as the number of quantities that fully response which is 151 or 89%. The questionnaire was originally constructed in English and was translated back-to back into Malay language. All of the items used to measure the variables in this study use the five-point Likert Scale ranging from 1 – representing strongly disagree to 5 – representing strongly agree. Demographic data consists of Gender, Age, Marital Status, Job Status and Working Period. Generally, 42.6% respondents are male and the remaining 57.4% are female. They are married (43.2%) and still had unmarried (54.8). Most of the respondents are around 21-30 years old. Meanwhile, majority of them (37.4%) been working for 5-10 years and the highest working period is over 15 years, which is consist of 3.2%. Distributions of Job Title are Manager (5.8%), Administrative Worker (34.2), Executive (39.4%) and the remaining are in others category.

FINDINGS AND DISCUSSION

This study had tested three hypotheses, which are:

1. Stress would have a significant relationship with student's performance.
2. Workload would have a significant relationship with student's performance.

3. Time management would have a significant relationship with student's performance.

Therefore, multiple regression analysis is executed to test the outlined hypotheses. Table 4.1 summarized the results of regression between three independent variables namely Stress, Workload, and Time Management with Student's Performance as dependent variable.

From the result, it was found out that the three independent variables explain 29 percent of the variance in Student's Performance ($R^2 = .30$). This clarity the student's performance is explained by independent variables by only 30 percent, while the rest of 70 percent is explained by other variables. The adjusted R^2 also was taken into account with .290.

The result shows there is a significant relationship between stress and students' performance. This can be enlightened that stress give impact on a part time students' performance either they can perform well or not. They need to balance their work, life with a proper study environment.

All tested independent variable are significantly associated with Student's Performance. In detail, Workload had the strongest influence on Student's Performance ($\beta = .46, p < .01$), followed by Time Management ($\beta = .15, p < .01$) and Stress ($\beta = -.54, p < .01$).

Table 4.1
Relationship between stress, workload, time management
and student's performance.

Independent Variable (Environmental-CSR)	Dependent Variable (Student's Performance)
Stress	-.54**
Workload	.46**
Time Management	.15**
R^2	.30
Adjusted R^2	.29
$p < .01$ **, $p < .05$ *	

Based on the results, the three independent has a significant relationship with Student's Performance. Therefore, the proposed hypotheses are supported. Table 4.2 showed summary of the hypothesis testing results from multiple regression analysis.

Table 4.2
Summary of the hypothesis testing results from
Multiple Regressions Analysis.

Hypothesis Statement	Remarks
Stress to philanthropy would have a significant relationship with student performance	Supported
Workload would have a significant relationship with student performance	Supported
Time management would have a significant relationship with student performance	Supported

CONCLUSION

Based on the study that has been conducted, we concluded that the elements or components in work life balance have been an important relationship at part time students' performance. Components of work life balance, namely stress and time management gained positive responses from respondents. At the same time, when they failed to balance between work and education, effects such as insufficient flexible time, overstress and excessive workload will be faced by them. Work life balance has been verified to be important things to ensure working students can manage their responsibilities well and they can achieve what they want. Finding a suitable balance between work and daily living is a challenge, especially for a part time student. Ultimate organizational aims such as employee retention can be achieved by preserving the workers' work life balance (Deery, 2008). An important aspect of work-life balance is the amount of time, handling with stress, workload, personal responsibilities and others.

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5

AGGRESSIVE DRIVING BEHAVIOUR – A REVIEW OF THE LITERATURE

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INTRODUCTION

Road accidents in Malaysia keep increasing every year and most of the accidents ended with deaths, serious injuries and total loss of the vehicles. National Highway Safety Traffic Administration (NHSTA) (2017) defined road accidents as an event that occurs on a road open to public traffic; resulting in one or more persons being injured or killed, where at least one moving vehicle is involved. The phenomena of road accidents have been haunting the public as it can cause permanent disability and post-traumatic stress disorder to the drivers.

Malaysia had experienced huge numbers of registered motor vehicles from 22,702,221 in 2013 to 26,904,539 in 2017. It shows about 15.62% growth for the last five years. Remarkably, in year 2017, the total number of motor vehicles in Malaysia is almost equal to the total population in that year. Increasing volume of motor vehicles will cause increasing number of interactions between road users' and road accidents risk is getting higher (Ibrahim, Ismail, Halim & Amit, 2016)

This could be seen from Bukit Aman Traffic Investigation and Enforcement Department (2017) reported that about 3.3 million car accidents and 34,195 fatalities were recorded from year 2013 to 2017. Worst, in 2017, there were 667,275 car accidents and 6,983 fatalities of drivers and occupants. Table 5.1 shows in detail numbers of cars involved in road accidents last 5 years.

Table 5.1

Total cars involved in road accidents year 2013 to 2017.

Year	Cars
2013	659,813
2014	662,602
2015	663,578
2016	665,758
2017	667,275
Total	3,319,026

The Malaysian Institute of Road Safety Research (MIROS) (2017) discovered that more than 80% of road accidents in Malaysia are caused by driver's violation or aggressive driving. Previous studies have consistently discovered that aggressive driving such as speeding, tailgating, failing to observe signs and regulations, and seeking confrontations with other drivers are prone to road accidents (Fai, 2015; Plankermann, 2014). Manan and Varhelyi (2012) discovered that the prime factors of aggressive driving is human's behavioural factors such as driver's personality, driving anger and risky driving behaviour. This can be supported by a study conducted by Al-Reesi, Ganguly, Al-Adawi, Lalamme, Hasselberg and Al-Maniri (2013) that examined responses to the Driving Behaviour Questionnaire among car drivers in Oman and found that human's behavioural factors as main contributory factors of aggressive driving that lead to road accidents. While there are many research about aggressive driver in other part of the world (Chraif, Dumitru, Aniței, Burtaverde & Mihaila, 2016; Simons-Morton, Li, Ehsani & Vaca, 2016; Kovacsova, Lajunen & Roskova, 2016; Deffenbacher, Stephens & Sullman, 2016). However, there are minimal researches had been done to examine the behavioural factors that contribute to aggressive driving among drivers in Malaysia. Therefore, the purpose of this paper is to provide a review of literature on (1) concept of aggressive driving among Malaysian drivers (2) behavioural factors that influence aggressive driving behaviour among Malaysian drivers (3) types of aggressive driving among Malaysian drivers. Recommendations to minimize road accidents among Malaysian drivers are provided in the discussion section of this paper.

LITERATURE REVIEW

Aggressive driving behaviour

Aggressive driving has been the major contributor of road accidents as this has become a growing problem in Malaysia. King and Parker (2008) defined aggressive behaviour as a response that delivers harmful stimuli with the purpose to give a danger or injury to other living who is encouraged to avoid such behaviour. Generally, these definitions are referred to people. The concept of aggressive behaviour has the similar characteristics with aggressive driving. In terms of driving,

aggressive driving was defined as any form of behaviour that is intended to injure or harm other road users physically or psychologically (Özkan & Lajunen, 2005). Chraif, Dumitru, Aniței, Burtaverde and Mihaila (2016) reviewed aggressive driving behaviour as operating a vehicle with more aggressive that threatens road users or property. Simons-Morton, Li, Ehsani and Vaca (2016) indicated aggressive driving behaviour as any undesirable, dangerous or risky action on the road, such as weaving through lanes, running red lights, tailgating, and using the shoulder to pass.

Even though this concept has been studied for years, but there are still ambiguities in determining the critical factors that influence some drivers to be aggressive on the road. Thus, this paper will discuss the factors that are associated with aggressive driving from the available literature.

Factors influencing aggressive driving

Driving Anger

According to Berkowitz (1993), a person's aggression depends on the amount of anger that they express when confronting with frustrating situation. In terms of driving, the concept of driving anger was defined as the tendency to become angry behind the wheel (Deffenbacher, Stephens & Sullman, 2016). According to Kovacsova, Lajunen and Roskova (2016), young drivers are potentially to get angry easily compared to old drivers especially when they were provoked or challenged by other drivers. For example, the drivers will express their anger when they face with several frustrating situations such as slow traffic, blocked traffic, being honked, or being tailgated by others.

These angry drivers will impose their aggressiveness when driving towards others without paying any attention to others intentions and rights in road and results in a higher risk for accidents and a greater number of road accidents with fatalities. In addition, young male drivers are at a greater risk of involving in road accidents compared to older drivers (Stephens & Sullman, 2015). Deffenbacher, Oetting and Lynch (1994) had developed the Driving Anger Scale (DAS), an instrument to measure driving anger.

This instrument has been developed such that it could be related to the frequency and intensity of angry thoughts and feelings as well as aggressive driving. Moreover, the relationship of driving anger and aggressive driving could predict aggressive driving outcomes such as road accidents and property damages. Table 5.2 summarizes the reviews of anger in influencing aggressive driving behaviour.

Table 5.2
Summary of reviews on driving anger.

Authors	Findings
Berkowitz (1993)	A person's aggression depends on the amount of anger that they express when confronting with frustrating situation.
Deffenbacher, Stephens and Sullman (2016)	The concept of driving anger was defined as the tendency to become angry behind the wheel
Kovacsova, Lajunen and Roskova (2016)	Young drivers are potentially to get angry easily compared to old drivers especially when they were provoked or challenged by other drivers.
Stephens and Sullman (2015)	Young male drivers are at a greater risk of involving in road accidents compared to older drivers

Personality Traits

Besides the influence of anger on aggressive driving behaviour, a driver's personality traits are discovered to have connection with aggressive driving behaviour. Costa Jr. and McCrae (1992) defined personality traits as dimensions of individual differences that have a consistent pattern of thoughts, feelings, and behaviour. In detail, there are five big personality traits (Big 5 traits) that related to young drivers such as neuroticism, extraversion, openness, agreeableness, and conscientiousness (Costa Jr. & McCrae, 1992). Neuroticism is a personality trait that is defined as an inclination to experience negative emotions and difficulty in dealing with problems (Ibrahim et al., 2015). People with a high score on the neuroticism scale are often impatient, anxious, tense and irritated and tend to act aggressive when driving.

Meanwhile, extraversion is a personality trait that reflects social relations, the need for stimulation and the capacity to experience positive emotions (Baptiste, 2018). People with a high score on the extraversion scale are active, talkative, optimistic, cheerful, enjoy excitement and stimulation, and are full of energy. Therefore, those who violated traffic regulations were much more extraverted than were those in a control group. Extraversion has also been shown to be connected with physical aggression toward other drivers that might cause road accidents (Fang & Zhang, 2014). On the other hand, openness towards an experience is defined as an active need for a novel experience and a tolerance of things that are unknown and novel (Judge & Zapata, 2014). People who have the personality trait of openness are curious, non-traditional, unconventional, and prone to seek out novel experiences and reconsideration of authorities, although not necessarily unprincipled or lacking a system of values.

Next, agreeableness is a personality trait that reflects an individual's relationships with and attitudes about other people (Gowda, Rangaswamy & Rudresh, 2016). Individuals with a high score on the agreeableness scale tend to be altruistic, empathetic and willing to help others, believing that they will receive same treatment from others in return. Antagonistic people tend to be hostile and

irritating and have the need to confront, attack or punish others. Although this dimension can be connected with aggressive behaviour in general, and with driving-related aggression specifically, based solely on its definition, only few studies that have confirmed this relationship empirically.

Last but not least, conscientiousness is defined as the extent of a motivation behaviour directed towards a goal (Qu, Ge, Jiang, Du & Zhang, 2014). People with high scores on the conscientiousness scale are precise, punctual, reliable, scrupulous, and thoughtful and have strong feelings of order, duty and self-discipline. Such persons could be expected to observe traffic regulations and laws and to act thoughtfully in traffic. In conclusion, based on the reviews, it is expected that all of these traits will influence driver's aggressive driving behaviour on the road. Table 5.3 summarizes the reviews of personality traits on aggressive driving behaviour.

Table 5.3
Summary of reviews on personality traits.

Authors	Findings
Costa Jr. and McCrae (1992)	Dimensions of individual differences that have a consistent pattern of thoughts, feelings, and behaviour. Five big personality traits (Big 5 traits) that related to aggressive driving such as neuroticism, extraversion, openness, agreeableness, and conscientiousness.
Ibrahim, Ismail, Halim and Amit (2015)	Neuroticism is a personality trait that is defined as an inclination to experience negative emotions and difficulty in dealing with problems.
Baptiste (2018)	Extraversion is a personality trait that reflects social relations, the need for stimulation and the capacity to experience positive emotions.
Fang and Zhang (2014)	Extraversion has also been shown to be connected with physical aggression toward other drivers that might cause road accidents.
Judge and Zapata (2014)	Openness towards an experience is defined as an active need for a novel experience and a tolerance of things that are unknown and novel
Gowda, Rangaswamy and Rudresh (2016)	Agreeableness is a personality trait that reflects an individual's relationships with and attitudes about other people
Qu, Ge, Jiang, Du and Zhang (2014)	Conscientiousness is defined as the extent of a motivation behavior directed towards a goal

Sensation Seeking

Zuckerman (1990) defined sensation seeking as a personality trait involving the degree to which one desires novel and intense stimuli as it is another factor that has received considerable attention for its role in driving behavior. Holmes, Hollinshead, Roffman, Smoller and Buckner (2016) had revealed the extended

definition of sensation seeking which is seeking of varied, novel, complex, and intense sensations and experiences and the willingness to take physical, social, legal, and financial risks for the sake of such experiences. As a result, those high in sensation seeking are assumed to engage in aggressive driving to provide the type of stimulation that they find pleasurable. High sensation seeking might have been related to some aggressive driving acts such as speeding, passing in no-passing zones, and a variety of other unsafe driving behaviours (Rahemi, Ajorpaz, Esfahani & Aghajani, 2017). Table 5.4 summarizes the reviews of sensation seeking towards aggressive driving behavior.

Table 5.4
Summary of reviews on sensation seeking.

Authors	Findings
Zuckerman (1990)	Personality trait involving the degree to which one desires novel and intense stimuli as it is another factor that has received considerable attention for its role in driving behaviour.
Holmes, Hollinshead, Roffman, Smoller and Buckner (2016)	Seeking of varied, novel, complex, and intense sensations and experiences and the willingness to take physical, social, legal, and financial risks for the sake of such experiences.
Rahemi, Ajorpaz, Esfahani and Aghajani (2017)	High sensation seeking might have been related to some aggressive driving acts such as speeding, passing in no-passing zones, and a variety of other unsafe driving behaviours.

Types of aggressive driving

Speeding

Speeding is the most common driving offence and contributed in many crashes among young drivers. Speeding is defined as a driver was offending the speed limit, exceeding or driving too fast for conditions contributed to the crash (NTSHA, 2017). A study from Yildirim-Yenier, Vingilis, Wiesenthal, Mann and Seeley (2016) showed that 39 percent of male driver age between 15 and 20 were involved in fatal crashes while speeding at the time of crash. They always drive at high speed lead to lose control over the vehicles. On top of that, speeding is the third contributor to traffic accidents.

Researchers have indicated that speeding is a very dangerous driving behaviour and should be considered one of the most important contributors to specific kinds of accidents such as right of way violations, active shunts or reversing, and loss of control (Rusu, Sarbescu, Moz & Stancu, 2017). In particular, Fai (2015) and Plankermann (2014) discovered that majority of young male drivers were involved in excessive speeding behaviours because of running late, not paying attention to the speed, keeping up with the flow of traffic, and enjoying the thrill of driving fast.

Red-Light Running (RLR)

Red-light running (RLR) is one of the most aggressive driving behaviours and occurs frequently in urban areas. Based on RTD of Malaysia (2018), RLR was defined in two ways. The first one was under a “permissive yellow” rule that a driver could legally enter the intersection during the entire yellow interval. In this case, RLR refers to a violation when a driver entered an intersection after the onset of a red light. The other rule was “restrictive yellow” that a driver could neither enter nor be in the intersection on a red light. Under this situation, RLR refers to a violation when a driver had not cleared intersection after the onset of a red light. Researchers have conducted many studies to investigate the habit of RLR among young drivers. For example, Jahangiri, Rakha and Dingus (2016) found that the red-light runners were always young drivers aged below 25 years old. Furthermore, Yan, Li, Zhang and Hu (2016). indicated that red-light runners were more likely to be young males with invalid driver's licenses and had alcohol consumptions; in particular, those who were deviant and driving after drinking were more likely to run red-light at night. In a later study, Zhang, Wang, Wang, Feng and Du (2016). argued that RLR rates were related to the size of the intersection, traffic volume, time of day, safety belt use, and ethnicity. Also, Huang, Chiu, Tsai, Kuo, Lee and Wang (2016) demonstrated that violators were more likely to drive alone and in a hurry. They also found that a driver's characteristics, attitudes, and the presence of passengers were important predictors of RLR behaviour. Recently, Elmitiny, Yan, Radwan, Russo and Nashar (2016) also showed that moving speed, vehicle's distance from the intersection, and positions in the traffic flow were significantly associated with RLR.

