THE EFFECTIVENESS OF CONDUCIVE WORK ENVIRONMENT TOWARDS WORK ENGAGEMENT OF MANUFACTURING INDUSTRY IN PERAK

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DECLARATION

We hereby declare that:

1) This undergraduate research project is the end result of our work done and due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.

2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.

3) Equal contribution has been made by each group member in completing the research project.

4) The word count of this research report is 21,759.

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Dedicated to:

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Our dear supervisor who is supportive, provides us professional advice and leads us to the right path in the process of this study.

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For giving us the opportunity to conduct this research project in our third year of study.

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To respondents who are willing to spend their precious time for helping us to complete the questionnaires for this research study.

TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

Pages

LIST OF ABBREVIATIONS

UTAR	UniversitiTunku Abdul Rahman
GDP	Gross Domestic Product
SAS	Statistics Analysis Software
WM	Work Engagement
EM	Empowerment
LS	Authentic Leadership
MS	Mission and Goal Setting
PJ	Procedural Justice
SH	Safety and Health
RR	Reward and Recognition

LIST OF APPENDICES

Page

PREFACE

It is compulsory to carry out research project in order to accomplish our study which is Bachelor Degree of Business Administration (Hons). The topic of the research project is "*The Effectiveness of Conducive Work Environment towards Work Engagement of Manufacturing Industry in Perak*". This topic is conducted because manufacturing industry is very crucial for economic growth and development, international trading sectors and the gross national product.

Nowadays, the manufacturing firms in Perak had reported that they are facing a low level of engagement towards the work. Manufacturing industry in Perak is facing a decline of work engagement that is cause by low salary, safety and health problem, injustice, low compensation by employers. Without the conducive work environment toward work engagement, firms cannot provide the beneficial changes to the organisational structure, improving performance of a company and most important they are unable to contribute their promises to employee. The research will provides some insight and better understanding of some of the antecedents such as the culture, resources and the ability on work engagement of the manufacturing industry in Perak.

This research is also concerned about the level of work engagement among employees. Procedural justice also will affect the employees towards their contribution and to the extent of taking care of their well-being. In short, this research project will give some help to improve the level of engagement among employee through the study of empowerment, authentic leadership, mission and goal setting, procedural justice, safety and health and reward and recognition.

ABSTRACT

The study investigates the relationship between perceived supervisor support, perceived organization support, procedural justice, reward and recognition, self-efficacy and employee engagement among manufacturing employee. The research focuses on manufacturing industry of employee in Perak. Statistical Analysis System (SAS) version 5.1 had been used in order to run the reliability analysis, frequency analysis, explaining the correlation coefficient analysis and test of hypothesized relationships among the dependent variable and the independent variables. The results of analysis confirmed that positive correlation exists between the empowerment, authentic leadership, mission and goal setting, procedural justice, safety and health, mission and goal setting and work engagement. This study is believed to enhance the literature gap since not much research emphasize on work engagement of manufacturing employee in Perak context.

CHAPTER 1: INTRODUCTION

1.0 Introduction

First of all, our research project aim is to identify how the effectiveness of conducive work environment towards work engagement of manufacturing industry in Perak. There are eight sub sections in Chapter 1. First, research background able to show the leading principle of the research, problem statement of this research, continue with objectives of this research, research questions, hypothesis of our study, significance of the study, chapter layout and finally yet importantly is the conclusion that summarizes the whole Chapter 1.

1.1 Research Background

Perak is one of the states in Malaysia and Ipoh is the capital of it. There are around 2.32 million of people in Perak. Discoveries of tin in Perak have helped it to be industrialized. The knowledge and skills gained from the tin mining industry has helped manufacturing industries and marine industries to thrive and serve very well in the market nowadays (Perak Investment Profile, n.d.).

Manufacturing industry in Malaysia nowadays plays an important role as this industry remains resilient by contribute 24.9 percent of GDP in 2012 (Malaysian Industrial Development Authority, 2012). The number of manufacturing company in Perak is

9.91% among the total number of manufacturing companies in the whole Malaysia. There are few places in Perak that are providing good assess for potential manufacturers, including Proton, Vale SA and CSR Zhuzhou. Proton City in Tanjung Malim and Vale SA, the largest iron ore distribution centre in Lumut has provided a platform for more and more investors to invest. Parit Buntar was being tapped by those industries which are in Seberang Perai and the presence of this labour force can be a very good place to attract more investors into the region with the condition they make some improvements towards their services and infrastructure (Talhar & Wong, 2016). According to Department of Statistics Malaysia, the industrial production index (IPI) of manufacturing industry increased by 2.75% in December 2015 if compared to December 2014. This is because there was 4.0% growth in manufacturing industry and Electricity index of 5.6% (Department of Statistics Malaysia, 2016).

1.2 Problem Statement

Work engagement defines as an individual intellectual commitment and emotion toward an organization (Baumruk, 2004; Shaw, 2005 Richman, 2006). Kahn (1990, p.694) assert engagement is to be mentally present when perform in work role. Saks (2006) stated that engagement as the extent where an individual is show attention and fully absorbed toward the performance of work roles. Frank et al (2004) definition for work engagement is the extent of discretionary effort of employee on their job which means an engaged employee will contribute fully discretionary effort, highly vigorous and dedicated on their job (Bakker et al, 2008; Tower Perrin 2009).

The term work engagement often attracts attention of organizations in recent years whereby the concept of work engagement has ignited the attention over the last 10

years (Demerouti et al, 2001; Hallberg &Schaufeli, 2006; Saks &Gruman, 2001). Work engagement has been used widely and becoming prevailing words (Robinson et al, 2004) and many researchers conclude that engaged employees is an essential sourcesof organizational competitiveness (Teng et al, 2007; Salanova & Schaufeli 2008). Besides that, according to Freeney and Tiernan (2006), engagement has occurred as new human resources buzzword and suggests that work engagement as a new predictor to job performance and organizational commitment. The level of work engagement of employees can determine the outcomes of employees, financial performance of organization and also organizational success (Harter et al, 2002; Bates, 2004; Baumruk 2004; Harter et al, 2002; Richman, 2006). It has been further explains by Zigarmi and Xanthopoulou (2009) that work engagement is also affecting productivity, profitability, employees retention and customer services. Engaged employees always feel energetic, healthier, create their respective job resources and personal resources by transfering their engagement to surrounding employees hence they always outstanding than non-engaged employees (Bakker & Demerouti, 2008). Therefore, work engagement is clearly the key factor for organizational success where work engagement nearly touches all the facet of human resources. Therefore, every elements of human resources have to be well addressed, if not it will lead to mismanagement and employees will fail to fully engage in their job (Markos and Sridevi, 2010). Fernandez (2007) expressed that work engagement will help organization to retain the best of its employees.

With the business environment is global and competitive nowadays, companies trying to increase their performance thus placing them forward than their competitors. However, to compete effectively employees need to show potential and capabilities in their works. Modern organization want their employees to be fully engaged by expecting all employees to be fully enthusiastic and show their initiative, strive for quality and high performance and take responsibility for own development, (Bakker and Leiter, 2010) due to work engagement can be the best tool for company to obtain competitive advantages and to remain competitive (Rashid et al, 2010). However, it

has been claimed that work engagement is declining and deepening of the disengagement of employee in workplace nowadays (Bates, 2004; Richman, 2006). When employees are disengaging from their works, it may constitute increase of employee turnover rate, absenteeism and poor performance (Caldwell, Chatman & O' Reilly, 1990).

The global financial crisis in 2007-2008 which hurt the competitiveness of private and government companies in Malaysia eventually employee engagement has been placed as a key element for an organization to success (Brown, L., 2012). Manufacturing companies are facing the challenge in becoming more competitive no matter in local or international markets. According to Bolden, Waterson, Warr, Clegg & Wall (1997), manufacturing industry experienced dramatic changed shifting from traditional work organization to team based work and multi-skill principles. The overload of demand and under-supply of response capabilities in manufacturing organization has affect work engagement when production line is replaced by more flexible systems, total quality management system and just-in-time system (Nelson & Simmons, 2003). Engaged workers are passionate, involved in work and able to cope with the demand of the work on hand. Conversely, disengagement workers may create issues in employee turnover, absenteeism and poor performance in an organization (Caldwell. Chatman & O'Reilly, 1990).

Manufacturing industry continuously remains as a competitive destination for foreign direct investment and attract amounted RM 20.8 billion in 2012 (Malaysian Industrial Development Authority, 2012). According to the Malaysia Department of Statistic, labour productivity in manufacturing industry has increase to RM 90, 556 in 2014 comparing to RM 87,248 in 2013 which show the growth in productivity in manufacturing has increase 3.8 percent. However, according to Ministry of Human Resources Malaysia (2011), manufacturing industry is the highest sector facing with job turnover rate since 2008 to 2011. The total number of employees involving in job

turnover is 36,392 from the combination of 10,321 employee's voluntary turnover and 26,071 employees involuntary turnover. Shamsudin Bardan, executive director of MEF has said that this phenomenon has incurred additional costs for employers as they have to recruit new employee to replace those whose leave.

1.3 Research Objective

1.3.1 General Objective

Our core objective is to evaluate and investigate the relationship between factors in the condusive work environment and work engagement of employees in manufacturing industry.