DISCUSSION

The literature regarding the concept of aggressive driving behaviour in the context of Malaysian drivers was reviewed. A synthesis of the reviews in the previous researches have identified three factors that influence aggressive driving, such as driving anger, driver's personality and sensation seeking. However, it should be noted that there may be combination of several other factors that could lead to driver aggressiveness on the road. The three main factors are driving anger, driver's personality and driver's sensation seeking. Some of the literatures reviewed young drivers have the greater sensitivity to become angry easily when they confront with annoying situations on the road (Deffenbacher, Stephens & Sullman, 2016; Kovacsova, Lajunen & Roskova, 2016). Young drivers will express their anger towards the other driver by conducting aggressive driving actions such as honking, tailgating or overtaking dangerously in order to get rid from annoying situations. In addition, literatures also reviewed that young drivers are more prone to road accidents rather than old drivers (Stephens & Sullman, 2015). Furthermore, the well-known instrument to measure driving anger, the Driving Anger Scale (DAS) that was developed by Deffenbacher, Oetting and Lynch (1994). In deep, DAS is used to measure physically driving anger expression, verbally driving anger expression and use of the vehicle to express anger.

Regarding the driver's personality traits, literatures discovered that of the five personality traits, agreeableness, extraversion and conscientiousness are strong predictors of aggressive driving outcomes. Individual with low levels of agreeableness shows have high levels of aggressive driving outcomes such as speeding and red light running (Chraif, Anitei, Burtaverde & Mihaila, 2016). In addition, it is known that young people are tend to have less driving experience that will lead to low agreeableness while driving and more prone to accidents and receive more fines than people from other age groups. On the other hand, extraversion has been predicted to have positive relationship with aggressive driving (Dahlen, Edwards, Tubre, Zyphur & Warren, 2012). For instance, individuals characterized by high extraversion are prone to behave aggressively when driving, increasing the risk that they will be involved in accidents, frequently receive summons or have their licenses suspended. In busy traffic, conditions and situations that induce stress are generated. Due to low tolerance to stress, people with high extraversion choose to behave aggressively. Of the Big 5 traits, conscientiousness also could be a predictor of aggressive driving as individuals characterized by low conscientiousness manifested increased aggression when driving (Chraif et al., 2016). These people generally do not follow the rules and are characterized by an erratic lifestyle which transposes into their driving behavior. When driving, these people are rebellious and disorganized, and have an aggressive driving style, which often leads to the occurrence of accidents or violations of traffic rules. Meanwhile, neuroticism and openness will be not predicting aggressive behaviour among young drivers.

Finally, the literature regarding sensation seeking was reviewed. Rahemi, Ajorpaz, Esfahani and Aghajani (2017) found that most of the sensation seekers are young drivers aged 18 to 25 years old and was initiated to be associated with a range of aggressive driving behaviours including speeding or passing in no-passing zones. This is consistent with the findings of Oppenheim Oron-Gilad, Parmet and Shinar (2016) in which a statistically significant relationship between sensation seeking and aggressive driving behaviour.

CONCLUSION

As a conclusion, this paper provides an extensive knowledge on factors that influenced the driving behaviour in Malaysia. The literature indicated three factors that can influence a driver to be aggressive while driving such as driving anger, driver's personality traits and sensation seeking. Although, these three factors have been shown significantly influence aggressive behaviour, there are still considerable questions regarding the extend to which each of the factors interrelated with other factors that have not been studied yet such as lifestyle or economic background. As such, investigating these new factors is a promising research area.

Considering the review on research on aggressive driving and the limitations outlined above, it is expected that this paper will enhance understanding of the factors underpinning the aggressive driving behaviour. Furthermore, it is expected that the extensive literature review will enable to highlight the aspect to which

intervention could be done to reduce the road accidents involving aggressive drivers.

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6

SUSTAINABLE DISTRIBUTION PRACTICES AND ENVIRONMENTAL PERFORMANCE AMONG CHEMICAL FIRMS IN MALAYSIA

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INTRODUCTION

The increasing influence of logistics and distribution services in moving Malaysia's economy which is derived by the globalizations and changing of world trade had dramatically created impact on environment. Legislation has been effective in improving environmental conditions, but emission of pollutants to atmosphere are still discharged in considerable amounts (3.4 billion tons) in 2017 in Malaysia alone (DOSM, 2017). The largest contribution to this pollutants (70.4%) was from car and vehicle (logistics & distribution).

Chemical firms have started to green their operations in order to help their customers to be better prepared for predictable and future green demand from both market and government legislations. Chemical firms in Malaysia is also one of the most developed chemical industries of the world. The industry is not only capable of fulfilling the nation's requirement of chemical products but also exports its chemical products to the countries like Japan, Hong Kong, China, Singapore, Thailand and even U.S.A. The areas in which the chemical industry in Malaysia is specially advanced are the Petrochemicals and Oleo Chemicals (Omar & Othman, 2016).

The chemicals' industry's approach to encourage compliance with existing regulations and to improve its public image come in the form of an initiative called the Responsible Care Programed (RCP) which was launched in 1994. This program is designed to show that the industry can voluntarily put into place measure for the effective management of the hazard that come with the use and handling of chemicals. RCP is a collective name that applies to a statement of policy, guiding principles, a national advisory panel, a chemical referral center (since replaced by a Web site), a verification process, and six codes of practice (CICM Malaysia, 2007). One of the practice is distribution code of practices which will be discuss further in this study is a crucial

importance since there are several incidents involving distribution practices reported in recent years. Some example of chemical incident involving transportation and distribution in Malaysia includes:

- i. A lorry carrying 23 tanks of hydrochloric acid rammed into the back of another lorry heading in the same direction in Melaka. (17 August 2005)
- ii. A truck carrying 24 tanks of nitric acid and hydrochloric acid overturned at Machang. (26 December 2013)
- iii. 11 people suffered burns including 3 critically injured in a fire believed triggered by a spillage from an oil storage tank at a petrol station in Dataran Shell at Gua Musang. (2 April 2014)
(sources: Ministry of Natural Resources and Environment (NRE), 2016)

Hence, this study tries to investigate the level of sustainable distribution practices implementation and its relationship with environmental performance among Malaysian chemical firms which will represent the Malaysian Chemical Industry.

LITERATURE REVIEW

Sustainable Distribution Practices

Distribution is an important activity in the integrated supply-chain management. With the globalization of the chemical industry, various individuals and organizations from locations around the world are generally responsible for handling, storage and distribution of such products.

Sustainable distribution practices has given priority because of the greatest potential exposure of the public to chemicals when they are being transported and distributed from the ports and from the chemical manufacturers to the various customers (Cefic, 2007). The large number of road accidents and the congestion on Malaysian roads also makes the sustainable distribution practices of prime benefit to the society as a whole. In chemical industry, the firms who were commits with the RCP implements the distribution code of management practices and applies to all modes of transportation. The code also applies to distribution activities (storage, handling, transfer and repackaging) while chemicals are in transit between companies and their suppliers and customers. So, the purpose of this distribution code of management practices is to reduce the risk of harm posed by the distribution of chemicals to the general public, carrier, distributor, contractor, the chemical industry employees; and the environment (CICM Malaysia, 2007). The code will promote improvements in:

- i. The safety performance of carriers and other providers of distribution services.
- ii. Employee preparedness and awareness in preventing distribution emergencies.
- iii. The public's preparedness in responding to chemical distribution emergencies.
- iv. The public's understanding of, and confidence in industry.

Kim (2012) highlighted that one of the most influential ways of reducing environmental impact in the business area is to restructure the logistics process. By changing the current logistics structure into a more environmentally friendly one, a firm may eliminate waste in the logistics operation which may lead the firm to consume less energy.

This study adapted measures from Responsible Care Code of Practices (RCCP) of the distribution code of management practices in measuring the sustainable distribution practices (CICM Malaysia): There are five measures used:

- i. Develop and produce chemicals that can be manufactured and transported of safely.
- ii. Evaluate the risks associated with chemical distribution and methods to reduce those risks.
- iii. Meet or exceed all regulations and industry standards governing chemical distribution.
- iv. Provide emergency advice and/or assistance to people on the scene in the event of a chemical distribution emergency.
- v. Develop new technologies and methods to improve chemical distribution safety.

Sustainable Distribution and Environmental Performance

Distribution have an important role to play in ensuring the sustainability message is passed on through to the customer, while of course they also need to ensure their own operations meet sustainability goals. The chemical industry also promotes excellence in distribution operations, with the aim of achieving even more efficiency and making better use of available transport and logistics resources.

The growing demand of customers and environmental societies for more environmental friendly products have led 'green' becomes a common practice to portray the environmental friendly image of products, processes, systems and technologies, and the way business is conducted. Thus, sustainable distribution is concerned with producing and distributing goods in a sustainable way, taking account of environmental and social factors. It also refers to a sustainable logistics which suggests compatibility with the environment. Companies must adopt new environmental policies and carry out sustainable activities as competitive advantage strategies for business survival.

Survey from Aberdeen Group (2008) found that by practicing green supply chain it can help to reduce emissions, reduce waste and improve disposal. Sustainable logistics practices by switching into alternative fuel such as biodiesel and bioethanol can help to give efficient fuel consumption because of this characteristic of alternative fuel. Beside that this fuel is very cheap compared with the other development of other renewable fuel alternative such as hydrogen (Olson & Schuchard, 2014).

The burning of fossil fuels by the logistics industry causes GHG emissions, such as carbon dioxide (CO₂) that can have a major negative impact on our

environment and on the general health (Kumar Piaralal, Nair, Yahya & Karim, 2015).

Further, Warehouse Blast in Tianjin, China (12 August 2015) incident is a clear reminder to the chemical industry of the blatant abuse of power and dereliction of duty by the owners and the relevant government agencies. This warehouse sits on a giant logistic hub which is more than twice the size of Hong Kong. At the time of the incident, the warehouse in this complex stored mainly ammonium nitrate, potassium nitrate, sodium cyanide and calcium carbide. The final death toll was 173 personnel of which 97 were firefighters; 11 policemen and 8 civilians. About 474 were injured and receiving treatment of which 7 are in critical condition. The initial estimated cost to clear up the damage was about US\$7 billion (CICM Malaysia, 2015). In Malaysia, we have adequate laws and regulations covering chemical warehouse safety but more importantly the chemical industry must voluntarily implement appropriate codes and best practices at their chemical warehouses.

Ubeda, Arcelus and Faulin (2011) also found that sustainable logistics practices such as of choice to reduce number of routes, introducing backhauling in logistics activities and design the shortest routes can control the emissions of carbon dioxide emission. This can be very beneficial to the environment and to the society because reduction in this type of gases can help to reduce environmental impact such global warming and at the same time improve the society health status.

Environmental Performance

Klassen and Mclaughlin (1996) found that environmental performance was positively correlated with superior stock price performance. Similarly, firms viewed as environmentally legitimate were found to incur less unsystematic stock market risk than firms viewed as illegitimate (Bansal & Clelland, 2004; Shen, 2009). Nehrt (1996) also found a positive relationship between the timing of a firm's environmental investment and profit growth.

The Environmental Measurement and Auditing System (EMAS), appears to be an excellent EMS to ISO14001, as it requires assessment of its actual environmental performance, rather than just validating the system, and it also requires external checks. However, it has taken a limited time, probably due to these more stringent requirements (Jones et al., 2005). The development of EMS in the organization is evolution. Initial drivers are legal compliance requirements, followed by the focus of pollution control. Over time this emphasis shifts from pollution control (emissions and wastes) to pollution prevention and eco efficiency while leading organizations move to ecological design (through design innovation) with a better step to emphasize sustainability accompanied by a change of process-to-*yield* emphasis (Kolk & Mauser, 2002).

In measuring the environmental performance, the material use/unit is used as a measure of the efficient use of materials, an issue for all organizations. Energy use/unit and water use/unit was chosen as these are regarded by every scientist working on environment issues as areas where organizations must

reduce usage. Finally, 'emissions' was chosen as this is also an area on which there is no debate that emissions must be reduced. However, for each organization, the specific type of 'emission' would vary. These measurements were adapted from Hubbard, (2009).

Reflecting to the literature review, the following hypotheses have been developed.

H1: There is positive and significant relationship between sustainable distribution practices and environmental performance.

METHODOLOGY

This study made use of quantitative research method by using cross-sectional survey approach because the data collected covered the period of the study only. The population of this study is chemical firms in Malaysia. A total of 500 from 860 chemical firms which registered in Federation of Malaysian Manufacturers were randomly chosen as a sample of this study. The unit of analysis in this study is individual manufacturing firm. In order to get valid and reliable responses, the targeted respondent in this study is personnel who hold a managerial position in a firm at least at the operational or supervisory level and involves in the operational activities. Adopting survey approach, a set of questionnaire was mailed to 500 targeted respondents. In total, 76 responses were gathered from various manufacturing industries giving a response rate of 15.2%. However, three questionnaires need to discard as incomplete. Thus, this study collected 73 completed data samples from chemical companies, which is larger than 52, the minimum requirement of sample size (Cohen, 1992).

A set of questionnaire was developed to collect data in this study. The questionnaire consists of three sections with the first section is on demographic information and the remaining two sections measuring the level of sustainable distribution implementation and environmental performance by responding firms. The operationalization of sustainable distribution practices and environmental performance was based on the combination of scales developed by previous researchers

Due to this study encountered situations (i) small response and (ii) little available theory, PLS-SEM is the most suitable approach to be used. PLS-SEM is a more robust approach and can be used to analyze data with non-normality distribution. Using PLS-SEM, data normality is not a demanded aspect because PLS uses calibration mechanisms, which transform any non-normal data into data that adheres to the central limit theorem (Chin, 1998; Hair, Sarstedt, Hopkins & Kuppelwieser, 2014; Wong, 2013).

RESULT AND DISCUSSION

Analysis on the demographic information of the respondents are presented in Table 6.1. The result of descriptive analysis shows that the majority of the firms are large-sized (49.3%), followed by medium-sized (35.6%) and small-sized (15.1%).

The table also shows that most of responded firms have been established within 10 to 20 years (42.5%). About 31.5% of the firms' state that they have been operating since 21 to 30 years, 16.4% have been operating since 10 to 20 years, while the rest 9.6% of the firms are just operating not more than 10 years. The respondents of this study hold diverse position in the company as we can see, 27.4% of them are manager, 24.7% are Executive and 21.9% are operation manager. Assistant manager, CEO and managing director have equal percentage which are 6.8%, while engineer are 2.7%. The result also shows equal percentage for senior manager and quality manager which are 1.4%. The responded firms consist of different status which are the majority of them (54.8%) are multinational corporations (MNC), followed by 21.9% are from national or local firms (NC) and joint ventures (JV). For the purpose of fulfilling the research focus and objective about environmental management systems, the requirement of at least the responded firms has been adopting ISO 9000 is fulfilled. It can be seen in the table that 100% of the respondents has ISO 9000 certification.

Table 6.1
Demographic profile of respondents.

Characteristics	Frequency	Percent
Firm size		
Small	11	15.1
Medium	26	35.6
Large	36	49.3
Year Established		
Below 10 years	12	16.4
10 to 20 years	31	42.5
21 to 30 years	23	31.5
Above than 30 years	7	9.6
Respondents position in company		
Assistant Manager	5	6.8
Chief Executive Officer (CEO)	5	6.8
Engineer	2	2.7
Executives	18	24.7
Manager	20	27.4
Managing Director	5	6.8
Operation Manager	16	21.9
Quality Manager	1	1.4
Senior Manager	1	1.4
Status		
MNC	40	54.8
NC	16	21.9
JV	16	21.9
ISO 9000 Certification		
Yes	73	100.0
No	0	0.0

Table 6.2
Descriptive statistics of sustainable distribution practices.

Items	N	Min	Max	Mean	SD
D1: Develop and produced chemicals that can be manufactured and transported of safely.	73	3.00	5.00	4.055	.524
D2: Evaluate the risks associated with chemical distribution and methods to reduce those risks.	73	3.00	5.00	4.014	.565
D3: Meet or exceed all regulations and industry standards governing chemical distribution.	73	3.00	5.00	3.767	.541
D4: Provide emergency advice and/or assistance to people on the scene in the event of a chemical distribution emergency.	73	2.00	5.00	3.562	.601
D5: Develop new technologies and methods to improve chemical distribution safety.	73	3.00	5.00	3.603	.546

Table 6.2 above shows the result of descriptive statistics of sustainable distribution practices. The mean (\bar{x}) value for sustainable distribution practices range between 3.562 and 4.055 out of a possible value of 5.0 on the scale, demonstrates a moderate to considerable extent of implementation of sustainable distribution practices among chemical firms in Malaysia. This result fulfills the research objective which attempts to investigate the extent of sustainable distribution practices implementation.

Distribution have an important role to play in ensuring the sustainability message is passed on through to the customer, while of course they also need to ensure their own operations meet sustainability goals. The chemical industry also promotes excellence in distribution operations, with the aim of achieving even more efficiency and making better use of available transport and logistics resources. As part of Responsible Care (RC), the chemical industry has made a commitment to continuously improve its safety and environmental performance. Numerous voluntary initiatives have been taken to promote and implement the very best in terms of safety and environmental standards in transport and logistics (CICM Malaysia, 2015).

Most manufacturers and retailers including chemical firms have adopted distribution approach with increasingly outsourcing their logistics activities to logistics service providers. In order to meet demands of their customers and to deliver products and services quickly, many companies sought to outsource their logistics activities to logistics service providers (LSPs). According to (Kanisen & Rohafiz, 2012) the current trend of the Malaysian logistics industry is concentrating in outsourcing of logistics activities and on the growth of third party logistics (3PLs). Third party logistics service providers (3PLs) are known to make a substantial contribution to environmental degradation with transport

and logistics activities contributing significantly to greenhouse gas emissions. It is estimated that there are approximately 22,000 logistics firm providing a variety of services in the logistics industry in Malaysia (Kanisen & Rohafiz, 2012). Whatsoever the reason for eco-friendly distribution practice and other eco-innovation practices being applied, government or regulation compliance, societal and industry demand are believed to be the main reasons for eco-innovation practices implementation.

Previous discussion was highlighted that most processes which involve the use of chemicals have the potential to cause a negative impact towards the environment. It is therefore essential that the risks involved be eliminated or at least reduced to an acceptable level. Traditionally, the risks posed by chemical processes have been minimized by limiting exposure by controlling so-called circumstantial factors, such as the use, handling, treatment, and disposal of chemicals. The existing legislative and regulatory framework that governs these processes focuses almost exclusively on this issue. With the implementation of sustainable distribution practices, it is believed to be able to prevent the destruction of the environment by reducing emissions, waste and improve disposal systems.

While Table 6.3 below shows the result of descriptive statistics of environmental performance. Energy used performance score the highest mean, followed by emissions, effluent & waste, water used, key material used, and toxic chemical. Overall, the mean (\bar{x}) value for environmental performance is range from 3.86 to 4.16 for each item out of a possible value 5.0 indicates the ability of the responded firms in performing better environmental performance.

Table 6.3
Descriptive statistics of environmental performance.

Items	N	Min	Max	Mean	SD
E1 Key material used	73	3.00	5.00	3.89	.393
E2 Energy used	73	3.00	5.00	4.16	.553
E3 Water used	73	3.00	5.00	3.90	.581
E4 Emissions, effluent & waste	73	3.00	5.00	4.00	.623
E5 Toxic Emissions	73	2.00	5.00	3.86	.630

Measurement model

The validation of a reflective measurement model can be established by testing its internal consistency, indicator reliability, convergent validity and discriminant (Hair, Ringle & Sarstedt, 2013; Hulland, 1999; Jarvis, Mackenzie & Podsakoff, 2003; Petter, Straub & Rai, 2007). The following table shows the various reliability and validity items that we must check and report when conducting a PLS-SEM.

Overall, after the reliability and validity tests has been conducted, there are 5 out of 10 items (D1, D2, D3, E4 and E5) has been deleted due to low item loadings. However, the reliability and validity tests conducted on the measurement model are satisfactory.

Table 6.4
Reliability and validity of items.

Construct	Item	Loadings	Composite Reliability (CR)	AVE
Distribution Practices	D4	0.713	0.797	0.665
	D5	0.907		
Environmental Performance	E1	0.861	0.759	0.530
	E2	0.812		
	E3	0.433		

All reliability and validity tests are confirmed and this is an indicator that the measurement model for this study is valid and fit to be used to estimate parameters in the structural model.

Structural model

Once the validity and reliability of the construct measures are confirmed, the next step addressed the assessment of the structural model results. There are four steps of assessment procedure need to be followed as suggested by (Hair et al., 2014). The following subsections discuss the four steps of assessment procedure: 1) collinearity; 2) path coefficients; 3) coefficient of determination (R^2); and 4) predictive relevance (Q^2).

Collinearity

High correlations between two indicators is referred as collinearity (Hair et al., 2014). To assess the collinearity, we need to determine the construct's tolerance (VIF) value for each set of predictor variables. Each predictor VIF value should be higher than 0.2 (lower than 5.0). The result of the VIF values for this study shows that the value for predictor, sustainable distribution is 1.14. The values confirm the issues of collinearity is not a problem.

Path coefficients (β) in structural model

Within the structural model, each path connecting two latent variables represented a hypothesis. Based on the analysis conducted on the structural model, it allows the researcher to confirm or disconfirm each hypothesis as well as understand the strength of the relationship between dependent and independent variables. Using the SmartPLS algorithm output, the relationships between independent and dependent variables were examined. The results from the path assessment, shows the value of 0.309 significant at p-value of 0.020 concluded the acceptance of the proposed hypotheses is determined.

Coefficient of determination (R^2)

The R^2 value indicates the amount of variance in dependent variables that is explained by the independent variables. Thus, a larger R^2 value increases the predictive ability of the structural model. In this study, SmartPLS algorithm function is used to obtain the R^2 values, while the SMartPLS bootstrapping function is used to generate the t-statistics values. For this study, the bootstrapping generated 500 samples from 73 cases. Sustainable distribution only explains 9.6% of the variance in environmental performance. The R^2 value

in this study can be considered as low because in consumer behavior research discipline, the R^2 value of 0.2 and above are considered high (Hair et al. 2014). The problem of low or weak R^2 value normally happens due to the availability of other variables which not been included in the research model.

Table 6.5
Coefficient of determination.

Endogenous Variable	R Square
Environmental Performance (EP)	0.096

Predictive relevance

Another assessment of the structural model involves the model's capability to predict. The predominant measure of predictive relevance is the Stone-Geisser's, Q^2 (Geisser 1974; Stone 1974) as cited in (Joe F. Hair et al., 2014), which postulates that the model must be able to adequately predict each endogenous latent construct's indicators. The Q^2 value is obtained by using a blindfolding procedure. If an endogenous construct's cross-validated redundancy measure value (Q^2) for a certain endogenous latent variable is larger than zero, its explanatory latent constructs exhibit predictive relevance. Table 6.6 shows the value of Q^2 for environmental performance (EP) are 0.043. It can be concluded that the model of this study exhibit a low capability to predict.

Table 6.6
Cross validated redundancy (Q^2).

Endogenous Variable	Q^2
EP	0.043

CONCLUSION

Sustainability issues have received increasing level of attention both locally and globally. This attention raises questions on what is the current level of sustainable distribution practices implementation. This study has put an effort to investigate the extent of sustainable distribution practices in the Malaysian context and its relationship with environmental performance. The study reveals that the sustainable distribution practices currently has been implemented moderately by chemical firms in Malaysia. The implementation of these sustainable distribution practices then positively and significantly affect the environmental performance. Previous discussion was highlighted that most processes which involve the use of chemicals have the potential to cause a negative impact towards the environment. With the implementation of sustainable distribution practices, it is believed to be able to prevent the destruction of the environment by reducing emissions, hazardous spill, and waste and improve distribution systems. Limitation of this work relates to the cross-sectional data that does not account for the dimension of time, i.e. how long the practices have been implemented. This may be an important consideration as firms who had implemented the practices over a longer time period may have realized greater levels of improvement. This is something that future studies should try to incorporate as it may have an influence on the results. Future research should also include other factors which potentially relates to the sustainable environmental performance.

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7

“UNsung” BUSINESS STRATEGY: EXPLORING CROWDSOURCING PRACTICES AMONG MALAYSIAN SMEs.

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INTRODUCTION

The emerging of Internet of Things (IoT) and changing global environment lead the demand for every organization to change and sustain their business. Due to this forces, the organization has no choice and forced to adapt with new Information and Communication Technology (ICT) or Technology Web 2.0 such as social media in order to strengthen their business strategy and for the business survival. Based on previous literature reviews, numerous strategies adopted by the organization as the mechanism to improve and sustain in their business performance. Amongst the business strategies are Lean Manufacturing (AlManei, Salonitis & Zu, 2017); Total Quality Management (TQM) (Sahoo & Yadav, 2018); Cloud Computing (Hassan, 2017); New Product Development (Abu, Mansor & Nasir, 2017); Human Capital (Muda & Che Abdul Rahman, 2016); Kaizen (Maarof & Mahmud, 2016) and many more. Nevertheless, the recent “unsung” business strategy or a new business strategy not being realize among the business owners is known as crowdsourcing practices.

The phenomenon of crowdsourcing describes a new form of outsourcing tasks or value creation activities and function by tapping from external parties such as an individual, group, freelancer or any undefined group of people or crowds that are possessed heterogeneous of backgrounds, skill and knowledge, intelligence ideas to perform the organization tasks (Durward & Blohm, 2017). Crowdsourcing practices was introduced by Jeff Howe (2006) in the Wired Magazine articles. It refers to new phenomenon and as open business model in order to obtain diverse web-based solution from unknown individual or group of people to earn money by completing the projects or tasks (Howe, 2006; Liu et al., 2016).

Apparently, the organizations could embark crowdsourcing practices in order to resolve their business problems, generate new ideas for innovation, complete tasks or projects and exploit collective wisdom in an effective and efficient cost manner (Lee, Chan, Ho, Choy & Ip, 2015). Those activities can be performed via Technology Web 2.0 i.e. social media such as Facebook, Twitter, Blog, Instagram, Whatapps, company website and etc. Due to the forces, it is necessary to explore the “unsung” business strategy not being realize by many business owners' i.e. to crowdsourcing practices particularly among Malaysian Small Medium Enterprises (SMEs). Furthermore, this study also explore the scenario of crowdsourcing practices in Malaysia and its benefits. Last but not least, the discussion and conclusion of the study will be adduced.

LITERATURE REVIEWS

Crowdsourcing

According to Jeff Howe (2008) defined crowdsourcing as the act of recruiting a large group of undefined individuals from the community i.e. solvers (crowdworkers) in order to complete organizational tasks via internet based platforms (Howe, 2008). It also can be referred to the act of organization or institution taking a function once performed by employees and outsourcing it to an undefined network of people in the form of an open call (Howe, 2006). This business strategy relatively new phenomenon appeared just years ago due to an advancement in the technological progress and Information and Communication Technology (ICT) (Xu, Suriano & Garcia, 2015). Crowdsourcing practices considered as an important business strategy and serve an opportunity to business by tapping an external expertise to reduce manpower cost (Kietzmann, 2017). Since an innovation and talent management become pertinent in strategic priorities among CEO (KPMG, 2016) the crowdsourcing practices enable serves the organization to be one of the business strategy to foster organizational innovation through tapping external expertise's knowledge and their creativity.

Although, crowdsourcing is a simple practice however it is a powerful concept whereby it's can be done virtually for everyone that has a potential to contribute valuable information to the organization (crowdsourcer) (Greengard, 2011). It is not surprise that crowdsourcing's popularity increased drastically concurrent with the development of internet technologies and Web 2.0 (Zhao & Zhu, 2014). Referring to the context of Malaysia scenario, it is among the eight individual markets in Asia utilizing the social media extensively, with Facebook as the top social media site (Edosomwan et al., 2011; Parveen, et al., 2016). Evidence from the statistic, it shows that about 52% of Malaysian organizations devote up to 20% of their marketing budget to business social networking activities (Al Mamum, 2017).

On top of that, the survey conducted by the SMEs Corp in first quarter 2017 reported that the utilization of ICT by the SMEs are expected to discernible increase in the future. It was found that, majority of SMEs are utilized the computers, smartphones and internet in their daily life in both of business

operation or even for personal use. The survey also indicates that at 7.4% of Malaysian SMEs mainly in services sector and the microenterprises utilized e-commerce marketplace indicated the higher utilization of e-commerce marketplace. It shows positive sign where the SMEs are more technology savvy and embraced the idea of digital economy to their business whereby at 85.4% of SMEs selling their products and services via online by utilizing the social media platforms such as Facebook and Instagram. Consequently, SMEs exploring the ICT having greater potential to increase an efficiency and productivity that enable them to elevate their business to the next level via crowdsourcing practices.

Nevertheless, the study on crowdsourcing is still need further attention and to be explored properly specifically in the context of SMEs. Mokter Hossain (2015) stated that many advantages can be obtained via crowdsourcing but yet to be explored and reviews of this studies. This study is crucial to gain comprehensive knowledge on it. Again, the study on this matter is still in nascent stage and requires many scholars to engage actively in order to enrich this field. Even though, several researches on crowdsourcing are already accomplished but the optimum mechanisms of various types of crowdsourcing are still limitedly known. The crowdsourcing is still an amorphous activity that is not well understood by most businesses but has proven to help some businesses (Warner, 2011). Last but not least, the structure of the crowdsourcing business process in Malaysia still infancy stage and still not been studied constructively (Salleh et al., 2013). Hence, it is very pertinent to explore the study on crowdsourcing practices in the context of Malaysian SMEs.

Crowdsourcing practice in Malaysia.

In Malaysia, the crowdsourcing concept has been seriously given attention in the year 2016 by our Ex-Prime Minister Datuk Sri Najib Tun Abdul Razak. He announced the budget provision for 2016 was RM100 Million in order to materialize the crowdsourcing projects. This project is monitored and coordinated by Malaysia Digital Economy Corporation (MDEC) to ensure crowdsourcing practices are successfully introduce and implement. Numerous crowdsourcing platforms have been initiated by the government and non-governmental agencies via ERezeki platforms. Amongst are Teknologi (M) Sdn. Bhd., Multi Media Synergy Corporation Sdn. Bhd., HotBounty and many more. These are the local platforms where an online marketplace for small, medium enterprises to crowdsource their business activities across the web to generate quality leads through network of others, in return for rewards. Meanwhile, the collaboration with international platform includes from Australia i.e. Freelancer International Pty. Limited, Designhill.com, Upwork Global Inc. and many more. These platforms are helping our people and SMEs to connect more than 18 million employers and freelancers globally from over 247 countries and regions (ERezeki 2017).

Prior proceed to the detail of crowdsourcing benefits, it is better to understand how crowdsourcing system works. The crowdsourcing process started when the organization (Job providers) notify the projects or tasks in the platforms (Finnerty et al., 2013). Platform plays the role as a mediator or marketplace to enable the organization and to support the overall crowdsourcing process during the

interaction process between organization and crowdworkers. To submit the tasks in the platform, it is importance to specify the detail requirements and description of the tasks or projects in order to ensure the tasks conformance to requirement of the organization. An example, the detail of requirement and description of tasks such as task deadline, crowdworkers' skills and knowledge required to perform the tasks, job characteristics, rewards and any others pertinent information that need to spell out by the organization or crowdsourcers to the crowdworkers. Upon the Platform obtained the tasks from the organization (Job providers) then the invitations of the crowdworkers can be made via social media or crowdsourcing platform for them to participate in completing the tasks. Once the crowdworkers are interested to the job, the crowdworker may pull the tasks from the Platform (Arshad et al., 2014; Salimun et al., 2015). In return of tasks completion, the crowdworkers will receive the rewards as predetermined in the description of the tasks. The detail of how crowdsourcing model works in Malaysian can be referred in Figure 7.1.

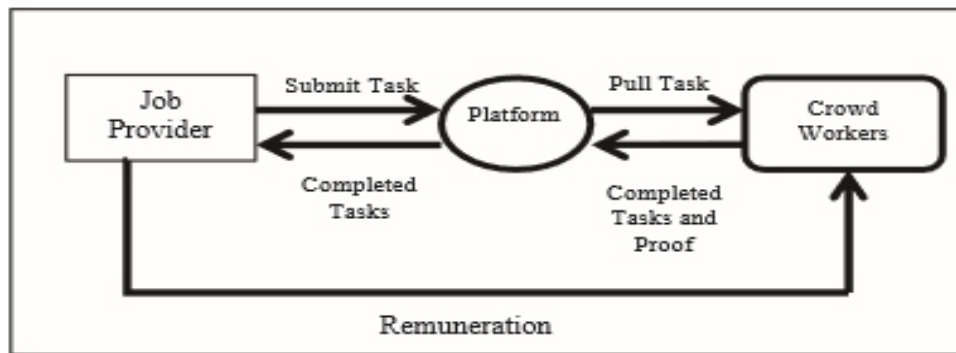


Figure 7.1
Malaysia Crowdsourcing Model
(Source: Arshad et al., 2014)

In similar vein, SMEs also may offer their products, services, expertise or even the tasks or projects from their business to other organization. SMEs could advertise or notify the business activities or services via social media or crowdsourcing platform to large organization to perform the tasks or projects. Hanefah et al. (2002) exerted that, the production process of SMEs are usually labor intensive and such firm usually serve as suppliers for the large manufacturing firms. Therefore, the crowdsourcing practice is relatively significant to the SMEs business setting rather than outsourcing to the defined consultants or professional bodies.

Reference to the previous literatures, numerous benefits can be obtained from the crowdsourcing practices. Among the benefits discusses in the literatures are cost saving, reduce delivery time (Ye & Kankanhalli, 2015), cater the problem of peak demand and generating new ideas for innovation (Marjanovic et al., 2012) and so on. Crowdsourcing remains interesting either to entrepreneurs or to public sectors because of its positive features such as an ability to bring innovative solutions to difficult problems in a short period of time at minimal costs and an ability to attract brightest minds to the solution process. Another strong side of crowdsourcing, it enables to perform simple tasks, which cannot be automated, at low cost or even for free in the short-term

(Surowiecki, 2004). An example, a real story on crowdsourcing practice used in marketing by L'Oreal Cosmetics Company. The study conducted by (Hempel, 2006) demonstrated that the said company was successfully reduced tremendous video commercial production costs from \$1,000 comparing to \$164,200 that the company usually paid. Consequently, these would reduce their marketing cost via utilizing various experts and talent from the crowds leads to huge crowdsourcing cost reduction and improve their operating cost. The findings also aligned in the Crowdsourcing Report, 2016 whereby it has proven that, the crowdsourcing project had cost saving efficiency up to 92% against average agency fees and production cost.

Nevertheless, reference to the context of SMEs there is still low the SMEs leveraging the crowdsourcing practices (Maiolini & Naggi, 2011) thus it is very important to expand the investigation and explore the "Unsung" business strategy i.e. referring to the crowdsourcing practices particularly in the context of Malaysian SMEs. Moreover, the emerging of ICT and Internet creates an opportunity in electronic commerce and global marketing that would be pertinent driver for SMEs striving to compete in new environments with stiff competitive pressure in a global market (Zakariah et al., 2014).