1.3.2 Specific Objectives

This study's specific objectives are as follows:

1. To find out the relationship between empowerment and work engagement in manufacturing industry.

2. To find out the relationship between authentic leadership and work engagement in manufacturing industry.

3. To find out the relationship between mission & goal setting and work engagement in manufacturing industry.

4. To find out the relationship between procedural justice and work engagement in manufacturing industry.

5. To find out the relationship between safety & health and work engagement in manufacturing industry.

6. To find out the relationship between rewards & recognition and work engagement in manufacturing industry.

1.4 Research Question

This research is being carried out to create the following research questions to be answerable and explainable so that the main objectives of this study can be accomplished.

1. Do factors in the conducive work environment influence employees' work engagement in manufacturing industry?
2. Does empowerment influences employees' work engagement in manufacturing industry?
3. Does authentic leadership influences employees' work engagement in manufacturing industry?
4. Does mission and goal setting influences employees' work engagement in manufacturing industry?
5. Does procedural justice influences employees' work engagement in manufacturing industry?
6. Does safety and health influences employees' work engagement in manufacturing industry?

7. Does rewards and recognition influences employees' work engagement in manufacturing industry?

1.5 Hypotheses of the Study

$H_{1:}$ There is a significant effect of factors in conducive work environment on work engagement.

H_{1A}: There is a significant effect of empowerment on work engagement.

H_{1B}: There is a significant effect of authentic leadership on work engagement.

H_{1C}: There is a significant effect of mission and goal setting on work engagement.

H_{1D}: There is a significant effect of procedural justice on work engagement.

H_{1E}: There is a significant effect of safety and health on work engagement.

H_{1F}: There is a significant effect of reward and recognition on work engagement.

1.6 Significance of the Study

1.6.1 Management / Organization Perspective

By conducting this research, it will enable the management of an organization to have a deeper and better understanding regarding how the working environment could affect the employee engagement. With this in mind, an organization can ultimately reduce the loss of money and time due to the employee-related issues such as burnout, turnover, and slack by overcome those issues with appropriate strategies.

1.6.2 Researcher Perspective

Through the research of employee engagement, researchers who are interested in this field of area may get relevant information and data by reviewing our research findings. This will prove to be more useful for researchers to gain a better explanation, a new dimension, and a clearer view for measuring the work engagement and conducive work environment.

1.7 Chapter Layout

Chapter 1: Introduction

The first chapter is about the effectiveness of conducive work environment towards work engagement of manufacturing industry in Perak. The introduction include the research background, problem statement, research objectives, research questions, hypothesis and significant of this study.

Chapter 2: Literature Review

This chapter includes literature review, review of relevant theoretical models, proposed theoretical/conceptual framework and hypothesis development. It uses to test the hypothesis on the work engagement of employees in manufacturing industry in Perak.

Chapter 3: Research Methodology

This chapter focus on research method which contains sample size, data collection method, types of measurement scales and method of analysis.

Chapter 4: Research Result

This chapter will show the list of questionnaire that reported in charts and table with SAS. Then, the system will analyze the result that relate to research question and hypothesis.

Chapter 5: Discussion and Conclusion

Overall, this chapter will link from chapter 1 to chapter 4 and discuss on final discussion and conclusion of the research through the database. This chapter includes summary of statistical analysis, discussion of major findings, implication of the study, limitations of the study and recommendation.

1.8 Conclusion

In a nutshell, chapter 1 shows our study background, problem statement, research question and objective of our study. Moreover, this chapter provide the guide to proceed for the following chapters. Besides that, readers able to gain a better understanding of variables that will affect work engagement toward manufacturing industry in Perak.

Chapter 2: Literature Review

2.0 Introduction

Chapter 2 focuses on reviewing, analyzing, and summarize the scholarly materials related to our chosen topic. In this chapter, we try to examine and analyze why researchers chose certain variables to use and some major theories regarding our topic. After the review of literature, we have found out that some particular variables are often being mentioned in topic with related to work engagement. Ergo, we try to formulate theoretical framework through identifying relevant dimensions concerning our study. Last but not least, hypothesis formulation is implemented by us before advancing towards Chapter 3.

2.1 Review of the Literature

2.1.1 Dependent Variable

Work Engagement

The first author who had created the theory about work engagement is Kahn, W.A (1990). He said that employees with high level of engagement will fully cognitively, physically, and emotionally connect in their work roles (Kahn, 1990). Engagement becomes the main power that helps employee lead to organizational goals (Macey, Barbera, Schneider & Young, 2009).

Schaufeli and Bakker (2004) proposed most often of the theory that been used as work engagement's definition is an active and positively work related that having the characteristics of dedication, vigour, and absorption. First, vigour is characterized by mental resilience and high levels of energy during their work. For employee with high vigour will have level of zest, energy, and stamina when working. Second, dedication is the involvement of work and experience feeling of enthusiasm, significance, and challenge. For employee who in high dedication, they will experience challenge and inspiration and they normally feel zealous and proud of their work. But for employee with low dedication is because don't have much experience and they feel not proud of their work. Lastly, adsorption is an individual who is happily engrossed and at the same time is concentrated in his/her work, whereby time pass rapidly and that individual often facing difficulty with work detachment.

Furthermore, Simmons & Nelson (2003) defined the meaning of engagement as the positive emotion experienced by employees during their work, where

they find their work to be more meaningful, their workload are more manageable and having hope on the future of their work. Baymruk 2004; Richman 2006; Shaw 2005 and Frank et al. (2004) have stated that employees intellectual commitment and emotional towards their organization or their discretionary effort can be seenin their jobs.

2.1.2 1st Independent variable:

Empowerment

According to Ruth and Nina (2005), empowerment is defines as an individual's or a group's capability of making choices and transformed it into desired actions and outcomes. In their study, Ruth and Nina tried to provide a clearer definition and also explain this concept of empowerment by gathering data and structured the analysis systematically.

Meanwhile, Simon and Manuela (2010) stated that empowerment that of the style of leadership is the attempt of leaders or management level to empower employees through giving them with autonomy, power and control, and discretion. Throughout their study, Simon and Manuela found out that empowerment indeed, shows positive effect with the level of engagement among employees during their work.

It is to believe empowerment will happen whenever upper levels in an organization of hierarchy's share power with lower levels among an organization. (Spreitzer, 1997; Wilkinson, 1998; Siegall and Gardner, 2000). Spreitzer (1995) definition of empowerment is when a person able senses the connection between their work and their own respective personal standards. It is shown by Russell, Wendy, and Steven (2003) that there are 3 elements that

will influenced the empowerment which is the dynamic structural framework, control in workplace decisions and fluidity in information sharing. They suggested that empowerment will lead an individual to real goals by creating high motivation level of employees and high association of profits along the way.

Albar, Garcia-Ramirez, Lopez and Garrido (2012) proposed that empowerment is important to work engagement as the study testing shown positive results after utilising, adapting, and improvising Spreitzer (1995) empowerment scale into a simpler and clearer framework. At the end of the study, their improvised easy-to-apply scale of measurement of empowerment proved to be useful for organizations in designing strategies and modelin empowering their employees (Albar, Garcia-Ramirez, Lopez and Garrido, 2012).

2.1.3 2nd Independent variable:

Authentic Leadership

Avolio, a leadership practitioner, has provided few opinion of him on the authentic leaders, he said that authentic leaders are those who are perceived authentic by their followers, and the leaders are trustworthy, genuine and honest in the perception of the followers. Those leaders encourage their teammate to voice out different opinion and emphasize the involvement of other teammate in the decision making process. (Avolio, Reichard, Hannah, Walumbwa, & Chan, 2009). Avolio and Gardner also define authentic leaders as those who have optimal self-esteem and show themselves to other people with trusting and open manner, and at the same time, influencing others to do

so. (Avolio, Gardner, May , Luthans, & Walumbwa, 2005), and authentic leaders will never try to copy or resemble of others (Avolio & Gardner, 2005).

The leaderships of those authentic leaders were known as authentic leaderships. According to Avolio and his colleague - Luthans, both of them define authentic leaderships can increase the positive behaviour of self awareness and self regulation in employees and leader. In an easier way to explain, authentic leaderships is a two ways influencing leaderships that can motivating the employee (Luthans and Avolio, 2003).

On the other hand, an authentic leader is also said to be influencing the optimistic employee and get them into positive psychological state, so that the employee will become more adaptable for development and eventually be further engaged in a working environment. (Luthans, Avolio, Avey & Norman, 2007).

2.1.4 3rd Independent variable:

Mission and Goal Setting

Mission statement had been known for being one of the most popular management tools in the world. For the past 20 years, a lot of researchers had done researches that related to the mission statement, and many different ways of mission statement are being defined by different researchers. According to Bart (2001), he has defined mission statement as a formal written document that functioning to seize an organization's distinct reason of existence. He also stated that the mission should answer as: why do the corporate exist, what is their real purpose and what are they trying to bring about. Another similar definition of missions statement had been brought up by Falsey (1989), he

also suggested that a missions statement should represent two things about a company: who it is and what it does. All these researchers have common opinion on mission statement, they believe that the statement of mission can differentiate a specific organization from others, and giving the firm's "reason for being". Mission statement should include the organization own characteristics such as organization purpose,basic goals or objectives, values, unique qualities, and critical stakeholders, (Drucker, 1974). In short, all these researchers are trying to say that mission statement is a set of value, belief and norms of the organizational behaviours that can positively affecting the employee preference and their behaviors toward achieving the organizations ultimate goal.

Nevertheless, some researchers have also provided some interesting opinion on the mission statement. Referring to Campbell (1997), Hanes (1999) and some other researchers that run a for-profit-only research, mission statements are said to be malleable, and do not explain what the organization is about, and what need to be ignored. Different from them, some of the nonprofit researchers such as Brown and Yoshioka (2003), Hull and Lio (2006) and Mitchell (2013) believe that mission statements are essential for goal attainment measures, constraints, internal direction and external recruitment of human resources, volunteers, and customers. Brown and Yoshioka (2003) had discovered that employee's satisfaction and intention to stay remain in organization are relevant with positive attitudes toward an organization's mission. Once again, mission statements can be strong management tools in motivating employees and to give them focusing on the organization's objectives.

According to Locke and Latham (2002), goals define as a referential standard in a cognitive comparing process of satisfaction and self-evaluation, which mean goals are commonly used as a tools to set an objective and achieve it to test the ability on one self and fulfill their own satisfaction. In Locke's previous study, he also explains that a goal is what an individual is trying to accomplish and goals decide of a human action. Ryan (1970), also suggested that goals direct and sustain someone efforts to perform an action.

In the research of Goerg (2015), Goerg had found out the advantage of goals setting. The main benefit of goal is it can help to increase the productivity. By using goal-setting techniques, it can increase workers' motivation and performance. Furthermore, individual work goals can also increase performance, no matter it is assigned by management or chosen by the worker. The finding of Goerg's research also show that even when monetary incentives are already high, complementing those incentives with goal setting can improve performance. Goerg also mentioned that goals also have the similar effect to the monetary incentives, which help employee to focus attention on the most important parts of their work task. Based on the literatures that we have studied, we can conclude that mission and goal setting have the same function to direct, guide and motivate the employee to put their efforts and achieve an objective.

2.1.5 4th Independent variable:

Procedural Justice

Definition of procedural justice is the fairness of the means or procedures by which decisions are made or outcomes are achieved (Byre, Z.s. and R. Cropanzano, 2001). Thibaut and Walker (1975) also referred procedural justice as the concept of employees concern with the fairness of the formal procedures that are used to distribute rewards and benefits in work.

Procedural justice involved the application of transparency, appropriate decision making rules, and the opportunities for employees to be participate in the process of decision making (De Cremer et al. 2008). Besides that, procedural justice also differs from interactional justices that the way individual employees are being treated with respect, dignity along with adequate explanation, typically by their supervisors (Aryee et al., 2004). Colquitt and Chertkoff (2002) stated that an organization allow employee to voice their dissatisfaction and propose suggestion will be ultimately led to stronger bonding between individuals and organizations. This is because fairness can convey the message to let employees feel valuable in organization. Therefore, it is the main reason of increasing the assessments for the perceptions of fairness (T.R. Tyler and Lind, E.A., 1988).

Besides that, Leventhal (1980) defined procedural justice is making a decision by following several specific rules. Leventhal listed few examples to show that procedures should utilize the correct information, unbiased, consistently across time and person, representing the main group concern, and to comply with ethical standards. Although procedural justice is necessary to distribute fairness to employee, but procedures justice should also offer personal some

spaces in the process of decision making through the form of voice or input and some control in influencing the decision (Walker & Thibaut, 1975, 1978).

Aryee et al (2004) stated that procedural justice is a main factor in order to motivate employee's cooperative behaviour and leverage job related performance. Moreover, procedural justice is used to understanding how does it impact employee's attitude and job-related performance, is one of the issue of management that has generated widespread academic attention (Walker and Bernerth, 2012). To explain in general, employee that received fair treatment by group is tend to have higher willingness to accept any decision. The result of procedure by following with group's rules and regulation tend to keeping them as group members, to assist the group to perform at higher levels (Tyler et al. 1996; Restubog et al. 2008;). Ergo, it is used to enhance the perceptions of mutual obligations between employer and employees as it strengthens the relationship.

2.1.6 5th Independent variable:

Safety and Health

One of the key factors that affect work engagement is health and safety. By referring to Cambridge Dictionaries, safety and health refers to the laws, rules, and principles that intend to keep people safe from injury or disease at work and in public places. According to Occupational Safety and Health Administration, employees' injury and illness cost can be reduce by 20 to 40 percent if they establish safety and health management system in their workplace. Employees will definitely feel supportive and committed to their well-being and satisfaction when they feel healthy and safe. Health, safety and well-being are those very basic needs for employees in the workplace.

In Malaysia, we have the Occupational Safety and Health Act (OSHA) 1994. There is a legislative framework In Act 415 that promoting, stimulating and encouraging high standard of safety and health at the workplace. The key objective of this act is to increase the safety and health awareness and to have an effective safety organization. To having a safety and health working environment among all Malaysia employees and employers is the long-term goal of this Act. The general duties of employers, employees, manufacturers, the self-employed had all included in OSHA 1994.

Bakker and Dollard (2010) have developed a model of workplace psychosocial safety climate (PSC) to justify the origins of employee engagement and worker psychological health. We can define PSC as a practices, procedures, and policies to protect worker psychological safety and health. According to Dollard & Bakker (2010), psychosocial safety existed when someone is free from psychological and social risk. An organization with psychosocial safety will improve the level of work engagement.

One of the important aspects in safety is that the organization should provide care and support towards their employees. Direct supervisor should also take care of their employees. According to Kahn (1990), a work environment that characterized by openness and supportiveness will make the employees feel that is a safe environment. A safe environment will lead the employees to be more committed to their work.

Workplace health and safety have very big implications on work engagement and overall business performances. Gallup carried out a poll on their

employees on employee engagement titled the "The State of the American Workplace" and the result showed that around 40% of the employees would definitely disengage from their work when their bosses ignore them. This affects the productivity, quality and employee's safety (Hohn, 2015).

2.1.7 6th Independent variable:

Reward and Recognition

Goodale et al (1997) defined that reward can be intrinsic or extrinsic reinforce and improve behaviour of employees within an organization. It is valuable positive outcomes of work for individuals (Shermerhorn, 1993) or compensation an employees acquired from organization as the result of trade offered with services of employees for the return of work done (Zhou et al, 2009). In truth, employees does not automatically come for work, continue to work, and work hard, as mentioned by Edward and Christopher (2006). Ergo, reward is vital to motivate employees for contributing their best effort for company performance. With the global recession in recent decade, employees are often had to cope up with constant wages, reduction of rewards and increasing performance expectation. Hence, reward system is important for attracting and retaining knowledgeable, skilful and competent employee to obtain organization's goals and further creating a culture that are supportive (Galbraith, 1973). Organizations also required for motivating employees in term of the issue of employee engagement (Scott, McMullen, Royal, Stark, 2010). Rewards practices are necessary to be adopted by organizations in both private and public sector. In the world of downsizing, reward and recognition is essential in boosting morale and creating goodwill between employers and employees (Bowen, 2000).

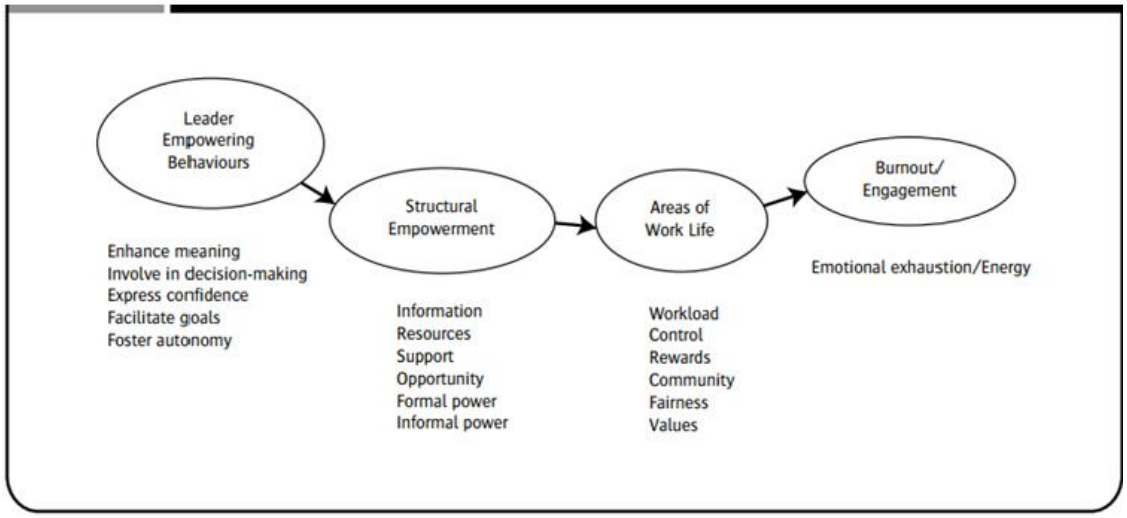
Rewards and recognition help to sustain and building the commitment among employees to ensure high of performance exist (Wang, 2004), and it transcends the boundaries of monetary which been classified into intrinsic rewards and extrinsic rewards (Lawler and Porter, 1968). The definition of intrinsic rewards are the satisfaction of an individual when they are performing in their job, while an extrinsic rewards are the benefits that an individual received as an outcome of his job. Reward can be categorized into non-monetary and monetary rewards. Monetary reward refer to tangible objects, for instance pay, promotions, formal recognitions, bonus while non-monetary rewards include personal recognition and praise (Weatherly, 2002). Employee's income derives from pay and pay is the key reward due to employee can satisfy other desire through their income (Milkovich and Newman, 2004).