METHODS

This study employed qualitative method via conducting interview session. Three Malaysian SMEs leveraging the crowdsourcing practices were selected as the respondents in this study. The purposive random sampling was used with several inclusion criteria such as the SMEs are fulfilled the definition of Malaysia SME Corp based on the number of employees or annual sales turnover, the SMEs leveraged crowdsourcing in their organization and active SMEs.

Then, the expert's opinion obtained from the SME owner-managers or Chief Executive Officer (CEO) in order to validate and to have preliminary views from the companies who had leveraged crowdsourcing practices in their organization. The SME owner-managers or CEO of the company were selected due to these informants or entrepreneur act as "gatekeeper" to ensure the internal and external resources of organization to be utilized by the organization to success (Ahmad et al., 2010). Finally, content analysis approach was employed to analyze each expert opinion in order to align the findings from the literatures.

RESULTS AND DISCUSSION

Evidence from the above reviews, it was demonstrated that numerous crowdsourcing benefits can be utilized by the organizations. Amongst the studies conducted are investigating organizational task crowdsourcing (Ye & Kankanhalli, 2015); the effect of crowdvoting in hotels (Garrigos Simon et al., on 2017); crowdsourcing business models (Kohler et al., 2017); crowdsourcing business model for B40 income earners (Zakariah et al., 2016) and so on.

It is importance to highlight that, there are many problems faced by the SMEs in business such as somewhat lacking compared to others developed countries (Hooi & Ngui, 2014), unable to achieve high performance due to challenges faced in innovation and technology adoption, human capital development, access to financing, market access, legal and regulatory environment and infrastructure (World Bank Productivity and Investment). It also found that, the SMEs went bankrupt within 5 years of commencement of business and the failure rate is an estimated 60% (Ahmad & Seet, 2009) as well as vulnerable to local and global competition (Magasi, 2016).

In view of the above issues, serious attention need to be given to the SMEs in Malaysia due to this organizations are the essence of Malaysian commerce and known top perform better than general economy. It evidences from the Department of Statistic, Malaysia from the year 2004 to 2010 reported that the value added growth of SMEs has constantly outperform overall national growth at 6.8% annually (Abdul Halim, Ahmad & Ramayah, 2014). Furthermore, SMEs in Malaysia played a major contribution to the development of Malaysian economy due to the SMEs are accounted the majority of business entity in Malaysia. Reference to the SME Malaysia Annual Report year 2013, the SMEs accounted for 98.5% of total number of firms in Malaysia contributed at 32.73% of national GDP and 19% of Malaysia total export value. Thus, cannot be denied that, SMEs in Malaysia are important and become a backbone of the Malaysian economy. A continuous improvement should be focused by the SMEs business owners to ensure their business performance better from year to year by leveraging an effective and efficient business strategy. Apparently, the crowdsourcing practices would be seen as one of the effective business strategy in order to close the above gaps among the SMEs in Malaysia.

To materialize this study, a preliminary views on this practices and to validate the crowdsourcing benefits obtained from the past literatures, an interview session among three SMEs business owners were conducted. The findings and discussion are as below tables. Based on Table 7.1 to table 7.3, all respondents are female with the aged between 38 to 58 years old. Respondent A and B are running the same business sectors i.e. Food and Beverages (F&B) while Respondent C is the main products are Cosmetics, Household items. The sources of crowdworkers are community in persons and higher institution students. Among the crowdsourcing activities are packaging, marketing, production, logistics and some of the administration activities. The detail findings of each respondents are illustrates in Table 1 to Table 3 are as below.

Table 7.1
Findings respondent A.

Respondent A	
Position	: CEO
Gender	: Female
Age	: 8 years
Education	: Degree in International Business
No of Employees	:15 employees and 5-10 crowdworkers (Community & IPT Student's)
Products	: Foods & Beverages, Crackers

Crowdsourcing : Packaging, Production, Filling, Auditing, Marketing,
Activities Record keeping, IT (Blog development)

The CEO of the company stated that, crowdsourcing practice portray and allow visibility of their products brand to outsiders through the assistance of the crowdworkers. Interestingly, crowdsourcing is also effective method to help the company gain an opportunity to market the products at stores such as Giant and Tesco by using Agromas brand. The CEO agreed that, based on their experience leveraging crowdsourcing allows the organization to enhance the visibility of product brands to the crowds/customers at lower cost, fast product delivery, enhance business rapport with external crowds as well as increase their bussiness performance. It is because, the company has flexibility to determine reasonable requirements, descriptions and rewards of the projects and tasks within the company capability.

Furthermore CEO agreed that, engaging crowdsourcing assist their company to reduce the issue of marketing costs and increase their brand awareness of the products. In some circumstances, the crowdworkers from the community (senior aunty) are better than permanent employees whereby they are more experience and knowledgable about the products. The company used their specialized skill and knowledge to improve current products such as improve of product taste and product quality. For example the products of "bahulu and rempeyek" will be more crispy and improve the taste by adding "Y" ingredients. Hence, the suggestion and new ideas given by crowdworkers would improve their product, packaging, product shape, product colour and etc.

The CEO realized that, based on crowdworkers idea's contribute to improve packaging design and work proccess. Utilizing crowdworkers from the community, the company enable to solve many problems on product durability. For example the problems of two products that are easily defect. This problem can be resolved by crowdworker through formulating new ingrediants in order to enhance product durability. On top of that, the crowdworkers from IPT student's contribute to their company by improving administartion activities i.e. systematic filling, IT system, billing, account and record keeping that sometimes those activities can be made at their own location. Therefore, crowdsourcing allows the company to settle the problem of administrative activities such as filling, record keeping, preparing accounts for auditing and documentaion for certification purposes. In short, CEO agreed that crowdsourcing practices enable the company to resolve several problems on product durability and administartion activities from various inputs and ideas from the crowdworkers that eventually enhance their business performance.

Table 7.2
Findings respondent B.

Respondent B	
Position	: CEO
Gender	: Female
Age	: 58 years
Education	: Degree in Education
No of Employees	: 75 employees and > 100 crowdworkers (Community, IPT/Secondary School Student's)
Products	: Cookies, Biscuits, Restaurants and Homestay
Crowdsourcing Activities	: Packaging, Production, Transportation, Marketing

Based on CEO of the company, she explained that, the product brand can be introduced to the market and facilitate their product visibility among the customers. Utilizing crowdworkers help their company introduce the products to an external parties at different regions. Particularly, the crowdworkers from the community in persons have recommend; introduce the products to their relatives, friends and become an agents to the company. Interestingly, the power of crowds 'word of mouth' and social media significantly promote their products in the community and minimise the issue of promotion activities that normally requires extra efforts and budget. The CEO stated that, via crowdsourcing practices the products brands can be visible and introduce to the crowds/customers at lower cost, fast information dissemination to the markets, increase business networking and increase market outreach as well as improve business performance.

CEO highlighted that, the crowdworker from the IPT student's contributes improving existing packaging design. Other crowdworkers also contribute to the product improvement in term of product taste, product colour and design. They are the persons so called an "expert" due to an experience in a specific matter. Moreover, some of the crowdworkers offers their suggestion and solution to improve production layout to be fully utilised. Due to their knowledge, skills and creativity of crowdworkres thus, the production space can be layout and arranged systematically. Again, the crowdworkers in some circumstances, assist the company to source the suppliers whenever the current supplier unable to deliver the material mainly during festival seasons. In a nutshell, CEO strongly recommended that SMEs should embark the crowdsourcing practices in order to access specialized skills and improve company daily operation activities. It is because, since the company facing several constraints i.e. lack of skilled manpower, lack of financial and inability to hire consultant or professional staffs due to expensive service charge, therefore by tapping from an "outbound" resources to "inbound" resources (crowdsourcing) enhance their business performance.

Table 7.3
Findings respondent C.

Respondent C	
Position	: Owner/Operation Manager
Gender	: Female
Age	: 46 years
Education	: Degree in Accounting
No of Employees	: 65 employees and 10 to 15 crowdworkers (Community)
Products	: Cosmetics and Household items
Crowdsourcing Activities	: Packaging, Production, Transportation, Inventory, Training

The Owner explained that, hiring crowdworkers from the community facilitate the company to promote their product brands at surrounding areas via the “words of mouth”. Instead of using traditional ‘word of mouth’, the company also utilized the social media such as Company Website and Facebook to ensure the product visible to the crowds. The Owner mentioned that, via crowdsourcing practices, the company able to reduce marketing costs compared than multilevel marketing that they used before. By leveraging crowdsourcing practices, the Owner confirmed that the OEM customers of the company are increase due to an effectiveness of product awareness among them.

The Owner strongly agreed that, crowdsourcing practice helps the company reduce manpower costs leads to better business performance. Importantly, during peak demand many customers order mainly from the OEM customers. Therefore crowdsourcing is the best startegy to cater these problem particularly during peak demand. It is because the company cannot afford to hire additional staffs due to budget constraints. The best way as explained by Owner, crowdsource some busniess activities resolve the problem of manpower shortage. In short, crowdsourcing provides many benefits to the company and minimize the problem on lack of skilled manpower that crowdsourcing would be complement to the skills and knowledge of permanant staffs.

Interestingly, the crowdsourcing practice also assits the company to resolve the issue on product fake via packaging techniques. These inputs and ideas obtained from IPT crowdworker’s. Crowdsourcing allows to enhance idea generation and innovation to the company via product improvement such as new material formulation and feedback received from the crowdworker. The issues of quality and waste can be reduced since the crowdworkers will be paid only for the good quality output. Overall, the Owner agreed that crowdsourcing practices allow the company to minimise the cost and resolve some problems on product fake, manpower shortage, productivity and so on. By having this, it would strengthen their business performance.

Based on the above findings collected from an interview sessions with SMEs business owners it was proven that, all SMEs strongly agreed that the crowdsourcing practices offers many benefits such as reduce operational cost,

gain various specialized skills, knowledge and experts from large pool of crowds, reduce time product delivery, generate idea and feedback for problem solution, brand visibility in a way that increasing the product and service awareness. Consequently, the above advantages and benefits that can be obtained via crowdsourcing could facilitate the SMEs to boost their business performance.

The findings also reveals that, even though the SMEs are facing with resource constraints such as lack of financial resources, low technical expertise and lack of management skills (Aker et al., 2012) but it is not an issues or obstacles to the company. By applying the concept of utilizing from "outbound" to "inbound" resources via leveraging "unsung" business strategy i.e. crowdsourcing practices would facilitate the company to sustain and survive in the business. This is because the crowds serves access to a wide range of competences, ideas and resources much more significant than the organization may find internally. Moreover, the size and diversity of crowds makes very attractive to perform any tasks or projects (Maiolini & Naggi, 2011). Consequently, it is worth and efficient to the SMEs obtaining an external resources to be their internal resources in order to achieve mission, vision and objective of the organization. In short, to have a better understanding on the advantages and benefits of crowdsourcing practices, it can be referred to Figure 7.2 below.

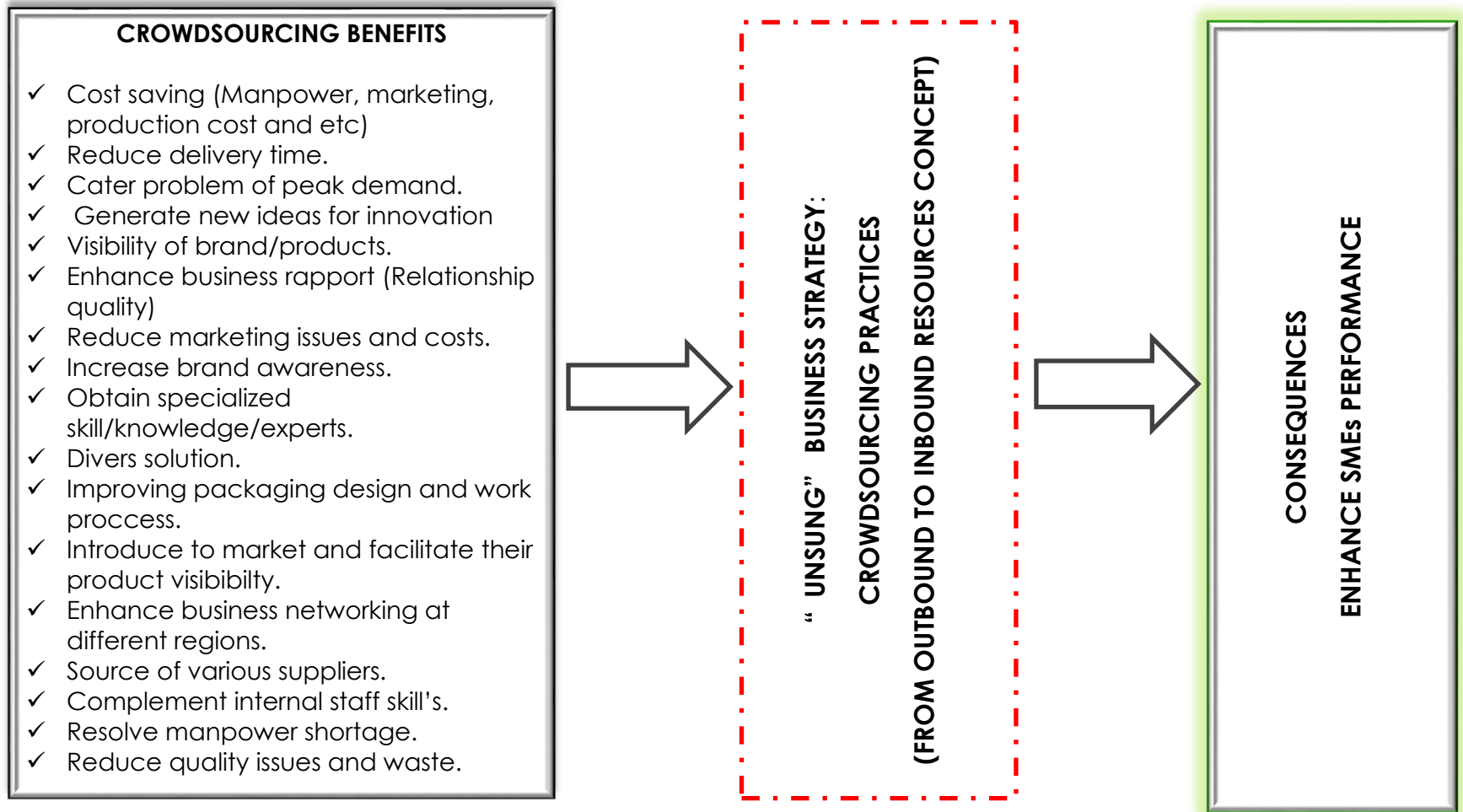


Figure 7.2
Crowdsourcing benefit

LIMITATION AND FUTURE STUDY

Since the current study is still at the initial stage, so that there are several limitations lies in the exploratory approach. First, limitation is lies on lack of empirical evidences due to this study is only employed qualitative method via interview. Second, the number of the respondents involves in the study are limited that lead to unable to generalize the findings of the study. The generalization of the finding is limited because involves only one sector in the sample and in only one country. Finally, the study only focusing on the analysis of benefits or strength aspects of the crowdsourcing and the weakness of the said practice was neglected.

Nevertheless, these limitations can be complemented in the future crowdsourcing studies by employing mix methods such as quantitative and qualitative approaches in order to have solid findings. On top of that, the study also can be conducted by focusing on other aspects such as limitation of crowdsourcing, crowdsourcing adoption, behavior of crowdsourcers and crowdworkers, crowdsourcing tasks and rewards or legal aspects of hiring crowdworkers.

CONCLUSION

It is concludes that, the crowdsourcing practice is one of new phenomenon or “Unsung” business strategy by exploiting collective wisdom from the undefined group of people with an open call concept (free to participate). This strategy is employed new outsourcing strategy from the “outbound” resources into “inbound” resources in order to improve business process and to enhance organization performance. A new concept of outsourcing strategy involves buying the tangible and intangible resources from the individual, group of peoples, freelancers or any undefined group of crowds that possessed collective intelligence or resources rather than hiring consultant or professional bodies to the company.

In addition, leveraging crowdsourcing allows the SMEs to obtain collective intelligence from the heterogeneous backgrounds, knowledge in diverse professional fields and expertise from the crowds at the efficient costs control. Based on the findings, numerous advantages or benefits can be obtained via crowdsourcing practices mainly in the context of SMEs in Malaysia. The benefits are cost reduction, fast delivery time, cater problem of peak demand, organizational innovation, brand visibility, access to specialize skills, solution diversity and so on. Again, evidence from the findings revealed that all SMEs business owners strongly agreed that crowdsourcing practices offers numerous benefits and advantages to the SMEs in order to boost their business performance.

The study contributes to both theoretical and practical contributions. The theoretical aspect of contributions, the study enable to enrich the body of knowledge and current literatures in the field of crowdsourcing research due to this phenomenon is still at nascent stage mainly among Malaysian SMEs. Furthermore, the study also can be a foundation for future research particularly in

the context of SMEs in Malaysia to further explore of any other aspects of crowdsourcing that would not be covered in the studies. Meanwhile, the practical contributions would give more information to the SMEs owner-managers in order to develop and strengthen current crowdsourcing practices in their organization. The study also could encourage other SMEs to adopt this new business strategy to minimize the issues of resource scarcity eventually to facilitate their business process. To the policy makers such as government, this could assist to prepare and enhance the effectiveness of crowdsourcing programs such as ERezeki and Eushawan. Last but not least, to an entrepreneurs the study enhance their knowledge and understanding towards crowdsourcing practices and its benefits that positively contributes to their business survival.