According to Lawler (2001), an organization rewards strategies plays an importance roles in competitive advantages and emphasizes the importance of employee's satisfaction with the pay due to the causes of turnover is directly influence by the dissatisfaction of employees with pay (Tekleab et al, 2005). The purpose of reward system is to motivate employee's performance to keep track with organizational strategy (Galbraith, 1973). Indirect financial compensation is considered as benefits, or can be defined as rewards and services provided by employers (Kvaas, 2006) and a flexible benefits plan will be a good method to encourage employee engagement (Ayache and Naima, 2014). Besides that, workers often view benefits as the substitution of wages and willing to give up wages for more benefits (Woodbury, 1983).

2.2 Review of Relevant Theoretical Models

2.2.1 Model 1: Empowerment and Work Engagement

Figure 2.1: Leader Empowering Behaviours, Staff Nurse Empowerment and Work Engagement/Burnout.

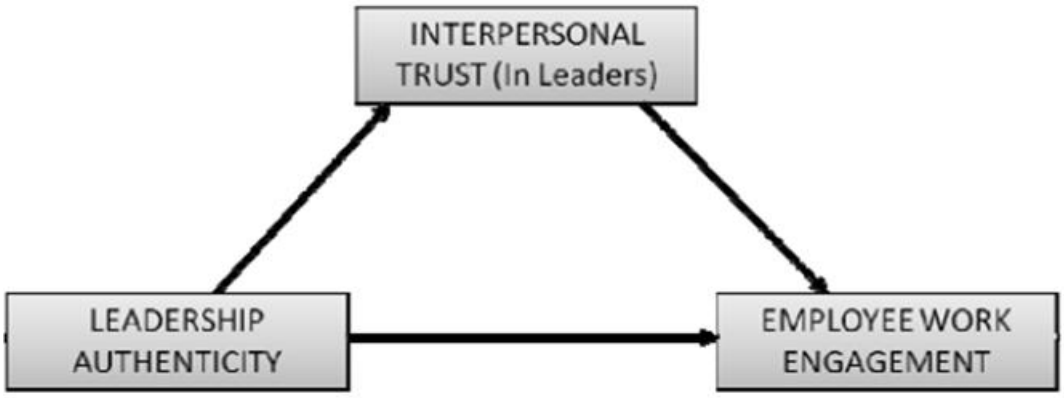


Source: Greco, P., Spence Laschinger, H., & Wong, C. (2006). Leader Empowering Behaviours, Staff Nurse Empowerment and Work Engagement/Burnout. Nursing Leadership, 19(4), 41-56.

In the theoretical framework designed, leader empowering behaviours will lead to the structural empowerment, and henceforth affecting different areas of work life, where this finally resulting to the level of engagement or burnout level. The framework shown support the theory of Kanter's (1977, 1993), organizational structure is crucial in regulating and improving work experiences of employees.

2.2.2 Model 2: Authentic Leadership and Work Engagement

Figure 2.2: Authentic Leadership, Trust and Work Engagement.

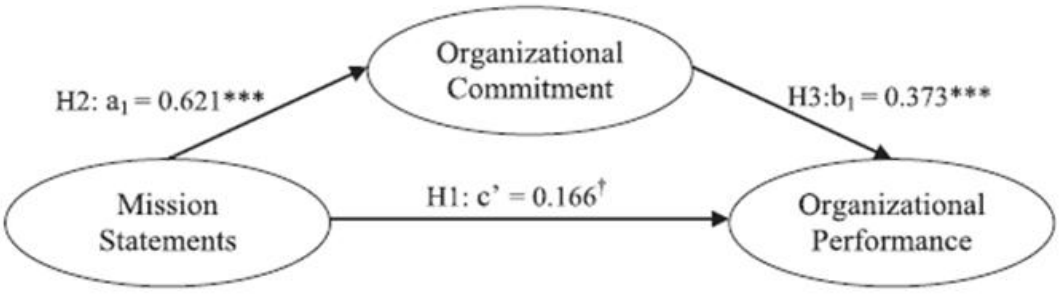


Source: Hassan, A., &Ahmed, F. (2011). Authentic Leadership, Trust and Work Engagement. World Academy of Science, Engineering and Technology International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering, Vol-5(No.8).

In the research of Hassan and Ahmed (2011), they provide a theoretical framework that including the authentic leadership and work engagement and it proved that employees can recognize the skill and ability of their leader to promote the productivity and growth of the employee within organization, it can guarantee a higher profit return and increase in work engagement amongst employees. Besides that, leader's effort in the supervisory coaching to assist their employees in organizing their work, locating their goals and career advancement are positively related to employee's work engagement.

2.2.3.1 Model 3: Mission and Work Engagement

Figure 2.3: Revisiting the link between mission statements and organizational performance in the non-profit sector: The mediating effect of organizational commitment.

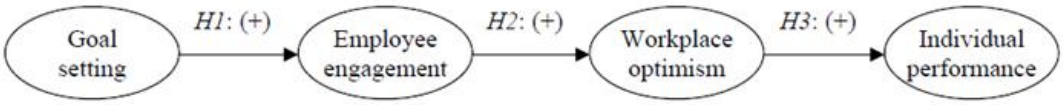


Source: Macedo, I., Pinho, J., & Silva, A. (2016). Revisiting the link between mission statements and organizational performance in the non-profit sector: The mediating effect of organizational commitment. *European Management Journal*, 34(1), 36-46.

According to the research of Macedo, Pinho and Silva (2015), this theoretical framework was developed. In this framework, the independent variable is mission statements. Based on their framework, a meaningful mission statement can be considered as effective strategic tools to provide direction and focus but also to increase the commitment among the employees. The independent variable is organizational commitment, which is the commitment of the employee, their engagement towards their job and organization. Analyses from the researcher revealed that significant and positive correlation between the mission and organizational commitment or employee engagement.

2.2.3.2 Model 4: Goal Setting and Work Engagement

Figure 2.4: Enhancing performance through goal setting, engagement, and optimism.



Source: Medlin, B., & Green, K. (2009). Enhancing performance through goal setting, engagement, and optimism. *Industrial Management & Data Systems*, 109(7), 943-956.

In this framework, goal setting, employee engagement, workplace optimism and individual performance are being studied. The findings in their research show that there is a chain reaction among the variables. Firstly, goal setting leads to engaged employees, then they will be more optimistic in the workplace; and finally it can enhance the employee performance within the organization.

2.2.4 Model 5: Procedural Justice, Reward and Recognition and Work Engagement

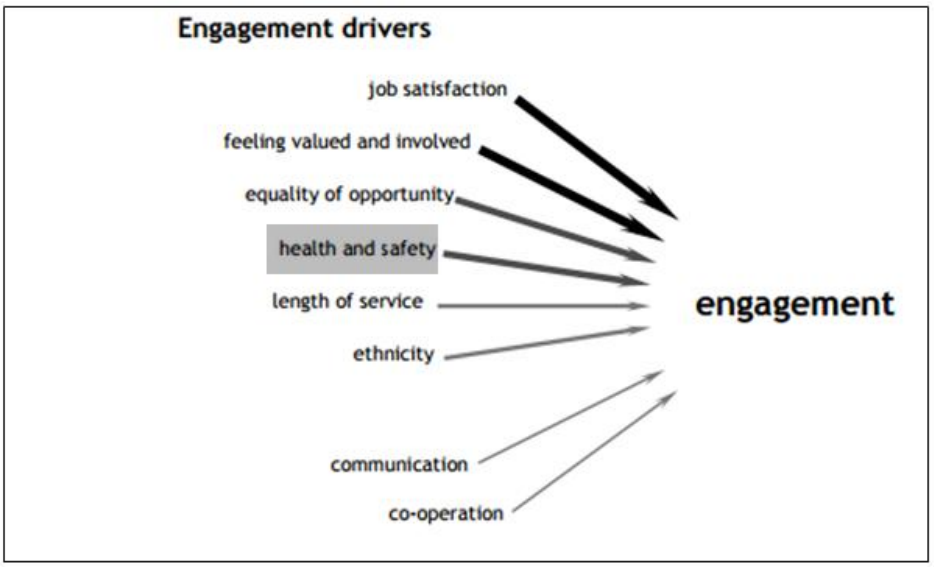
Figure 2.5: Antecedent and consequences of employee engagement.

Source: Saks, A. (2006). Antecedents and consequences of employee engagement. Journal of Managerial Psychology, 21(7), 600-619.

In this model, two main core component of employee engagement are job engagement and organizational commitment. The extent of reward and recognition received by employee will determine whether employee are engage in work as Kahn (1990) reported degree of employee engage in work is refer to the perception of benefits they receive from a role. Employees seem to be more engaged in work when they receive adequate amount of reward and recognition in their job performance. Rewards and recognition help to sustain and building the commitment among employees to ensure high of performance exist (Wang, 2004). Moreover, He, H., Zhu, W., & Zheng, X. (2014) had conclude that the procedural justice have positively impact on employee engagement.