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8

DESIGN FAILURE MODE EFFECT ANALYSIS: A CASE STUDY IN AN AUTOMOTIVE COMPANY OF MODEL XYZ

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INTRODUCTION

In globally competitive manufacturing industry, the success of new product development has become more decisive an organization's business performance. The organization needs to plan strategies to reduce defects by implementing various quality programs (Mitra, 2016) since many organizations still encounter product quality issues involving product recall, the escalation of warranty claims costs and product failures.

One way to solve these issues is to incorporate quality tools by eliminating potential defects of products at an early stage using DFMEA (Andrawus, 2008). DFMEA is extensively implemented to filter the inefficiency of new product. For example, Reid (2005) and Teng et al., (2006) showed that the use of design failure mode and effect analysis (DFMEA) in proper ways can save resources and meet customer's demands and more recently, according to Dimas Campos *et al.*, (2014) establish relationships between FMEA and organizational performance in Brazil automotive industry. Despite a comprehensive DFMEA was demonstrated a few decades ago, little attention has been paid to DFMEA of their effectiveness in the Malaysian automotive industry.

This paper presents design failure mode and effect analysis (DFMEA) in the automotive industry of model XYZ as a criteria to describe how an organization filters defect using quality tools at the design stage which prioritize an action based on score. This quality tools incorporated in organizational strategies can satisfy customers and enhance the sustainability of the organization.

LITERATURE REVIEW

The DFMEA in the automotive industry have been used as criteria to filter defects and recommend actions based on customer approach matrix score. This quality tool have been incorporated in organizational strategies to satisfy the stakeholders' demands.

DESIGN FAILURE MODE AND EFFECT ANALYSIS

The history of failure mode and effect analysis (FMEA) began in the 1960s, when it was introduced in the aerospace industry to identify potential failure modes and their causes, as well as systematically assess the associated risk by applying prevention activities to enhance the quality of products. The success of FMEA implementation has been widely recognized by the industry and other sectors, including manufacturing and services (Gilchrist, 1993). Furthermore, Goetsch and Davis (2010) claimed that the FMEA program can identify all possible potential failures of the product and services, prioritize the risk and initiate the removal of unwanted probabilities.

Moreover, the FMEA design has been used as a quality assessment tools to measure potential failure modes at the design stages of new product development. It is a powerful quality tool that provides a risk analysis at early stages and suggest improvements on the products through formalized analysis on systematic identification of possible root cause and failure modes and the estimation of their relative risks (Maddox, 2005; Pillay and Wang, 2003; Puente et al., 2002). In this case study, the DFMEA was used to optimize the quality of the headlamp assembly of model XYZ at its the design stage.

METHODOLOGY

One automotive company was selected for the case study. The company was chosen due its ability to design the products from a sketch to become, products drawing and develop into mass production. The case study product was the headlamp assembly of the new model XYZ.

RESEARCH QUESTION

The main purpose of the study was to investigate the relationship between applying design failure mode effects analysis (DFMEA) have effects of reduction product failures at the design stage of new product development in an automotive company. The research question for this study can be stated as, is there positively correlated of DFMEA on failures of product?

CASE STUDY OF DESIGNING HEADLAMP ASSEMBLY OF MODEL XYZ

In this case study, the quality tools of design failures and mode analysis (DFMEA) and was used. The automotive component parts selected to be studied came from various sources such as the warranty claims, customers' feedbacks and dealers' comments. The part used for this case study was on the design of headlamp assembly for model XYZ.

In conducting the DFMEA, the steering committee identified the failure modes of the designing headlamp parts and the actions that can reduce or eliminate potential failures from occurring. This input was solicited from a group of experts namely the design, test, quality, marketing, production officials to ensure that headlamp assembly potential failure mode were identified. As suggested McDermont et al., (2009) shows that the step of DFMEA is to identify possible potential failure modes of the product by a session of systematic brainstorming from relevant departments in the organization (Gargama and Chaturvedi, 2011; Keskin and Ozkan, 2009; Yang, Bonsall and Wang, 2008).

Moreover, numerical value of each risk factor associated failure namely, severity, occurrence and detection is presented as metrics in Table 1. As the risk increase, the value of the ranking increases. These were then combined into a risk priority number (RPN). The analysis was performed on failure modes by taking into account the risk factors for the occurrence (O), severity (S), and detection (D) which was given a score between 1 to 10. Normally, the prioritization of failure modes in DFMEA was determined through the risk priority number (RPN) (Chin, Chan and Yang, 2008). The calculation of RPN score is illustrated in Table 8.1.

Table 8.1
RPN score.

Descriptive	Occurrence (O)	Severity (S)	Detection (D)	Total Score (TS)
Headlamp assembly of model XYZ	1-10	1-10	1-10	1-1000

$$\text{RPN} = \text{Occurrence (O)} \times \text{Severity (S)} \times \text{Detection (D)}$$

Table 8.1 shows that the definition of occurrence (O) was the probability or frequency of the failure with the minimum score of 1 and the maximum score of 10. Meanwhile, the severity (S) was the seriousness of the failure, and detection (D) was the ability to detect the failure before the impact of the effect was realized. The higher the RPN of a failure mode the greater the risk for headlamp assembly would be, and then the proper actions should preferably be taken on the high-risk failure modes. In this case study, the structure of the design component of the headlamp assembly for model XYZ consisting of housing assembly, wire harness, bulb and reflector unit is illustrated in Figure 8.1.

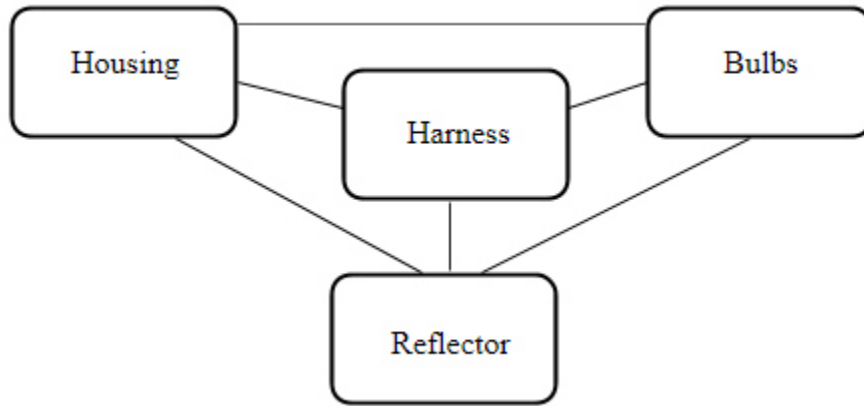


Figure 8.1

The structure or diagram of headlamp assembly

The next step was the assessment of each process in the headlamp assembly of each potential failure mode and the effect was rated in each of these occurrence, severity and detection on a scale ranging from 1 to 10. By multiplying the ranking for these three factors to the total risk priority number (RPN) was determined for each potential failure mode and effect. Table 8.2 illustrates the RPN score and Table 8.3 shows the RPN score after action was taken.

Table 8.2

The RPN score including customer approach matrix.

No	Function	Potential failure	Effect failure	Severity	Potential cause	Occurrence	Current control	Detection	RPN
1	Housing unit to hold headlamp bulb	Housing melted due to temperature trapped	Housing Burn	10	Head lamp burns	10	Firmly attached the parts	10	1000

Table 8.2 illustrates the RPN score of 1000, that means the seriousness of consequences and proper solution was necessary to eliminate cause and effect. Table 8.3 shows the results of new RPN was 1 after the action plan was taken to eliminate the cause and effect.

Table 8.3

The RPN score after action taken

Actions	Due date	Action	Severity	Occurrence	Detection	New RPN
Make a hole (Dia.4) for temperature release	XX May	Review drawing of housing	1	1	2	2

The action plan is to design a diameter 4.0 mm for release temperature trapped in headlamp assembly as Figure 8.2.

Figure 8.2 illustrates the action plan have been taken to remove heating trap of headlamp model XYZ with additional diameter 4.0 mm hole on the rubber cover.



Dia. 4 mm of hole at headlamp rubber cover

Figure 8.2

The diameter 4.0 mm hole on headlamp cover

FINDINGS

Design failure mode and effect analysis (DFMEA) is a disciplined approach used to identify potential failures at the design stage of the product development, by identifying particular cause or failure. The main idea was to generate a risk priority number for each failure mode or RPN. The higher the risk number, the more serious the failure could be, and the more important it was that this failure mode be addressed. This study showed that the customer approach matrix score of 5 which indicated the seriousness of the consequences requiring prompt action to eliminate the cause and effects by reducing the score to 1.

The proposed methodology that used DFMEA in this study was a new approach to identify the risks associated with the best alternative selected to avoid unforeseen problems in the design stages. Therefore, rather than the standard application of identifying potential product failures and preventing them. In addition, establishing the risk priority numbers allows the team members to determine the importance of addressing potentially troublesome areas based on customers' view. Moreover, in facing these challenges in business competition, the investment on optimum resources in adapting and implementing quality plan solely on the new product development might not be enough. Consequently, the DFMEA uses as weights aims to prioritize the preventive actions. In this case study, the finding will benefit the applications of DFMEA in industries that have not yet been widespread and generally applied in the Malaysian automotive industry.

CONCLUSIONS

Design failure mode and effects analysis (DFMEA) is major tool for quality improvement in the manufacturing sector, especially in the automotive industry. The aim of these tools is to prevent failure at the design stage. This case study is developed to utilize DFMEA as valid approach model and a method to assess the risks, used for prioritization by quality tool approach. The case study has sought to show the effectiveness of DFMEA approach benefit to the automotive industry.

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9

EXAMINING E-SATISFACTION AFTER SERVICE RECOVERY

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INTRODUCTION

Currently, service has been an essential part of the economy. Many companies are looking to venture into the service industry. Hence, the service industry has been increasing and is expected to play a major role in the future. However, delivering service is not easy. There is a tendency for problems or the service receiver (customer) is not happy with the service given. The ultimate goal of services is to meet or exceed customer expectations. When this happens, customers are disappointed or dissatisfied with the experience and this is when a failure has occurred (Gebrich and Roschk, 2011).

Failure in service is inevitable due to the nature of the service itself. A service failure is when service performance is lower than a customer's expectations (Hoffman and Bateson, 1997). One of the reasons is the production and consumption of service is simultaneous (Kelly, Donnelly, and Skinner, 1990). This means that the customer is present during the service; therefore, it will take a lot of effort to prevent failure. Since most of the service transaction involve humans. The possibility of errors is enormous. The ultimate goal of services is to meeting or exceeding customer expectations. Service failure will hinder the goal of services and ultimately will lead to dissatisfaction among customers.

To overcome the inevitable errors, service providers introduced problem-solving activities in their organizational policy in order to resolve the issue. When service failure occurs, it is suitable that firms put in effort to recapture customers, because losing customers will be detrimental and will have a significant affect financially and also include loss of reputation (Hogan et al., 2003). The act to rectify problems and regain customer is referred to as service recovery.

Service recovery is the action a service provider takes in response to service failure (Grönroos, 1982). Hence, service providers are recognizing that effective service recovery is a tool for fostering customers' loyalties and retaining them (Brown, 2000). The aim of the recovery action is to restore consumers' confidence and trust following a service failure experience (McCollough, Berry, and Yadav 2000; Wen

and Chi 2013). According to Grönroos (2009) service recovery is the process of acknowledging a wrong and making it right.

During failure, consumers are in the state of dissatisfaction. Since finding new customers is more difficult than retaining old ones, simply satisfying one's existing customer offers an opportunity for continued patronage. If something goes wrong during a phase of a service delivery, service providers should initiate service recovery actions to recover these dissatisfied customers. Thus, considerable attention has been given to managing service failure and recovery (e.g. Lewis, and McCann, 2004; Smith and Bolton, 1998; Tax et al., 1998;).

Accordingly, this study was designed to identify effective recovery processes for failures during e-service transaction. The study will focus on the recovery process, namely distributive justice and procedural justice and their influence on service recovery satisfaction. The objective is to find the suitable tools to be included in company policy as a measure to counter service failure. This study reflects the relationships between consumer satisfaction and perceived justice namely procedural justice and distributive justice, after a service failure. Satisfied customers will translate to ongoing business due to repeat purchase.

Much research has been done for traditional service recovery. However, the platform in this study is online service or e-service. Hence, the study will focus on service recovery after an online or e-service service failure. The factors that could alter customers' sentiments after failure were emphasized. Service recovery for e-service is much more challenging especially in the Industry revolution 4.0. Technology provides more freedom for consumers to switch service providers. Hence, identifying these factors will be an important element for service providers to include in designing the recovery process policy. The factors namely satisfaction, procedural justice, and distributive justice were tested. The respondents are customers of e-services and their reaction after an e-service failure and recovery were recorded. The question under investigation is: To what extent would perceived justice predict e-service recovery satisfaction after a service failure?

LITERATURE REVIEW

Satisfaction after Service Recovery

Satisfaction was showed as contingent to customer satisfaction with the experience of the service delivery. Overall customer satisfaction influence customers' repeat purchase and word-of-mouth intentions (Spreng, Harrell, and Mackoy, 1995).

Fulfillment of customers' expectations will be related to satisfaction. Satisfaction is the outcome of fulfilled expectations. When all requirements are at par with customer's expectation, the customer will be satisfied. When failure occurs, customer will be in a state of dissatisfaction. Service providers should have to a

recovery plan to tilt the balance from dissatisfaction to satisfaction. Service recovery is linked with satisfaction. One of the main agenda of service recovery is to change a dissatisfied customer emotional response to a more satisfactory condition. McCollough, Berry and Yadav (2000) recognized that a successful recovery was an action that returned a customer to a satisfied state with the service provider. A successful recovery plan will ensure that the customer stays with the service provider instead of moving to a new service provider.

A study by Michel (2002) shows that the level of satisfaction was higher for those customers who encountered failure and successfully recovered as opposed to those customers who were satisfied the first time they received the service. Another study reflects that the level of rewards given affects the level of satisfaction and repatronage intention. However, over rewarding a customer does not indicate an increase in satisfaction (Söderlund and Colliander, 2015).

Procedural Justice

Procedural justice includes the perceived fairness of the policies and procedures where service providers rectify the problem in their recovery activity (Tax et al., 1998). Lind and Tyler (1988) indicated that procedural justice is focused on the process by which the result is obtained. Voice and neutrality are considered in the procedural justice. Goodwin and Ross (1992) suggested that procedural justice is affected by voice, which is defined as the opportunity for the consumer to present information. They also suggest that higher levels of voice lead to higher levels of satisfaction. Neutrality influences procedural justice in the decision making process that is, the consumer feels that the service provider accommodate them fairly without any biasness after a failure. Customers are more likely to perceive fairness and a higher quality service during a recovery if a service provider follows a set of procedures (Goodwin and Ross, 1990; Sparks and McColl-Kennedy, 2001 and 1998). In other words, procedural justice is when customers perceived fairness of the procedures by which a service recovery is handled. Therefore, a recovery process that adheres to a recovery procedure is important in procedural justice (Choi and Choi, 2014).

Distributive Justice

Distributive justice is related to the actual outcome of service recovery. It is how the users perceived fairness of the solution given after a failure. Researchers agree that human beings are motivated instrumentally in their relationship with others (Tax, Brown, and Chandrashekar, 1998; Martinez-Tur, Peiro, Ramos, and Moloner, 2006). This concept defines distributive justice. However, there are no unanimous results in this area. A study suggests that people are motivated with tangible remuneration (Goodwin and Ross, 1990) after a failure while another study found that atonement or compensation was not a necessity (Johnston, 1995). Overall, Researchers suggest that distributive justice is one of the significant factors in determining judgments of customer satisfaction during a specific service recovery transaction (Sabharwal et al., 2010).

Procedural Justice

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From the literature, the hypotheses are:

- H₁: Distributive justice will have a positive relationship in predicting satisfaction after service recovery.
- H₂: Procedural justice will have a positive relationship in predicting satisfaction after service recovery.

CONCEPTUAL MODEL

In this study, the independent variable is distributive justice and procedural justice and the dependent variable is satisfaction. This study will look at how the independent variable affects satisfaction after a service failure. The conceptual model is as depicted in Figure 9.1.

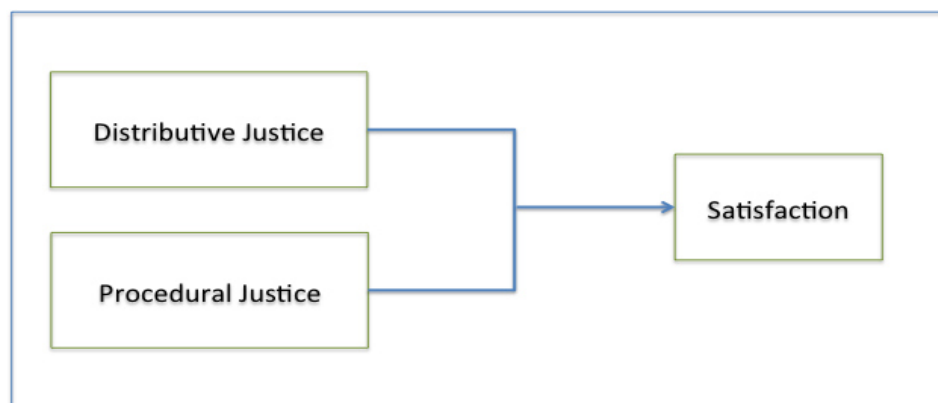


Figure 9.1
Conceptual model

RESEARCH METHODOLOGY AND DESIGN

The unit of analysis for this study is the university population. These include both postgraduate and undergraduate students, academic and non-academic personnel. The questionnaire was distributed among the university community of a mid-size university in USA. Since the respondents will need to be literate to a certain level with information technology and e-services, using a university population as consumers of e-services should reflect the population of consumers with a higher than average level of computer literacy. The nature of communication in universities, accomplishing tasks using the Internet and technology are a part of the normal routines of the university's population. For procedural and distributive justice, the instrument by Maxham and Netemeyer (2002) was adapted. The scale for e-service recovery satisfaction was measured using a newly developed five-item scale. All the instruments used in this study follow a seven point Likert-type scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (7). The questionnaire was structured with demographic questions, scenarios, and a series of questions to access the dependent variables. This study used Confirmatory factor analysis and Multiple regression was used to analyzed the data and hypothesis testing.