2.2.5Model 6: Safety and Health

Figure 2.6: A model of safety and health with employee engagement

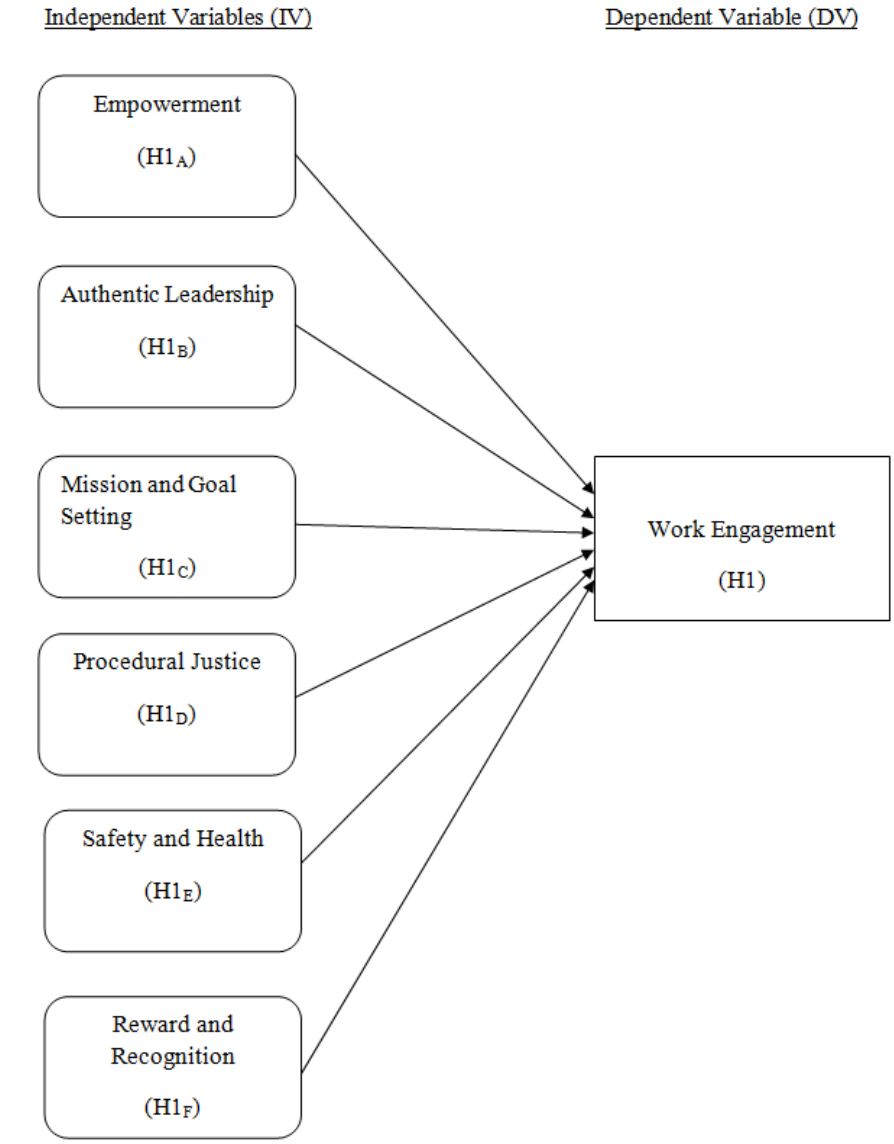


Source: Robertson-Smith, G., & Markwick, C. (2009). Employee engagement: A review of current thinking. Inst. for Employment Studies.

Based on the theoretical framework above, health and safety is one of the work engagement drivers. Employees who feel safer in the organization will be more engage towards their work. Workplace's safety and health have very big implications on work engagement and overall business performances (Safety Matters, 2016). Engagement levels can be easily affect by the working conditions in the workplace. A workplace that is not safe and make accident or injury that happened will have impact on engagement levels (Pandita & Bedarkar, 2015).

2.3 Proposed Theoretical Framework

Figure 2.7: Proposed Theoretical Framework



Source: Developed based on the research objectives and research questions

This is a diagram that visually displays and connects the variables in which to be tested in this research. The conceptual framework demonstrates the relationships

among all the independent variables and dependent variable. The framework generated is used for data analysis using descriptive and experimental methods. In this study, the independent variables are consists of Empowerment, Authentic Leadership, Mission and Goal Setting, Procedural Justice, Safety and Health and Reward and Recognition.

The dependent variable will be tested in order to determine the impact of all the independent variables toward work engagement. Based on the past research findings, researchers had viewed the framework and developed five hypotheses to identify the relationship of the independent variables and the dependent variable is shown above. Besides that, based on the theoretical model mention earlier, we know that Empowerment, Authentic Leadership, Mission and Goal Setting, Procedural Justice, Safety and Health and Reward and Recognition would definitely effect the employee engagement. Therefore, the purpose of this research is to examine the positive effect of the 6 factor among employee engagement of manufacturing in Perak. Furthermore, we wish to find out the result through our research objectives, research questions, and research hypotheses that would assist in emphasizing the variables which included in this study.

2.4 Hypotheses Development

2.4.1 Relationship between Empowerment and Work Engagement

Based on the psychological empowerment, job insecurity and employee engagement by Marius W. Stander; SebastiaanRothmann (2010), in their study they found out that psychological empowerment which consisting of competence, meaning, impact and self-determination, are positively related in employee engagement in a statistically significant way. Individuals who discover purpose in their work, or who believe they have the abilities and skills to do their work, andthose who believe that they can influence the system in which they are embedded, and also those who have self-endorsed goals (Mishra &Spreitzer, 1998; Quinn &Spreitzer, 1997) are often prone to be more engaged in their work.Greasley *et al*. (2005) discovers that those employees who perceive themselves as empowered will usually experience reduced levels of job insecurity that caused by emotional strain. In business environment nowadays, it is utmost crucial for managers to empower their subordinates. Thus, it is recommended that organisations apply effective interventions to increase the psychological empowerment of employees. Supervisors and managers are indeed played an important role in creating engaging work environments (Greco *et al*., 2006). Interventions should be focusing more on meaningful work, competence, self-determination and impact. Therefore, supervisors and managers should create work environments in which people experience their work as meaningful and where they feel that they can influence events (May *et al*., 2004).

In the study of Dr Despoina Xanthopoulou, Arnold B. Bakker, Evangelia Demerouti, and Wilmar B. Schaufeli (2011), showed that employees, who are generally engaged in their work, are often more likely to be engaged also in their daily workloads. In their study, they suggest that those interventions focused on the empowerment of job resources and particularly coaching could create engaged and productive workforces. For example, supervisors should set a clear performance goal for employees in where they need to achieve; or they should inform employee about, and provide to employees all the means that are necessary for achieving their work tasks, and they should also promote a performance orientation within the team (Stajkovic & Luthans, 1998).

In addition, the findings in the study that researched by Paula Greco, Heather K. S. Laschinger, Carol Wong (2006),suggest that when leaders developed organizational structures that empower nurses to deliver optimal care, they promote a greater sense of fit between nurses' expectations of work life quality and organizational goals and processes, ergo creating greater level of work engagement and lower tendencies to burnout.The link between empowerment and person's job fit and, last but not least, burnout is also proven to be consistent with the findings of Cho et al. (2006) among new graduates, further supporting the model integrating Kanter's theories with those of Maslach and Leiter.

H_{1A}: There is a significant relationship between empowerment with work engagement in manufacturing industry.

2.4.2 Relationship between Authentic Leadership and Employee Engagement

Leadership of business leaders seems to be taking a very important role in the business world; it had been studied in many researches, saying that the leadership have a significant relationship with the engagement of the employee. What, though, is an authentic leader?

On the other hand, Stander (Stander, Beer, Stander, 2015) and his partner have shown that there is a relationship between authentic leadership and work engagement. Authentic leadership are said to influencing towards employees' work engagement, with the workforce that holds high levels of optimism and a certain trust level of the employee. This statement was also supported by Avolio, he said that an optimistic individual can always fit in the culture of authentic leadership in the particular organization, and this will be more effective for the employee to run into a state of being engaged at work. Meanwhile, trust in employee towards the organizations also mediated authentic leadership towards work engagement. Employee who has trust in the organization will be more receptive for the culture and be engaged in their job role. In brief, when the employees believe that their leader, it will increase their engagement level to effectively deal with their job (Avolio et al, 2004).

There is another researcher that has done a study of the relationship between authentic leaderships and work engagement – Kumar Alok. Alok and his colleague have suggested a hypothesis that authentic leadership is expected to have a positive relationship with work engagement, with the assistance of promotive psychological ownership as a mediating variable. Meanwhile, psychological ownership is a cognitive-affective construct defined as a state of mind "in which individuals feel as though the target of ownership (material or immaterial in nature) or a piece of it is"theirs" "(Pierce, Kostova & Dirks

2001), in brief, it is the psychologically experienced phenomenon in which an employee develops possessive feelings for the particular target. In their research results, they prove that promotive psychological ownership can be said to fully mediate between the relationship of authentic leadership and work engagement.

In short, many researchers have the common point of view on there is a significant relationship between authentic leaderships and work engagement.

H1B: There is a significant relationship between authentic leadership with work engagement in manufacturing industry.

2.4.3 Relationship between Mission & Goal Setting and Work Engagement

In the research of Shinichi, Katsuyuki, Hideaki, Hong and Park (2010), they intended to examine the relationships between corporate mission and the corporate performance. Those researchers have plotted a research model of function of mission statement in Japanese context, 128 firms mission were studied, and was found out that mission statement do have a positive impact of top management commitment on the organizational values, as it helps to boost the employee commitment level in achieve quality customer services and organizations goal. They discovered that the engagement of upper echelon of management is observed for 18.75% of strong-mission firms. Hence, they concluded that strong mission firms bring more influence that helps in bringing positive results on business outcome (Hideaki et al., 2010).

In another research of Bart, Bantis and Taggar, mission statements tend to motivate and control the behavior of organizational members towards organizational goals. Missions are supposed to provide a context for strategy (Thompson and Strickland, 1992), it is also the reference in making business decisions (Ireland and Hitt, 1992). They also provide a study model of their study which includes few dimensions of mission. The results of their study also show that there is a significant positive relationship between the mission statements and business performance. (Bart, Bontis&Taggar, 2001).

Besides that, there is a reference based on the research journal of Desmidt, Prinzie and Decramer (2011) that studied the value of mission statements from the previous research from other researchers. In the journal, Desmidt and his partner researchers had sum up the overall performance impact that influence by mission statements. Smith (2001), an author, state that mission statement has become a prerequisite of doing business. Desmidt has also mentioned the 9 components of mission statement of Pearce and David (1987) which are customers, products and services, markets, technology, survival & profitability, philosophy, self-concept, public image and lastly employees. The research has provided valuable information of the relationship mission statement and organizational performance. (Bart, Bantis&Taggar, 2011).

There is a research which is very up-to-date that study the employee engagement of private sector in Malaysia. The research was attempts to introduce goal setting would further increase employee engagement. The study designed to explore employees from private sector industries such as Telco companies, finance, IT, property and plantation in Malaysia. They have proposed a framework which it includes few factors that influencing the employee engagement which is strategic attention, job autonomy, and also roles benefit and goal setting. We have refer to this research and the model

provided. At the end of the study, their interesting findings could be applied for utilization in research on other places or industry in Malaysia. (Abdullah, Mat, Rahman, Suhaimi& Yong, 2013).

H1C: There is a significant relationship between mission and goal setting with work engagement in manufacturing industry.

2.4.4 Relationship between Procedural Justice and Work Engagement

Based on the antecedents and consequences of employee engagement (Saks & Rotman, 2006), the study found that the procedural justice has positive relationshipto work engagement. Maslach et al (2001) stated that procedural justice will positively related to job engagement as the fairness and justices is one of the conditions in the engagement model. Maslach et al (2001) also explain that if the employee lack of fairness will intensify burnout, but while in the positive of fairness can be improve more in engagement.

Hongwei He, Weichun Zhu, Xiaoming Zheng (2013) stated that procedural justice have the relationship with work engagement in the group engagement model. Lind et al (1993) said employee will see an opportunity while requesting the task from an authority to perform a task. Procedural justice is one such decision heuristic, which people will rely on some heuristics in making a decision. Besides that, the impressions use by the authorities through process and procedures normally will let the perceiver get the impressions of the outcome they generate and the judgements of the fairness of process and procedure form the fairness of heuristic. This result shows that

the employee and the supervisor will be more engage towards the work while in the process of procedure on the fairness heuristic.

Tyler and Blader (2003) also stated that procedural justice has the positively relationship with the employee engagement as they find procedural justice information is the most useful identity to the information they have about groups. Abdul Kahliq Alvi and Abdus Sattar Abbasi (2012) also stated that the procedural justice can leads to higher level of employee engagement. As Lind, E.A. and T.R. Tyler (1988) said procedural justice will give employee a chance to open the voice to show their own opinion or view as it is important to increase the perceptions of fairness. Lastly, employees are more likely to feel obliged to be fair while they perform their own task through a higher level of engagement.

$H1_D$: There is a significant relationship between procedural justices with work engagement in manufacturing industry.

2.4.5 Relationship between Safety and Health and Work Engagement

Safety and health has a positive relationship towards the work engagement. According to Ghoshb, RituparnaBasaka and Anjali (2011) research, employees will feel more satisfied if they are working in a safe and healthy environment. Hence, it can increase the organization's productivity and employees' morale (Dana, 2010). We would like to study the relationship between health and safety with work engagement. Many employees are more likely to opt for abetter working environment that means a safe workplace that able to make them feel more comfortable and secure (Abuduaini, 2009). Eventually, a safe workplace will make employees to be more engaged to their work. Safety in the workplace, including reasonable pay, health benefits and the necessary resources are closely correspond to the level two of Maslow's hierarchy and also Rowntree's five undisputable conditions in the workplace (Rowntree, 1921). The motivation level of employees will be decrease if the workplace is in a bad condition. This will definitely affect the engagement level to decrease (Wadhwa, Verghese, & Wadhwa, 2011).

According to Society for Human Resource Management (SHRM), it is good for an organization to examine its safety needs in order to prevent harm. Accidents may happen anytime, thus it is important for employees to expect a certain level of security and protection. Most of the employees reported that the feeling of safetyin the work place is very important and this will determine their engagement level to the organization.

$H1_E$: There is a significant relationship between safety and health with work engagement in manufacturing industry.

2.4.6 Relationship between Reward and Recognition and Employee Engagement

Pay system and reward strategy has climb from sixth ranking to third ranking as the factor in creating employee engagement in 2010 (Trends in Global Employee Engagement, 2013).). The economic problems has make reward and recognition programs particularly attractive (Robins and Pattison, 2005) along with monetary and non-monetary compensation to retain and motivate employees to achieve organizational goals (Chiu, Luk, and Tang, 2002; Lazear and Shaw, 2007). Bhattacharya and Mukherjee (2009) claimed that work engagement is created dependent on the feeling of employees towards the fair reward which been given due to their skills, knowledge and participation. They further stated that organizations need an appropriate reward strategy since reward strategy plays a key role in reflecting organization culture and creating engagement. Employees who has been go through promotion programme or their performance is evaluated formally will have a higher level of employee engagement (Simon, 2009). Employees are still expecting day-to-day informal recognition in their workplace (Hofmans et al., 2012) and employees are more engaged when their management listen, support and recognized their contributions (Pavlinac, 2009). Research of Kahn (1990) stated that employees will show the different level of engagement according to their perception of the benefits they receiving.

Reward and recognition are essential in retaining qualified employees, actively engaging them in satisfying customer, managing scarce sources and improve performances (Freed, 1999). Reward and recognition will create better performance and employees more likely focusing in their job duties (Darling et al, 1997). Bhatnagar (2007) found significant relationship “career planning and incentives” which is recognition, career development, growth opportunities, compensation and benefits and work engagement. Study of

Saks (2006) also claimed that rewards and recognition is the antecedents of work engagement where employees are responsible to show higher level of engagement when received rewards and recognition from employers. Moreover, employees are more tendencies to engagement when given appropriate reward and actively participate in decision making (Rashid et al., 2011)

$H1_F$: There is a significant relationship between reward and recognition with work engagement in manufacturing industry.

2.5 Conclusion

In this chapter provides a visual view of the dependent variable and independent variables through the review of existing literature and along with the relevant theoretical model with those literatures that assists us better understand the concept of employee engagement with the 6 items of independent variable and also came out with the conceptual framework. Besides, we develop the hypotheses based on the previous researcher on the relationship between each of the determinant factors and dependent variable. Based on the research of this chapter, we will further to examine the 'relationship' of our variables in our study context through carrying out research methodology in the following chapter.

CHAPTER 3: RESEARCH METHODOLOGY

3.0 Introduction

We will explain more about the research methodology where we can use to gather the related information. This chapter consists of research design, data collection methods, sampling design, research instrument, construct measurement, data processing, data analysis and lastly is conclusion.

3.1 Research Design

Research design defines as the logical and systematic approach in planning and directing a piece of research (Zikmund, Babin, & Carr, 2009). Quantitative research paper is to show practices both of the primary and secondary data to explain the relationship between the dependent variable (work engagement) and independent variables (empowerment, authentic leadership, mission and goal setting, procedural justice, reward and recognition). It is because it is predetermined and consists of large number of respondents. This research belongs to causal research because there is more than one factor that is causing the problem.

Research design is concerned with practicable adjustment of obtaining data from survey and external sources as well (Sekaran et al., 2010). There are many approaches

that we can use in order to collect data, we distribute questionnaires to the target respondents.

3.2 Data Collection Methods

The most important and essentially aspect of any research studies is data collection. We can collect our data in many different methods. There are two main methods to collect data including primary data and secondary data (Kothari, 2004). Primary data are doing surveys, questionnaires, observations and interviews. Secondary data can obtained from many sources that include Internet, journals, literatures and others.

3.2.1 Primary Data

According to Chan and Farid Ahmed (2006), primary data are information gathered and assembled specifically for the research objectives. Primary data is conducted from first hand sources that have not been published yet and the data is more reliable, accurate and objective. There are few methods to collect the primary data which including interview, observation and questionnaire. We are using questionnaire as the main method to collect as much as information from the respondents. By using questionnaires, we managed to gather information from respondents in the shortest time. Questionnaires are a full list of questions that might include both open-ended question and closed-ended questions. However, we are just using closed-ended questions in this research. Respondents must pick one of the answers for every question.

Table 3.1: Frequency of Respondents based on Data Collection Methods

Method	Number	%
Distribution of questionnaire	384	100
Total	384	100

Source: Developed based on our total distributed questionnaires

3.2.2 Secondary Data

According to Chan and Farid Ahmed (2006), secondary data means that the information has been previously collect for other purposes other than the research project at hand. Secondary data are easier to get compare to primary data, we can get secondary data from many ways, such as Internets, journals and books (Sekaran et al., 2010). The time taken to gather secondary data are almost the same with primary data. We are using journals and Internet to gather secondary data in this research. Electronic data are stored digitally into our computers so that it is easier for us to retrieve and revise the data.

3.3 Sampling Design

3.3.1 Target Population

The first step is define the target population, hence we have decided to aim on specific number of employees in manufacturing industry that will be conduct in the research project. The target population for the research is the manufacturing industry in Perak. Sampling is the process of selecting a small number from the total population in the manufacturing industry in Perak. According to Department of Statistics Malaysia, the official portal shows that the total number of employees in manufacturing industry in Perak is 160,105 people (Department of Statistics Malaysia, 2012).