FINDINGS AND DISCUSSION

The data reflects that the ratio of female and male respondents was 59% and 41% respectively (Table 9.1).

Table 9.1
Demographic data.

Demographic	N	%
Gender		
Female	148	58.7
Male	104	41.3
Age (Years)		
< 20	21	8.3
20-29	71	28.2
30-39	42	16.7
40-49	49	19.4
50-59	51	20.2
>60	18	7.1
Ethnic group		
Caucasian	183	72.6
African American	27	10.7
Hispanic	8	3.2
Asian	24	9.5
Others	10	4.0
Total	252	

Majority of the respondents (53%) were within the ages of 20 and 39, whereas the remaining 47% is in the range of 40 and older. The ethnic groups consist of: Caucasian (73%), African American (11%), Asian (10%), Others (4%), and Hispanic (3%). The statistical age and ethnic group of the study are quite similar to the research done by Pew Research Centre (2017). It can be observed that older Internet users are steadily increasing.

Table 9.2
Skewness and Kurtosis.

Constructs	Skewness	Kurtosis
Distributive justice	.220	-1.196
Procedural justice	.071	-1.074
e-Service recovery satisfaction	.291	-.902

Significant level at .05

Standard error for skewness and kurtosis was .153 and .306 respectively.

The data were subjected to testing for normality by using skewness and kurtosis statistics from SPSS. All variables had values in the range of .016 to .291 for skewness and -.704 and -1.196 for kurtosis (refer table 9.2). Following Leech, Barrett, and Morgan (2014), the distribution is normally distributed if the skewness is not outside of -1.0 and +1.0. According to Hair et al. (2013), if the values for skewness and kurtosis are within -1.96 and +1.96, the data can be assumed to follow a normal distribution at the .05 level. Table 9.2 shows that the data were within the acceptable ranges. Thus, one can conclude that the normality assumption was not violated.

Table 9.3 shows the result from confirmatory factor analysis (CFA). CFA is utilized to confirm the convergent and divergent validity of the scale items. CFA is a statistical technique used to verify how the measured variables represent the number of constructs (Statistics Solutions, 2013). The outcomes from the confirmatory factor analysis indicated that each item loaded under their respective constructs (Table 9.3). The lowest loading was .79 for PJ3, which was above the acceptable value of .5, according to Hair et al. (1998). Since, all items loaded above .50, no items were deleted. In addition, the constructs (distributive justice, procedural justice, and satisfaction) showed an acceptable level of reliability ($\alpha \geq .70$; Nunnally, 1978). Hence, based on the satisfactory internal consistency and validity of the measurement scale, the data was considered suitable for hypothesis testing.

Table 9.3
Factor loadings and reliability of constructs.

Constructs	A	Factor Loadings
Perceived Justice		
<i>Distributive Justice</i>	0.944	
- The final outcome I received from <i>Gifts N More</i> was fair, given the time and hassle.		.942
- Given the inconvenience caused by the problem, the outcome I received from <i>Gifts N More</i> was fair.		.955
- The service recovery outcome that I received in response to the problem was more than fair.		.948
<hr/>		
<i>Procedural Justice</i>	0.843	
- Despite the hassle caused by the problem, the <i>Gifts N More</i> responded fairly and quickly		.930
- I feel that <i>Gifts N More</i> responded in a timely fashion to the problem.		.894
- I believe <i>Gifts N More</i> has fair policies and practices to handle problems		.793
<hr/>		
e-satisfaction after Service Recovery	0.932	
- Overall, I am very satisfied in the manner that <i>Gifts N More</i> handled my e-service failures.		.903
- After the recovery process, my level of satisfaction for the <i>Gifts N More</i> improved.		.870
- In my opinion, the <i>Gifts N More</i> has a good recovery process.		.866
- In general, the <i>Gifts N More</i> makes my experience easy following an e-service failure.		.876
- The recovery process fairly equitable to the e-service failures.		.915

Table 9.4
Multiple regression analysis summary (n = 252).

Variable	B	Standardized Errors	B
Distributive justice	.522	.038	.592
Procedural justice	.153	.040	.158
Constant	-.021	.107	

Multiple regressions were used for hypotheses testing. Table 9.4 summarized the results of regression between perceived justice constructs namely distributive justice and procedural justice with satisfaction as dependent variable. The multiple regression results indicated that distributive justice, procedural justice predicted e-service recovery satisfaction in an e-service environment ($F(3,248) =$

535.09, $p < .001$). The adjusted R squared value was .87, which indicated that 87% of the variance in e-service recovery satisfaction was explained by the model. Table 9.5 showed summary of the hypothesis testing results from multiple regression analysis.

Table 9.5
Hypothesis testing results from multiple regressions analysis.

Hypothesis Statement	Remarks
H ₁ : Distributive justice will have a positive effect in predicting satisfaction after service recovery.	Supported
H ₂ : Procedural justice will have a positive effect in predicting satisfaction after service recovery	Supported

Distributive justice would have a significant relationship with satisfaction or e-service recovery satisfaction. Procedural justice would have a significant relationship with satisfaction or e-service recovery satisfaction. The results confirm that both the perceived justice constructs (distributive justice and procedural justice) contribute significantly to e-service recovery satisfaction. Distributive justice is inclined to tangible compensation, whereas procedural justice is associated to adhering to rules and regulations. It can be observed that, when compensation is given, the respondents perceived that the e-service provider is more likely to follow the rules and regulations as stated in the policy as a recovery action.

CONCLUSION

This study depicts a significant relationship between the perceived justice constructs and e-service recovery satisfaction. This study supports past research which has found that perceived justice variable are important drivers of post recovery satisfaction (Mattila and Cranage, 2005). Hence, customers are also expected to be more loyal when they are satisfied with failure recovery. If the service provider has a proper service recovery process in place. When failure occurs customers satisfaction will be improved after the recovery process. Customers may perceive that the service providers are following rules and regulations (procedural justice) after a service failure, the positive result on recovery satisfaction is intensified when the customer also perceived that the recovery process is more likely to be fair (distributive justice). Therefore, to have service recovery tools in the company policy will benefit both the service provider as well as the customers.

Customers are human, and humans have different preferences. Hence, when customer encounter any failure it is important that service providers could match the customer's preference in the recovery effort (Nguyen, McColl-Kennedy, and Dagger, 2012). Service providers that involve service recovery process in their policy are more likely to generate satisfaction as compared to providers that put

limited effort into recovery initially. In summary, service recovery efforts is a crucial process that could assist to improve satisfaction after service failure.

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10

MAKLUMAT KESELAMATAN PEKERJAAN INDUSTRI PEMBINAAN MALAYSIA: SEJAUH MANA TAHAP KEBOLEHBANTUAN DAN KEPUASAN PEKERJA ASING TERHADAP MEDIUM PENYAMPAIAN SEDIA ADA?

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PENGENALAN

Sesungguhnya, industri pembinaan merupakan sebuah industri yang kompleks dan merbahaya dengan suasana persekitaran kerja yang berisiko tinggi serta mempunyai kepelbagaian bidang dan tenaga kerja yang berpotensi untuk mengalami kemalangan, kecederaan serta kematian di tapak bina (Mohamed Khodeir & Salaheldine, 2018; Vitharana, Subashi De Silva & Sudhira De Silva, 2015). Namun, dalam memahami dan melaksanakan setiap bidang kerja di tapak bina ini, maka adalah penting pihak yang bertanggungjawab dapat menyampaikan arahan kerja serta maklumat keselamatan ini dengan berkesan. Hal ini adalah bagi memastikan setiap kefahaman yang dicapai dapat diaplikasikan sekaligus menjamin hasil dan kualiti pelaksanaan kerja serta jaminan keselamatan diri.

Berhubung risiko kemalangan yang sering berlaku di tapak bina, maka adalah penting maklumat keselamatan ini diketahui terlebih dahulu oleh pekerja sebelum memulakan kerja di tapak bina. Maklumat keselamatan ini sebenarnya adalah melibatkan beberapa aspek perlindungan diri, peraturan serta cara kerja selamat di samping penyediaan persekitaran kerja yang kondusif bagi mencegah individu yang bekerja mengalami kecederaan atau kesan kesihatan dari kerja yang dilakukan. Lazimnya, maklumat keselamatan pekerjaan ini diterima oleh pekerja semasa menghadiri Kursus Induksi Keselamatan dan Kesihatan iaitu satu kursus awal yang wajib dihadiri sebelum memasuki tapak bina. Namun, isunya adalah sejauh manakah maklumat keselamatan di dalam kursus ini difahami oleh pekerja asing?

Sebelum itu, mari kita kenali terlebih dahulu siapakah itu pekerja asing dan Kursus Induksi Keselamatan dan Kesihatan.

Pekerja Asing

Menurut Jabatan Kastam dan Imigresen, pekerja asing ditakrifkan sebagai bukan warganegara Malaysia atau pemastautin tetap, tidak termasuk pegawai dagang (expatriates) serta pekerja tidak mahir atau separuh mahir. Malah, pekerja asing atau buruh asing bagi negara Malaysia ini merupakan pekerja yang berasal dari negara luar yang datang bekerja atau untuk bekerja di negara ini bagi sesuatu tempoh tertentu bagi memenuhi kekosongan pekerjaan dalam sektor pembuatan, pembinaan, perkhidmatan, perladangan, pertanian serta menjadi pembantu rumah (Che Hashim, 2009).

Dalam konteks ini, pekerja asing adalah merupakan pekerja am binaan yang telah ditetapkan oleh Lembaga Pembangunan Industri Pembinaan untuk melaksanakan segala kerja yang diarahkan oleh majikan di tapak bina. Namun, sebelum pekerja asing ini memulakan tugas di tapak bina, adalah wajib bagi mereka untuk menghadiri Kursus Induksi Keselamatan dan Kesihatan iaitu sebagai suatu langkah perlindungan awal bagi keselamatan diri.

Kursus Induksi Keselamatan dan Kesihatan (KIKK)

Kursus Induksi Keselamatan dan Kesihatan ini adalah dikendalikan sepenuhnya oleh Lembaga Pembangunan Industri Pembinaan Malaysia (CIDB) terhadap pekerja yang terlibat secara langsung atau tidak langsung dalam pembinaan iaitu dengan objektif:

- i. meningkatkan kesedaran dalam kalangan personel binaan terhadap bahaya-bahaya di tapak bina melalui Kursus Induksi Keselamatan dan Kesihatan.
- ii. mengurangkan kemungkinan kecederaan atau kerosakan ke atas personel binaan, orang awam ataupun harta benda dengan memastikan undang-undang dan peraturan-peraturan yang sedia ada dipatuhi dan dikuatkuasakan di tapak bina.
- iii. mewujudkan budaya keprihatinan kepada aspek-aspek keselamatan dan kesihatan di tapak bina serta kebajikan kepada personel binaan melalui Skim Perlindungan Takaful Berkelompok.

Mengikut peraturan pelaksanaan Kursus Induksi Keselamatan dan Kesihatan di bawah Program Kad Hijau CIDB, kursus ini adalah dijalankan sekali sahaja (satu hari) pada satu tarikh dalam tempoh tidak kurang dari 6 jam dengan kapasiti maksima peserta kursus seramai 40 orang dan minima 20 orang pada satu sesi di dalam ruang yang sesuai. Kursus ini boleh dilaksanakan dengan mengumpulkan kesemua pekerja asing pada satu-satu masa atau bercampur dengan pekerja tempatan serentak dalam satu sesi kursus.

Namun, bagaimanakah bentuk dan kaedah pelaksanaan kursus ini? Kursus ini sebenarnya dilaksanakan secara pengajaran berbentuk kuliah di mana tenaga pengajar akan menyampaikan maklumat secara lisan kepada peserta kursus dengan bantuan medium penyampaian berbentuk *PowerPoint*. Lazimnya, tenaga pengajar menggunakan Bahasa Melayu dan Bahasa Inggeris sepanjang

kursus berlangsung. Persoalannya, mampukah pekerja asing terutamanya pekerja binaan bukan warga Indonesia memahami dan menerima dengan betul maklumat yang disampaikan dalam Bahasa Melayu? Namun begitu, mari kita kenali dahulu mengenai medium penyampaian maklumat yang digunakan di dalam KIKK.

Medium Penyampaian Maklumat di dalam KIKK

Medium penyampaian maklumat sememangnya amat penting dalam sesuatu pengajaran dan pembelajaran agar pelajar dapat memahami dan menerima dengan baik maklumat yang disampaikan. Ia merupakan suatu alat atau bahan berbentuk perisian yang dibangunkan bagi pengendalian sesuatu proses pengajaran dan pembelajaran (Habibah, Raman & Teoh, 2014; Yusup, 1997) serta turut bertindak untuk membawa mesej kepada pelajar. Selain pelajar, medium penyampaian ini juga membantu tenaga pengajar untuk menyampaikan maklumat dengan lebih mudah. Namun, kelemahan pada sesebuah medium penyampaian ini boleh menyebabkan pelajar tidak memahami apa yang dipelajari serta mudah merasa bosan atau tidak berminat dengan setiap maklumat yang disampaikan.

Kajian pemerhatian yang dilaksanakan sebelum ini mendapati kebanyakan tenaga pengajar adalah menggunakan Bahasa Melayu pada medium penyampaian berbentuk *PowerPoint* dan bahan bercetak sepanjang pelaksanaan kursus yang dihadiri oleh pekerja asing (Nurul Azita, 2014). Tambahan pula, medium yang digunakan ini menggunakan teks yang terlalu panjang, susunan teks dan grafik yang tidak kemas, saiz teks yang tidak konsisten serta terdapat penggunaan grafik yang kurang jelas di samping cara penyampaian maklumat dalam Bahasa Melayu yang kurang interaktif, berbentuk presentasi dan bersifat satu hala menyebabkan pekerja asing tidak berminat dan tidak memahami maklumat yang disampaikan.

Malah, kajian Nurul Azita (2014) terhadap pekerja binaan warga Myanmar mendapati ujian pencapaian yang telah dijalankan di dalam kursus adalah amat membimbangkan di mana pekerja binaan warga Myanmar ini tidak memahami maklumat yang disampaikan menggunakan bahasa Melayu. Namun, hasil ujian pencapaian yang dilakukan ke atas mereka adalah jauh lebih baik apabila menggunakan bahasa ibunda mereka iaitu Bahasa Myanmar.

Selain itu, kajian turut dilakukan di Negeri Kedah bagi melihat tahap kebolehbantuan dan kepuasan pekerja asing terhadap medium penyampaian maklumat yang digunakan di dalam KIKK.

KAJIAN KEBOLEHBANTUAN MEDIUM PENYAMPAIAN MAKLUMAT TERHADAP PEKERJA ASING DALAM KIKK DI KEDAH

Kekangan Penerimaan Maklumat

Kajian yang dilaksanakan terhadap beberapa tempat kursus dan tapak bina telah melihat beberapa kekangan penerimaan maklumat yang dihadapi oleh pekerja asing semasa menghadiri KIKK. Jadual 1 menunjukkan anggaran statistik frekuensi, peratus dan min terhadap tahap kesetujuan responden bagi setiap jenis kekangan yang dihadapi oleh pekerja asing di dalam kursus. Soalan induk adalah mengukur sama ada responden memahami maklumat yang disampaikan berdasarkan jenis bahasa dan kaedah penyampaian.

Berdasarkan nilai min dalam Jadual 10.1, secara umumnya kesemua kaedah penyampaian dan jenis bahasa merupakan kekangan kepada pekerja asing dari segi memahami maklumat yang ingin disampaikan kecuali maklumat yang disampaikan dalam bahasa Melayu secara bercetak.

Jadual 10.1

Tahap kesetujuan terhadap kekangan bahasa.