3.3.2 Sampling Frame and Sampling Location

Sampling frame is a source of material that the sample had been drawn from (Zikmund et al., 2010). We have broadened the scope by focusing on permanent staff, part timer, trainee and interns. Therefore, the sampling frame is manufacturer worker who works in the manufacturing industry. Sampling location is the location where the researchers collect data and the place where we distribute the questionnaires. For the sampling location, we target on Tasek, Silibin, Jelapang, Gopeng and Menglembu industrial area.

3.3.3 Sampling Elements

The sampling elements are the workers in manufacturer industry that we targeted in Perak. We choose to distribute the questionnaires randomly to the workers in the manufacturing industry based on their availability, but we will also distribute to trainee, part timer and temporary worker. Besides that, the workers in manufacturing industry are being chosen as a sampling element because of their career is characterized by focusing on the shifting and advance academic, workplace, and technical with good practical skill, so that it would enable employees to stay active with our research.

3.3.4 Sampling Techniques

In this research, we are using non-probability sampling method. It is because non-probability sampling is to select sample from a population that they are interested in the study. Moreover, non-probability sampling often are much easier, quicker and cheaper when compares with probability sampling. Therefore, convenience sampling is being use in this research. Convenience sampling is the most common sampling technique. Convenience sampling is accessible to the researcher and easiest, cheapest and least time consuming in the research. The advantage of convenience sampling is easy to observe and understand how the sample should be collect and help to gather useful data and information. Furthermore, the primary selection criterion relates to obtain a sample that can help to decrease the cost of locating elements for the population, the geographic distribution of the sample, and obtaining the interview data from the selected element.

3.3.5 Sampling size

Sample size is recognises as the representatives of the sample for generalized to the population (Sekaran & Bougie, 2010). We calculate the total targeted population for this research based on the total number of employees that work in manufacturing industry in Perak.

We carried out pilot test before the formal survey. It aims to ensure the validity of the research. We prepared 384 copies of questionnaires and distributed randomly to the manufacturing firms in Perak. 250 copies questionnaires were successfully collected from the chosen manufacturing firm and 41 questionnaires were not usable.

Table 3.2: Total Questionnaires Distributed

Questionnaires	Number	%
Distributed	384	100
Collected back	250	65.10
Rejected	134	34.90
Usable	209	83.60
Not usable	41	16.40

Source: Developed based on distributed and received questionnaires

3.4 Research Instrument

3.4.1 Type of Instrument

The aim of researcher when choosing a method is to select the most suitable data collection strategy in order to reach the requirement of the research question as well as maximizing the quality of data collected (de Leeuw, 2005). The decision on the method is based on more of the administrative and resources factors because the process involving a lot of compromises between the ideal of researchers and the cost to implement it (Czaja & Blair, 2005). The process involves a lot compromise between the researcher's ideal and the cost. Questionnaire had been chose as our research instrument among other options like observation and interview. According to Bulmer (2004), questionnaire is the well-established tool to obtain the information of participant social characteristics, present and past behaviours. It also helps to determine the standard behaviour and attitudes of participants as well as their belief and reason of their action with the respective topic under investigate. The primary purpose of questionnaire is to collect all the data more or less in the same format which means the question asked to the targeted respondent precisely in the same way (Cecic&Musson, 2004). Questionnaire is the most optimal ways to conduct in this research is because it more beneficial when comparing to other instrument method. Questionnaire is cost effective because it is cheap to administer alongside with some small necessary expenses for instance printing and designing questionnaire. Besides that, questionnaire can reduce the bias error that might occur by interview method due to the characteristics and skills of the interviewer. The greater anonymity provided to respondent in questionnaire also enhance the reliability of the response of respondents when facing sensitive or personal questions. Finally yet importantly, questionnaire is time saving for many respondents and able to

cover greater coverage areas. Questionnaire can be completed within few minutes by respondent, while interview will take longer time.

3.4.2 Pilot Test

A small scale version or trial run before the planned main study is named as pilot study (Polit, Beck & Hungler, 2001) and (Baker, 1994) defined that pilot study often use for pre-test or try out of a research instrument. Pilot study may help to increase the likelihood of success in the main study although it does not guarantee success. Pilot study is useful because it help to determine whether the items investigate able to obtain the information needed. Several issues can be resolved by pilot study before started the main study for example reliability and validity of results, wording of the survey and the efficacious of variables through the statistical and analytical process. It giving sign for the propose study if weakness in the propose study is occurring. The Cronbach's alpha coefficient is the common indicator to measure the reliability of the result. Cronbach's alpha coefficient normally ranges between 0 and 1.0 and the internal consistency of the items measured is greater when closer to Cronbach alpha 1.0. George and Mallery (2003) has shown the rule of thumb where the items being tested need to be range in alpha value 0.6 only consider questionable. Lower than 0.6 is consider poor while lower than 0.5 is unacceptable.

3.4.3 Ways Carry Out and Time Taken

The questionnaire has been selected as a closed ended question which able to make people easier to respond and easier for analysis. With close-ended questions respondents only require to answer the question with the answer format provided. The questions of the questionnaire are simple and easy in order to let respondent easy to understand. Besides that, due to respondent without the assist of interviewer during completing the questionnaire, therefore question need to be clear and easy. We try to make our question short and simple which able to reduce the chance of misunderstanding and unambiguous. We will make sure questionnaire will only distribute to our target respondents that is manufacturing industry employees. Respondents just need few minutes to complete the questionnaires since it is short and simple and we will collect the questionnaires from respondents once they complete in order to make sure all the information collected kept in confidential and academic purpose only. Once the entire questionnaire has been collected, we will be using the Statistical Analysis System (SAS) version 5.1 to examine the reliability of our questionnaire. Examine the reliability test may spend around two to three days to accurately determine the reliability of our questionnaires.

3.5 Construct Measurement (Scale & Operational Definition)

3.5.1 Original Source of Construct Measurement

Table 3.3: Source Model of Construct Measurement

No.	Item	Author	Modification	Remarks
1	I really "throw" myself into my job.	Saks, Alan M, 2006	I have involved a lot in my job.	Modified "throw myself to "involve"
2	Sometimes I am so into my job that I lose track of time.	Saks, Alan M, 2006	I am too concentrating into my job that forgets to accompany my family.	Modified "my job that I lose track of time" to "concentrating into my job that forgets to accompany my family"
3	This job is all consuming, I am totally into it.	Saks, Alan M, 2006	I am fully focused into my job.	Concise " job is all consuming, I am totally into it" to "fully focus into my job".
4	My mind often wanders and I think of other things when doing my job.	Saks, Alan M, 2006	-	Adopt
5	I am highly engaged in this job.	Saks, Alan M, 2006	-	Adopt
6	Employees do not provide reviews of their managers.	Russell A. Matthew, 2003	Employees could provide a review of their respective supervisors.	Modified "do not provide reviews to their managers" to "could provide a review of their

				respective supervisors"
7	Employees have discretion in when they take their paid of leave of leave.	Russell A. Matthew, 2003	Employees can decide when they want to take their paid leave of absence.	Modified "have discretion in" to "can decide"
8	Employees have a say in the production teams to which they are assigned.	Russell A. Matthew, 2003	Employees can give opinion among their assigned workgroup.	Modified "have a say in production teams to which they are assigned" to "can give opinion among their assigned workgroup"
9	Employees have a say in setting their own production standards.	Russell A. Matthew, 2003	Employees can decide in setting their own working standards in workgroup.	Modified "have a say in setting their own standards" to "can decide in setting their own working standards in workgroup"
10	Employees have a say in defining their job responsibilities.	Russell A. Matthew, 2003	Employees can give opinion in determining their job responsibilities in workgroup.	Modified "have a say in defining their job responsibilities" to "can give opinion in determining their job responsibilities in workgroup"
11	My leader says exactly what he or she means.	Emuwa, 2013	My leader gives simple and direct instructions.	Concise "says exactly what he or she means" to "gives simple and direct instructions"

12	My leader encourages everyone to speak their mind.	Emuwa, 2013	My leader encourages everyone to speak-out their opinions.	Modified "speak their mind" to "speak-out their opinions"
13	My leader asks you to take positions which support your core values.	Emuwa, 2013	My leader asks me to take positions which I can contribute to.	Modified "take positions which support your core values" to "take positions which I can contribute to"
14	My leader seeks feedback to improve interaction with others.	Emuwa, 2013	-	Adopt
15	My leader demonstrates beliefs that are consistent with action.	Emuwa, 2013	-	Adopt
16	Individual are rewarded based on the accomplishment of goals.	Abdullah et al., 2012	-	Adopt
17	I am taught how to set effective goal.	Abdullah et al., 2012	I am guided how to set effective goal.	Modified "taught" to "guided"
18	All my goals are specific, measureable, attainable, realistic and timely.	Abdullah et al., 2012	-	Adopt
19	I am given the necessary tools and support to accomplish my goal.	Abdullah et al., 2012	-	Adopt
20	We have received briefing on company	Abdullah et		Adopt