Kekangan Bahasa / Kaedah Penyampaian	Frekuensi (Peratus)					Min
	STS	TS	TP	S	SS	
Melayu (Lisan)	0 (0)	28 (70)	1 (2.5)	11 (27.5)	0 (0)	2.58
Melayu (Bertulis)	20 (50)	17 (42.5)	1 (2.5)	2 (5)	0 (0)	1.63
Melayu (Becetak)	0 (0)	16 (40)	6 (15)	12 (30)	6 (15)	3.2
Inggeris (Lisan)	38 (95)	2 (5)	0 (0)	0 (0)	0 (0)	1.05
Inggeris (Bertulis)	36 (90)	4 (10)	0 (0)	0 (0)	0 (0)	1.1
Inggeris (Bercetak)	1 (2.5)	22 (55)	5 (12.5)	9 (22.5)	3 (7.5)	2.78

Perkara ini disokong oleh nilai-nilai min (purata) yang lebih rendah daripada nilai medium = 3. Meneliti nilai-nilai statistik dalam jadual, kajian telah mengenalpasti bahawa bahasa Inggeris secara keseluruhannya merupakan kekangan terbesar bagi pekerja asing untuk menerima serta memahami maklumat yang disampaikan. Kekangan bahasa Inggeris dari segi lisan dan bertulis merupakan sebab utama dengan nilai min serendah 1.05 dan 1.1. Keputusan kajian menunjukkan sebanyak 95% (38) pekerja asing menyatakan bahawa mereka sangat tidak setuju memahami maklumat yang disampaikan menggunakan bahasa Inggeris secara lisan. Tambahan pula, sebanyak 90% (36) pekerja asing

pula sangat tidak bersetuju bahawa mereka memahami maklumat yang disampaikan menggunakan bahasa Inggeris secara bertulis.

Penyampaian maklumat dalam bahasa Melayu secara bercetak adalah satu-satunya cara penyampaian yang menunjukkan nilai min melebihi 3 (medium) di mana sebanyak 40% (16) responden tidak bersetuju, 15% (6) tidak pasti, 30% (12) setuju dan 15% (6) sangat bersetuju. Secara keseluruhannya, dapat disimpulkan bahawa kekangan utama pekerja asing adalah bahasa Inggeris serta penyampaian maklumat secara bertulis dan lisan.

Perkara ini disokong oleh nilai-nilai min (purata) yang lebih rendah daripada nilai medium = 3. Meneliti nilai-nilai statistik dalam jadual, kajian telah mengenalpasti bahawa bahasa Inggeris secara keseluruhannya merupakan kekangan terbesar bagi pekerja asing untuk menerima serta memahami maklumat yang disampaikan. Kekangan bahasa Inggeris dari segi lisan dan bertulis merupakan sebab utama dengan nilai min serendah 1.05 dan 1.1. Keputusan kajian menunjukkan sebanyak 95% (38) pekerja asing menyatakan bahawa mereka sangat tidak setuju memahami maklumat yang disampaikan menggunakan bahasa Inggeris secara lisan. Tambahan pula, sebanyak 90% (36) pekerja asing pula sangat tidak bersetuju bahawa mereka memahami maklumat yang disampaikan menggunakan bahasa Inggeris secara bertulis.

Penyampaian maklumat dalam bahasa Melayu secara bercetak adalah satu-satunya cara penyampaian yang menunjukkan nilai min melebihi 3 (medium) di mana sebanyak 40% (16) responden tidak bersetuju, 15% (6) tidak pasti, 30% (12) setuju dan 15% (6) sangat bersetuju. Secara keseluruhannya, dapat disimpulkan bahawa kekangan utama pekerja asing adalah bahasa Inggeris serta penyampaian maklumat secara bertulis dan lisan.

Penilaian Medium Penyampaian Maklumat

Terdapat beberapa aspek yang dinilai dalam proses menentukan kebolehbantuan medium penyampaian maklumat sedia ada di kalangan pekerja asing di dalam kursus. Dalam kajian ini, penilaian adalah dijalankan terhadap maklumat keselamatan berkaitan kelengkapan pelindung diri iaitu dari segi kegunaan kelengkapan pelindung diri, peraturan keselamatan, cara pemakaian serta kesan baik menggunakan kelengkapan pelindung diri. Topik kelengkapan pelindung diri ini adalah dipilih berdasarkan penekanan utama yang diberikan oleh tenaga pengajar sebelum ini di dalam kursus. Justeru, analisis min telah dijalankan dan jadual digunakan bagi memaparkan tahap kesetujuan responden bagi setiap aspek yang diuji.

Kegunaan Kelengkapan Pelindung Diri

Kajian mendapati bahawa medium penyampaian maklumat sedia ada yang digunakan adalah sangat kurang membantu dari segi menyampaikan maklumat tentang kegunaan pelindung kepala, pelindung kaki, jaket keselamatan, pelindung telinga, pelindung muka dan mata, tali pinggang keselamatan, pelindung tangan dan pelindung pernafasan. Jadual di bawah menunjukkan

perincian peratusan hasil kebolehbantuan bagi setiap kegunaan kelengkapan pelindung diri terhadap pekerja asing.

Jadual 10.2

Kebolehbantuan mengetahui mengenai kegunaan pelindung kepala.

	STS	TS	TP	S	SS
Frekuensi	0	26	0	14	0
Peratus	0	65	0	35	0
Nilai-p (Binomial)	0.081				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.2 menunjukkan tahap kebolehbantuan medium penyampaian maklumat dari segi mengetahui mengenai kegunaan pelindung kepala oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p = 0.081$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.10. Keputusan kajian menunjukkan bahawa kebanyakan responden tidak bersetuju (65%) bahawa medium penyampaian maklumat sedia ada membantu mengenai kegunaan pelindung kepala kepada pekerja asing. Justeru, kajian ini merumuskan bahawa kebolehbantuan medium penyampaian maklumat mengenai kegunaan pelindung kepala adalah pada tahap yang sederhana rendah sahaja.

Jadual 10.3

Kebolehbantuan mengetahui mengenai kegunaan pelindung kaki.

	STS	TS	TP	S	SS
Frekuensi	1	27	0	12	0
Peratus	2.5	67.5	0	30	0
Nilai-p (Binomial)	0.017				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.3 pula menunjukkan tahap kebolehbantuan medium penyampaian maklumat dari segi mengetahui mengenai kegunaan pelindung kaki oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p = 0.017$) adalah menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Dapatan kajian menunjukkan kebanyakan responden tidak bersetuju (70%) bahawa medium penyampaian maklumat sedia ada ini dapat membantu mengenai kegunaan pelindung kaki. Oleh yang demikian, kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat dari segi mengetahui mengenai kegunaan pelindung kaki adalah hanya pada tahap sederhana rendah.

Jadual 10.4

Kebolehbantuan mengetahui mengenai kegunaan jaket keselamatan.

	STS	TS	TP	S	SS
Frekuensi	8	30	0	2	0
Peratus	20	75	0	5	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Tahap kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan jaket keselamatan oleh pekerja asing di tapak bina turut ditunjukkan dalam Jadual 10.4. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian menyatakan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk pada jadual, di dapati hanya segelintir responden sahaja bersetuju (5%) bahawa medium penyampaian maklumat sedia ada ini dapat membantu pekerja asing mengetahui mengenai kegunaan jaket keselamatan sepanjang bekerja di tapak bina. Justeru itu, kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan jaket keselamatan ini hanya berada pada tahap yang rendah.

Jadual 10.5

Kebolehbantuan mengetahui mengenai kegunaan pelindung telinga.

	STS	TS	TP	S	SS
Frekuensi	12	26	1	1	0
Peratus	30	65	2.5	2.5	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Tahap kebolehbantuan medium penyampaian maklumat bagi kegunaan pelindung telinga oleh pekerja asing di tapak bina ditunjukkan dalam Jadual 10.5. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan kajian menunjukkan bahawa hanya segelintir responden sahaja yang bersetuju (2.5%) bahawa medium penyampaian maklumat sedia ada ini membantu untuk mengetahui mengenai kegunaan pelindung telinga. Kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan pelindung telinga ini hanyalah pada tahap yang rendah sahaja.

Jadual 10.6

Kebolehbantuan mengetahui mengenai kegunaan pelindung muka dan mata.

	STS	TS	TP	S	SS
Frekuensi	12	27	0	1	0
Peratus	30	67.5	0	2.5	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.6 menunjukkan tahap kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan pelindung muka dan mata oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan kajian menunjukkan bahawa hampir semua responden tidak bersetuju (97.5%) bahawa medium penyampaian maklumat sedia ada ini dapat membantu mengetahui mengenai kegunaan pelindung muka dan mata. Kajian telah menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan pelindung muka dan mata ini hanya berada pada tahap yang rendah.

Jadual 10.7

Kebolehbantuan mengetahui mengenai kegunaan tali pinggang keselamatan.

	STS	TS	TP	S	SS
Frekuensi	13	26	0	1	0
Peratus	32.5	65	0	2.5	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.7 pula menunjukkan tahap kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan tali pinggang keselamatan oleh pekerja asing di tapak bina. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian menyatakan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk pada jadual, di dapati hanya segelintir responden sahaja bersetuju (2.5%) bahawa medium penyampaian maklumat sedia ada ini membantu untuk mengetahui mengenai kegunaan tali pinggang keselamatan. Oleh itu, dapat disimpulkan bahawa kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan tali pinggang keselamatan ini hanya pada tahap yang rendah.

Jadual 10.8

Kebolehbantuan mengetahui mengenai kegunaan pelindung tangan.

	STS	TS	TP	S	SS
Frekuensi	6	28	0	6	0
Peratus	15	70	0	15	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Tahap kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan pelindung tangan oleh pekerja asing di tapak bina telah ditunjukkan dalam Jadual 10.8. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan kajian menunjukkan bahawa hampir semua responden tidak bersetuju (95%) bahawa medium penyampaian maklumat sedia ada dapat membantu dalam mengetahui mengenai kegunaan pelindung tangan. Justeru, kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan pelindung tangan ini hanya berada pada tahap yang rendah.

Jadual 10.9

Kebolehbantuan mengetahui mengenai kegunaan pelindung pernafasan.

	STS	TS	TP	S	SS
Frekuensi	7	27	0	0	0
Peratus	17.5	67.5	0	0	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Akhir sekali, Jadual 10.9 menunjukkan mengenai tahap kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan pelindung pernafasan oleh pekerja asing di tapak bina. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian menyatakan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk pada jadual, di dapati semua responden tidak bersetuju (100%) bahawa medium penyampaian maklumat sedia ada ini dapat membantu untuk mengetahui mengenai kegunaan pelindung pernafasan. Oleh itu, dapat disimpulkan bahawa kebolehbantuan medium penyampaian maklumat dalam mengetahui mengenai kegunaan pelindung pernafasan ini adalah berada pada tahap yang sangat rendah.

Peraturan Keselamatan Bagi Kelengkapan Pelindung Diri

Hasil kajian menunjukkan bahawa medium penyampaian maklumat sedia ada tidak membantu pekerja asing dalam mengetahui serta memahami mengenai

peraturan keselamatan bagi kelengkapan pelindung diri. Kajian turut mendapati bahawa hanya pelindung kepala dan pelindung kaki sahaja menunjukkan tahap kebolehbantuan yang lebih tinggi berbanding dengan kelengkapan pelindung diri yang lain. Jadual di bawah menunjukkan mengenai perincian peratusan hasil kebolehbantuan maklumat peraturan keselamatan bagi setiap kelengkapan pelindung diri.

Jadual 10.10

Kebolehbantuan mengetahui mengenai peraturan keselamatan bagi pelindung kepala.

	STS	TS	TP	S	SS
Frekuensi	0	28	0	12	0
Peratus	0	70	0	30	0
Nilai-p (Binomial)	0.017				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.10 menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung kepala oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p = 0.017$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan kajian menunjukkan bahawa majoriti responden tidak bersetuju (70%) bahawa medium penyampaian maklumat sedia ada ini membantu dalam mengetahui mengenai peraturan keselamatan bagi pelindung kepala. Kajian telah menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung kepala ini hanya berada pada tahap sederhana rendah.

Jadual 10.11

Kebolehbantuan mengetahui mengenai peraturan keselamatan bagi pelindung kaki.

	STS	TS	TP	S	SS
Frekuensi	7	25	0	8	0
Peratus	17.5	62.5	0	20	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.11 pula menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung kaki oleh pekerja asing di tapak bina. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian menyatakan bahawa terdapat perbezaan yang bererti antara proposi kumpulan

bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati hanya segelintir responden sahaja bersetuju (20%) bahawa medium penyampaian maklumat sedia ada membantu dalam mengetahui mengenai peraturan keselamatan bagi pelindung kaki. Kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung kaki ini adalah pada tahap sederhana rendah.

Jadual 10.12

Kebolehbantuan mengetahui mengenai peraturan keselamatan bagi jaket keselamatan.

	STS	TS	TP	S	SS
Frekuensi	30	10	0	0	0
Peratus	75	25	0	0	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi jaket keselamatan oleh pekerja asing di tapak bina juga ditunjukkan dalam Jadual 10.12. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian menyatakan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati semua responden tidak bersetuju (100%) bahawa medium penyampaian maklumat sedia ada ini membantu dalam mengetahui mengenai peraturan keselamatan bagi jaket keselamatan. Kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi jaket keselamatan ini berada pada tahap yang sangat rendah.

Jadual 10.13

Kebolehbantuan mengetahui mengenai peraturan keselamatan bagi pelindung telinga.

	STS	TS	TP	S	SS
Frekuensi	31	8	1	0	0
Peratus	77.5	20	2.5	0	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung telinga oleh pekerja asing di tapak bina ditunjukkan seperti dalam Jadual 10.13. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian

menyatakan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati tiada responden yang bersetuju (0%) bahawa medium penyampaian maklumat sedia ada ini membantu dalam mengetahui mengenai peraturan keselamatan bagi pelindung telinga. Kesimpulannya, kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung telinga ini adalah berada pada tahap yang sangat rendah.

Jadual 10.14

Kebolehbantuan mengetahui mengenai peraturan keselamatan bagi pelindung muka dan mata.

	STS	TS	TP	S	SS
Frekuensi	31	8	1	0	0
Peratus	77.5	20	2.5	0	0
Nilai-p (Binomial)	< 0.001				
STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju					

Jadual 10.14 pula menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung muka dan mata oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati tiada responden yang bersetuju (0%) bahawa medium penyampaian maklumat sedia ada ini membantu dalam mengetahui mengenai peraturan keselamatan bagi pelindung muka dan mata. Kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung muka dan mata ini adalah berada pada tahap yang sangat rendah.

Jadual 10.15

Kebolehbantuan mengetahui mengenai peraturan keselamatan bagi tali pinggang keselamatan.

	STS	TS	TP	S	SS
Frekuensi	31	8	1	0	0
Peratus	77.5	20	2.5	0	0
Nilai-p (Binomial)	< 0.001				
STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju					

Jadual 10.15 juga menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi tali pinggang keselamatan oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p < 0.001$) menunjukkan

bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati tiada responden yang bersetuju (0%) bahawa medium penyampaian maklumat sedia ada ini membantu mengenai peraturan keselamatan bagi tali pinggang keselamatan di kalangan pekerja asing. Kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi tali pinggang keselamatan ini adalah berada pada tahap yang sangat rendah.

Jadual 10.16

Kebolehbantuan mengetahui mengenai peraturan keselamatan bagi pelindung tangan.

	STS	TS	TP	S	SS
Frekuensi	29	11	0	0	0
Peratus	72.5	27.5	0	0	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.16 menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung tangan oleh pekerja asing di tapak bina. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian menyatakan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati kesemua responden tidak bersetuju (100%) bahawa medium penyampaian maklumat sedia ada membantu mengetahui mengenai peraturan keselamatan bagi pelindung tangan. Kajian menyimpulkan bahawa tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung tangan di kalangan pekerja asing adalah sangat rendah.

Jadual 10.17

Kebolehbantuan mengetahui mengenai peraturan keselamatan bagi pelindung pernafasan.

	STS	TS	TP	S	SS
Frekuensi	30	10	0	0	0
Peratus	75	25	0	0	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung pernafasan oleh pekerja asing di tapak bina adalah

ditunjukkan seperti dalam Jadual 10.17. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian menyatakan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati kesemua responden tidak bersetuju (100%) bahawa medium penyampaian maklumat sedia ada membantu mengetahui mengenai peraturan keselamatan bagi pelindung pernafasan di kalangan pekerja asing. Kajian menyimpulkan bahawa tahap kebolehbantuan medium penyampaian maklumat mengenai peraturan keselamatan bagi pelindung pernafasan di kalangan pekerja asing ini adalah sangat rendah.

Cara Pemakaian Kelengkapan Pelindung Diri

Medium penyampaian maklumat sedia ada yang digunakan dilihat mempunyai tahap kebolehbantuan yang rendah dalam membantu pekerja asing mengetahui mengenai cara pemakaian yang betul bagi kesemua kelengkapan pelindung diri ($\text{min} < 3$). Namun, kajian mendapati bahawa hanya pelindung kepala sahaja yang menunjukkan nilai min yang lebih tinggi berbanding dengan kelengkapan pelindung diri yang lain. Jadual di bawah menunjukkan mengenai perincian peratusan hasil kebolehbantuan maklumat cara pemakaian bagi setiap kelengkapan pelindung diri.

Jadual 10.18

Kebolehbantuan mengetahui mengenai cara pemakaian pelindung kepala.

	STS	TS	TP	S	SS
Frekuensi	6	26	0	8	0
Peratus	15	65	0	20	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.18 adalah menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung kepala oleh pekerja asing di tapak bina. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian menyatakan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati hanya segelintir responden sahaja bersetuju (20%) bahawa medium penyampaian maklumat sedia ada ini membantu untuk mengetahui mengenai cara pemakaian pelindung kepala di kalangan pekerja asing. Kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung kepala ini hanya berada pada tahap yang sederhana rendah.

Jadual 10.19

Kebolehbantuan mengetahui mengenai cara pemakaian pelindung kaki.

	STS	TS	TP	S	SS
Frekuensi	19	14	0	7	0
Peratus	47.5	35	0	17.5	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.19 pula menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung kaki oleh pekerja asing di tapak bina. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian menjelaskan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati hanya segelintir responden bersetuju (17.5%) bahawa medium penyampaian maklumat sedia ada membantu untuk mengetahui mengenai cara pemakaian pelindung kaki. Maka, kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung kaki ini adalah berada pada tahap sederhana rendah.

Jadual 10.20

Kebolehbantuan mengetahui mengenai cara pemakaian jaket keselamatan.

	STS	TS	TP	S	SS
Frekuensi	22	14	0	4	0
Peratus	55	35	0	10	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian jaket keselamatan oleh pekerja asing di tapak bina adalah ditunjukkan seperti dalam Jadual 10.20. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, didapati hanya segelintir responden sahaja yang bersetuju (10%) bahawa medium penyampaian maklumat sedia ada ini membantu untuk mengetahui mengenai cara pemakaian jaket keselamatan di kalangan pekerja asing. Dapat disimpulkan bahawa tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian jaket keselamatan ini adalah rendah.

Jadual 10.21

Kebolehbantuan mengetahui mengenai cara pemakaian pelindung telinga.

	STS	TS	TP	S	SS
Frekuensi	24	16	0	0	0
Peratus	60	40	0	0	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung telinga oleh pekerja asing di tapak bina adalah seperti dalam Jadual 10.21. Merujuk kepada nilai p ujian binomial ($p < 0.001$), kajian mendapati bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan menunjukkan kesemua responden tidak bersetuju (100%) bahawa medium penyampaian maklumat sedia ada ini membantu untuk mengetahui mengenai cara pemakaian pelindung telinga di kalangan pekerja asing. Maka, dapat disimpulkan bahawa tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung telinga ini adalah sangat rendah.

Jadual 10.22

Kebolehbantuan mengetahui mengenai cara pemakaian pelindung muka dan mata.

	STS	TS	TP	S	SS
Frekuensi	22	18	0	0	0
Peratus	55	45	0	0	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Seterusnya, Jadual 10.22 adalah menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung muka dan mata oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan menunjukkan semua responden tidak bersetuju (100%) bahawa medium penyampaian maklumat sedia ada membantu untuk mengetahui mengenai cara pemakaian pelindung muka dan mata di kalangan pekerja asing. Maka, dapat disimpulkan bahawa tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung muka dan mata ini adalah sangat rendah.

Jadual 10.23

Kebolehbantuan mengetahui mengenai cara pemakaian tali pinggang keselamatan.

	STS	TS	TP	S	SS
Frekuensi	23	15	2	0	0
Peratus	57.5	37.5	5	0	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.23 pula menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian tali pinggang keselamatan oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Berdasarkan jadual, tiada responden yang bersetuju (0%) dengan pernyataan bahawa medium penyampaian maklumat sedia ada membantu untuk mengetahui mengenai cara pemakaian tali pinggang keselamatan. Sebagai kesimpulan, kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian tali pinggang keselamatan ini adalah berada pada tahap yang sangat rendah.

Jadual 10.24

Kebolehbantuan mengetahui mengenai mara pemakaian pelindung tangan.

	STS	TS	TP	S	SS
Frekuensi	21	13	0	6	0
Peratus	52.5	32.5	0	15	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung tangan oleh pekerja asing di tapak bina adalah ditunjukkan seperti dalam Jadual 10.24. Merujuk kepada nilai p ujian binomial ($p < 0.001$), kajian mendapati bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan menunjukkan majoriti responden tidak bersetuju (85%) bahawa medium penyampaian maklumat sedia ada membantu untuk mengetahui mengenai cara pemakaian pelindung tangan. Maka, kajian menyimpulkan bahawa tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung tangan ini adalah sangat rendah.

Jadual 10.25

Kebolehbantuan mengetahui mengenai cara pemakaian pelindung pernafasan.

	STS	TS	TP	S	SS
Frekuensi	23	13	1	3	0
Peratus	57.5	32.5	2.5	7.5	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Akhir sekali, tahap kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung pernafasan oleh pekerja asing di tapak bina juga ditunjukkan seperti dalam Jadual 10.25. Merujuk kepada nilai p ujian binomial ($p < 0.001$), kajian mendapati bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan menunjukkan hanya segelintir responden yang bersetuju (7.5%) bahawa medium penyampaian maklumat sedia ada membantu untuk mengetahui mengenai cara pemakaian pelindung pernafasan. Justeru, kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai cara pemakaian pelindung pernafasan adalah berada pada tahap yang sangat rendah.

Mengetahui Mengenai Kesan Baik Penggunaan Kelengkapan Pelindung Diri

Kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan kelengkapan pelindung diri bagi semua aspek yang diuji adalah berada di bawah garis min = 3 di mana medium penyampaian maklumat sedia ada ini hanya mempunyai tahap kebolehbantuan yang rendah. Kajian turut mendapati bahawa hanya pelindung kepala dan pelindung kaki sahaja menunjukkan tahap kebolehbantuan yang lebih tinggi berbanding dengan kelengkapan pelindung yang lain. Jadual di bawah ini menunjukkan mengenai perincian peratusan hasil kebolehbantuan mengenai mengetahui kesan baik penggunaan bagi setiap kelengkapan pelindung diri oleh pekerja asing di tapak bina.

Jadual 10.26

Kebolehbantuan mengetahui mengenai kesan baik penggunaan pelindung kepala.

	STS	TS	TP	S	SS
Frekuensi	3	30	0	6	1
Peratus	7.5	75	0	15	2.5
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Jadual 10.26 menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung kepala oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan menunjukkan minoriti responden bersetuju (17.5%) bahawa medium penyampaian maklumat sedia ada membantu dalam mengetahui mengenai kesan baik penggunaan pelindung kepala semasa bekerja di tapak bina. Namun keseluruhannya, kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung kepala di kalangan pekerja asing ini berada pada tahap sederhana rendah sahaja.

Jadual 10.27

Kebolehbantuan mengetahui mengenai kesan baik penggunaan pelindung kaki.

	STS	TS	TP	S	SS
Frekuensi	5	28	0	6	1
Peratus	12.5	70	0	15	2.5
Nilai-p (Binomial)	< 0.001				
STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju					

Jadual 10.27 pula menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung kaki oleh pekerja asing semasa bekerja di tapak bina. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan menunjukkan bahawa minoriti responden bersetuju (17.5%) bahawa medium penyampaian maklumat sedia ada membantu dalam mengetahui mengenai kesan baik penggunaan pelindung kaki dengan menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung kaki ini hanya berada pada tahap sederhana rendah.

Jadual 10.28

Kebolehbantuan mengetahui mengenai kesan baik penggunaan jaket keselamatan.

	STS	TS	TP	S	SS
Frekuensi	11	26	1	2	0
Peratus	27.5	65	2.5	5	0
Nilai-p (Binomial)	< 0.001				
STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju					

Tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan jaket keselamatan oleh pekerja asing di tapak bina adalah ditunjukkan seperti dalam Jadual 10.28. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Dapatan kajian menunjukkan hanya segelintir kecil responden sahaja bersetuju (5%) bahawa medium penyampaian maklumat sedia ada ini membantu dalam mengetahui mengenai kesan baik penggunaan jaket keselamatan. Oleh itu, kajian menyimpulkan bahawa tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan jaket keselamatan ini adalah sangat rendah.

Jadual 10.29

Kebolehbantuan mengetahui mengenai kesan baik penggunaan pelindung telinga.

	STS	TS	TP	S	SS
Frekuensi	13	25	0	2	0
Peratus	32.5	62.5	0	5	0
Nilai-p (Binomial)	< 0.001				
STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju					

Tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung telinga oleh pekerja asing di tapak bina juga ditunjukkan seperti dalam Jadual 10.29 dengan nilai p ujian binomial ($p < 0.001$) ditunjukkan mempunyai perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Berdasarkan pada jadual, hanya segelintir kecil responden sahaja yang bersetuju (5%) bahawa medium penyampaian maklumat sedia ada ini membantu untuk mengetahui mengenai kesan baik penggunaan pelindung telinga. Justeru, dapat disimpulkan bahawa kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung telinga ini berada pada tahap yang sangat rendah.

Jadual 10.30

Kebolehbantuan mengetahui mengenai kesan baik penggunaan pelindung muka dan mata.

	STS	TS	TP	S	SS
Frekuensi	12	24	1	3	0
Peratus	30	60	2.5	7.5	0
Nilai-p (Binomial)	< 0.001				
STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju					

Jadual 10.30 menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung muka dan mata oleh pekerja asing semasa bekerja di tapak bina. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, hanya segelintir responden sahaja yang bersetuju (7.5%) bahawa medium penyampaian maklumat sedia ada ini membantu untuk mengetahui mengenai kesan baik penggunaan pelindung muka dan mata di kalangan pekerja asing. Maka, kajian menyimpulkan bahawa tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung muka dan mata ini adalah berada pada tahap yang sangat rendah.

Jadual 10.31

Kebolehbantuan mengetahui mengenai kesan baik penggunaan tali pinggang keselamatan.

	STS	TS	TP	S	SS
Frekuensi	11	27	0	2	0
Peratus	27.5	67.5	0	5	0
Nilai-p (Binomial)	< 0.001				
STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju					

Jadual 10.31 pula menunjukkan tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan tali pinggang keselamatan oleh pekerja asing di tapak bina. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan kajian menunjukkan bahawa segelintir kecil responden bersetuju (5%) bahawa medium penyampaian maklumat sedia ada ini membantu mengetahui mengenai kesan baik penggunaan tali pinggang keselamatan. Keseluruhannya, kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat terhadap kesan baik penggunaan tali pinggang keselamatan ini berada pada tahap yang sangat rendah.

Jadual 10.32

Kebolehbantuan mengetahui mengenai kesan baik penggunaan pelindung tangan.

	STS	TS	TP	S	SS
Frekuensi	7	30	0	3	0
Peratus	17.5	75	0	7.5	0
Nilai-p (Binomial)	< 0.001				
STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju					

Tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung tangan oleh pekerja asing di tapak bina juga ditunjukkan seperti dalam Jadual 10.32. Nilai p ujian binomial ($p < 0.001$) menunjukkan bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Merujuk kepada jadual, hanya 5% responden sahaja bersetuju bahawa medium penyampaian maklumat sedia ada dapat membantu untuk mengetahui mengenai kesan baik penggunaan pelindung tangan di kalangan pekerja asing dengan tahap kebolehbantuan yang sangat rendah.

Jadual 10.33
Kebolehbantuan mengetahui mengenai kesan baik penggunaan pelindung pernafasan.

	STS	TS	TP	S	SS
Frekuensi	7	30	0	3	0
Peratus	17.5	75	0	7.5	0
Nilai-p (Binomial)	< 0.001				

STS: Sangat tidak setuju, TS: Tidak setuju, TP: Tidak pasti, S: Setuju, SS: Sangat setuju

Akhir sekali, tahap kebolehbantuan medium penyampaian maklumat mengenai kesan baik penggunaan pelindung pernafasan oleh pekerja asing di tapak bina ditunjukkan dalam Jadual 10.33. Berdasarkan nilai p ujian binomial ($p < 0.001$), kajian mendapati bahawa terdapat perbezaan yang bererti antara proposi kumpulan bersetuju dengan kumpulan tidak bersetuju pada aras keertian 0.05. Keputusan menunjukkan majoriti responden tidak bersetuju (92.5%) bahawa medium penyampaian maklumat sedia ada ini dapat membantu untuk mengetahui mengenai kesan baik penggunaan pelindung pernafasan di kalangan pekerja asing. Oleh itu, kajian menyimpulkan bahawa kebolehbantuan medium penyampaian maklumat ini adalah berada pada tahap yang sangat rendah.

Tahap Kepuasan Medium Penyampaian Maklumat di dalam KIKK

Hasil kajian yang telah dilaksanakan di beberapa tempat kursus dan tapak bina di Negeri Kedah mendapati medium penyampaian maklumat sedia ada yang digunakan kurang mencapai tahap kepuasan di kalangan pekerja asing. Analisis frekuensi, peratusan dan min yang telah dijalankan menunjukkan tahap kepuasan 86% (35) pekerja asing dari aspek bahasa serta peruntukan masa untuk menonton media di kalangan 85% (34) pekerja asing adalah sangat rendah dengan masing-masing mencatatkan nilai min 2.2 dan 1.95. Walau bagaimanapun, di dapati tahap kepuasan pekerja asing terhadap kandungan maklumat dalam media penyampaian maklumat yang bersesuaian dengan kerja di tapak serta kandungan maklumat yang dapat memenuhi keperluan kerja secara menyeluruh di tapak bina adalah berada pada tahap yang sederhana tinggi dengan nilai min 3.75 dan 3.65.

Namun begitu, kajian turut mendapati bahawa 95% daripada pekerja asing ini mencapai tahap kepuasan dari aspek penggunaan gambar di dalam media penyampaian maklumat dengan catatan nilai min yang tinggi iaitu 4.08. Hal ini menunjukkan bahawa elemen gambar adalah lebih disukai oleh pekerja asing dalam mempengaruhi minat mereka untuk mempelajari dan memahami maklumat keselamatan yang disampaikan. Perkara ini disokong oleh Hienich, Molenda, Russell dan Smaldino (2001) yang mana menyatakan bahawa kaedah pengajaran berbentuk ceramah serta penggunaan medium gambar hitam putih adalah kurang menarik minat pelajar terhadap pembelajaran. Malah, penggunaan *PowerPoint* dan demonstrasi multimedia dapat membantu meningkatkan proses pembelajaran (Ahmad Thoyyib, Eva Nur Mazidah & Fauziyatun, 2018; Jones, 2003) seterusnya dapat meningkatkan motivasi dan minat pelajar (Chang, Lin & Lee, 2005). Ini kerana menurut Norfarhana, Wan Fatimah & Emelia (2010), gabungan pelbagai elemen seperti teks, grafik, animasi, audio dan video dapat membantu meningkatkan minat serta menarik perhatian pelajar untuk terus fokus sepanjang pembelajaran berlangsung.

Pernyataan ini turut disokong dengan hasil kajian yang telah dijalankan mengenai keperluan pekerja asing terhadap medium penyampaian yang digunakan di dalam KIKK iaitu bagi meningkatkan pemahaman mereka terhadap maklumat keselamatan pekerjaan seterusnya memenuhi keperluan kerja di tapak bina. Kajian mendapati bahawa pekerja asing ini lebih memerlukan media cetak bertulis dalam bahasa ibunda mereka samada pada nota edaran, buku, risalah, poster dan pelekat (nilai min = > 4). Selain itu, pekerja asing juga memerlukan media cetak bergambar pada setiap nota edaran (min = 4.875), buku (min = 4.875), risalah (min = 4.925), poster (min=4.9) dan pelekat (min = 4.7). Kajian juga melaporkan bahawa pekerja asing memerlukan maklumat yang disampaikan dalam bahasa ibunda mereka menerusi kaedah secara bersemuka, tayangan filem dan rakaman video yang mana masing-masing mencatatkan nilai min tertinggi yang sama iaitu 4.975, diikuti dengan rakaman audio pada min 4.95 dan tayangan slaid min 4.875. Malah, di dapati penyampaian maklumat secara video merupakan bentuk penyampaian yang paling digemari oleh pekerja asing dengan catatan min 4.725 diikuti bentuk secara bergambar dengan min 4.6. Walau bagaimanapun, penyampaian secara bertulis dan lisan adalah dua bentuk penyampaian yang paling tidak digemari oleh pekerja asing (min = 1.325 dan 1.65) walaupun cara penyampaian secara bercetak masih dapat diterima (min = 3.075).

KESIMPULAN

Kajian menyimpulkan bahawa medium penyampaian maklumat sedia ada yang digunakan di dalam kursus adalah sangat kurang membantu dari segi menyampaikan maklumat tentang kegunaan pelindung kepala, kaki, jaket keselamatan, pelindung telinga, muka dan mata, tali pinggang keselamatan, pelindung tangan serta pernafasan. Malah, kajian turut mendapati bahawa medium penyampaian maklumat sedia ada ini tidak membantu pekerja asing dalam mengetahui serta memahami mengenai peraturan keselamatan bagi

kelengkapan pelindung diri. Hanya pelindung kepala dan pelindung kaki sahaja menunjukkan tahap kebolehbantuan yang lebih tinggi berbanding dengan kelengkapan pelindung diri yang lain. Dalam pada itu, medium penyampaian maklumat sedia ada yang digunakan juga mempunyai tahap kebolehbantuan yang rendah mengenai cara pemakaian yang betul bagi semua kelengkapan pelindung diri kecuali pelindung kepala. Turut dilihat bahawa medium ini mempunyai tahap kebolehbantuan yang rendah dalam mengetahui mengenai kesan baik bagi penggunaan semua kelengkapan pelindung diri kecuali pelindung kepala dan kaki yang mana menunjukkan nilai min yang lebih tinggi. Bagi tahap kepuasan dari aspek bahasa serta peruntukan masa untuk menonton media di kalangan pekerja asing pula menunjukkan nilai min yang sangat rendah terhadap medium penyampaian maklumat yang digunakan. Maka secara keseluruhannya, di dapati pekerja asing ini mempunyai minat yang sederhana rendah (min 2.7) terhadap medium penyampaian maklumat yang digunakan dan 72.5% (29) pekerja asing pula tidak memahami maklumat keselamatan yang ditunjukkan melalui medium penyampaian sedia ada di dalam KIKK.

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