	goal during my probation.	al., 2012	-	
21	How fair are the union contract procedures used to determine work schedules.	Wittmer, J. L., 2010	The procedure use to determine work schedules in my workplace are fair.	Modified "union contract procedures" to "determine work schedules"
22	How fair are the union contract procedures used to determine pay increases.	Wittmer, J. L., 2010	The pay given by my workplace is fair.	Modified " the union contract procedures" to " pay given by my workplace"
23	How fair are the union contract procedures used to determine work related as assignments.	Wittmer, J. L., 2010	The work scope given by my workplace is fair.	Modified " the union contract procedures" to " work scope given by my workplace"
24	How fair are the union contract procedures used to determine health benefits.	Wittmer, J. L., 2010	The health benefit given by my workplace is fair.	Modified "the union contract procedures" to given by my workplace"
25	How fair are the union contract procedures used to process grievances.	Wittmer, J. L., 2010	The process of grievances by my workplace is fair.	Modified "the union contract procedures" to " by my workplace is fair"
26	Do you think that your workplace provides sufficient fire safety drills annually?	M. T. McAdams, 2010	-	Adopt
27	Do you agree that your working premises are given adequate fire alarms and fire	M. T. McAdams, 2010	-	Adopt

	extinguishers?			
28	Do you agree that there is suitable and sufficient first aid equipment in your workplace?	M. T. McAdams, 2010	-	Adopt
29	Do you feel that there is enough prevention for workplace accidents?	M. T. McAdams, 2010	-	Adopt
30	Do you agree that you are given sufficient medical and insurance benefits?	M. T. McAdams, 2010	-	Adopt
31	I am satisfied with my base salary.	Bustamam, F. S., 2014	-	Adopt
32	I am satisfied with how my raise are determined.	Bustamam, F. S., 2014	-	Adopt
33	Those who do well stand a fair chance of being promoted.	Bustamam, F. S., 2014	-	Adopt
34	Received appropriate recognition for my contribution.	Bustamam, F. S., 2014	I receive appropriate recognition for my contribution.	Modified by adding "I'"
35	Understand the type of behaviour leading to recognition.	Bustamam, F. S., 2014	I understand the type of behaviour leading to recognition.	Modified by adding "I'"
36	Are you satisfied praise and recognition for good job?	Bustamam, F. S., 2014	Overall, I am satisfied with praise and recognition for good job.	Modified "are you" into "I am"

Source: Develop from journals for the research

3.5.2 Structure of the Questionnaire

The questionnaire that had been plotted is separated into two sections that are Section A and Section B. Section A questions every respondent about their personal demographic details, while Section B consists of another seven subsections of questions which involving the dependent variable and independent variables.

In the course of Section A, scale measurement applied in this section is non-metric scales where these scales consist of nominal scale and ordinal scale. Nominal scale are used in first four questions in Section A, which are the gender, age group, race and marital status of targeted respondents, while the last four questions consist of type of work industry, individual monthly income, job type and also education level are in ordinal scale.

On the other hand, all questions in Section B are measure in interval scale. Interval scale has the advantage beyond that of nominal scale and ordinal scale, as this type of measurement is able to indicate the distance of an object from another. The first subsection of questions in Section B are measuring the reliability of dependent variables, which are the employee engagement; while the remaining parts are used to measure each of the independent variables: empowerment, authentic leadership, mission and goal setting, procedural justice, safety and health and last but not least reward and recognition.

3.5.2.1 Nominal Scale

Nominal scale is the scale that assigns a value to an object for identification or classification purposes. It is use to represent the variables that assign values in the form of descriptive category and do not have any numerical value or magnitude. The variables that may fall in the category of nominal scale of measurement are gender, ethnicity, language and others.

3.5.2.2 Ordinal Scale

Ordinal scale is a scale that allows things to be arranged based on how much of some ranking that they possess. However, the ordinal scale does not provide the unique origin and the value of the interval between rankings.

3.5.2.3 Interval Scale

Interval scale of measurement has integrated the function of both nominal and ordinal scale; interval scale also captures information about differences in quantities of a concept. This means that interval scale captures relative quantities in the form of distances between observations. Therefore, interval scale can present the difference group, order, distance and arbitrary origin. This system is the not true system because it is not exactly representing phenomenon.

3.5.2.4 Likert Scale

Likert scale is an ordered scale that categorized in interval scale, known as non-comparative scaling technique and only measures a single trait in nature. Likert scale enable target respondent to choose one option within the choices given to be representing their nearest opinion. Likert scale is often in use for measuring the attitude of respondent to the extent they agree or disagree by asking a particular question or statement. The five point Likert scale is the most common scale used as the option for the respondents to answer the questions. Therefore, this scale measurement is used in Section B to allow the respondents to show their attitude towards the extent of agree or disagree to a particular question or statement.

3.6 Data Processing

Most researchers choose to use a database or statistical analysis programme such as SAS or Microsoft Excel to process the data collected. It is so that it can be fitting their needs in order to organize researchers' data more effectively and provide specific and accurate data for future reference.

3.6.1 Data Checking

Once the data has been key in, it is a difficult stage that the researchers will check the data for accuracy. Data checking can considered as the first step in data processing. Researchers must check through the data clearly once the data has been updated, this is to prevent any error in the data processing.

3.6.2 Data Editing

Researchers required to make sure every responses are very clear to understand. This is because clear responses will avoid bias in editing. For an example, sometimes respondents made some grammatical mistakes or might not be able to express their ideas in proper sentence, editors will then need to correct it (Vishwarkarma, 2009). So, any bias can be appeared by taking the wrong meanings of respondents. Besides, omission may occur because of respondents did not understand the question, or were not willing to answer the questions. Therefore, researchers have to avoid bias by ensure that every responses are clear about the questions.

3.6.3 Data Coding

The next step is data coding. It is a step for researchers to assign a numerical score or other character symbol to the previously edited data.

For all the dimensions of Section A and B, the answers for each question are coded as below:

- "Strongly Disagree" is coded as 1
- "Disagree" is coded as 2
- "Neutral" is coded as 3
- "Agree" is coded as 4
- "Strongly Agree" is coded as 5

3.6.4 Data Transcribing

This is the step for us to transcribe all coded data into Statistical Analysis System (SAS) Enterprise Guide software Version 5.1 for the data analysis.

3.7 Data Analysis

Data analysis is a procedure in a research of process of entering those data that have been wrongly collected or coded incorrectly into the data set. The data are brought together from the 209 respondents that had been coded and analysed by using the SAS 5.1 program. Pearson correlation analysis and Multiple Regression analysis in SAS 5.1 have been used to investigate the relationship between conducive working environment and work engagement in manufacturing industry in Perak.

3.7.1 Descriptive Analysis

Descriptive analysis is functioning as a tool to describe what occurred in the sample through summarizing set of numbers. Besides, descriptive statistics also compare samples from one study with another and help to detect sample characteristics that may influence their conclusions (Thomption, 2009). In our research, the samples were measured using five points likert scale from 1 to 5, in such 1 represents Strongly Disagree, 2 is Disagree, 3 is Neutral, 4 is Agree and 5 is Strongly Agree.

3.7.2 Scale Measurement

The questionnaire consists two sections that are Section A and Section B. Section A questions is about demographic details of respondents while Section B consists of dependent variable and independent variables and each of the variables have its sub questions.

In the course of Section A, nominal scale and ordinal scale are been apply while in section B, all questions are measured in interval scale. Interval scale

has the advantage beyond that of nominal scale and ordinal scale, as this type of measurement is able to indicate the distance of an object from another.

Due to Likert scale enable target respondent to choose one option within the choices given to be representing their nearest opinion, therefore Likert scale is use in Section B for measuring the attitude of respondent where 1= Strong Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree. By using Likert scale, respondents able to answer the question by showing how strongly they are disagree or agree toward every question in Section B.

3.7.2.1 Reliability Test

Reliability is the degree to which an assessment tool produces stable and consistent results. The measurement procedure that is stable or constant should produce the same or similar results if the same individuals and conditions are used. This means that the higher the similarity of the results, the higher the reliability of the measurement. Cronbach's coefficient alpha is frequently used to estimate the reliability of the tested scale and identify the internal consistency of the average correlation of items within the scale test. (SAS Institute Inc, 2014).

According to Sekaran. U., Bougie, R. (2013), reliabilities less than 0.60 consider as poor reliability while 0.70 is considered an acceptable reliable coefficient. Table below displays the rules of thumb about Cronbach's Alpha Coefficient size.

Table 3.4: Rules of Thumb about Cronbach's Alpha Coefficient Size

Level of reliability	Coefficient Alpha ranges, α
Poor reliability	Less than 0.60
Fair reliability	0.60 to 0.70
Good reliability	0.70 to 0.80
Very good reliability	0.80 to 0.95

Source: Sekaran, U., & Bougie, R. (2010). Research methods for business: A skill building approach (5th Ed.). Chichester, West Sussex: John Wiley & Sons, Inc, (page325.)

Table 3.5: Reliability test results

Variables	Cronbach's Alpha	No. of items
Dependent Variable		
Work Engagement	0.746951	5
Independent Variables		
Empowerment	0.341346	5
Authentic Leadership	0.731293	5
Mission and Goal Setting	0.722052	5
Procedural Justice	0.693277	5
Safety and Health	0.633589	5
Reward and Recognition	0.667615	6

Source: Developed from SAS Enterprise Guide 5.1

Interpretation of Work Engagement

Based on the result, the reliability test show Cronbach's Alpha value of work engagement is 0.746951 that fall under the range 0.70 to 0.80. Since the value is fall under the range 0.70 to 0.80, therefore the 5 items to measure work engagement is good reliability.

Interpretation of Empowerment

Based on the results, the reliability test show Cronbach's Alpha value of empowerment is 0.341346 that fall under the range less than 0.60. Since the value is fall under the range less than 0.60, therefore the 5 items to measure empowerment is poor reliability.

Interpretation of Authentic Leadership

Based on the result, the reliability test show Cronbach's Alpha value of authentic leadership is 0.731293 that fall under the range 0.70 to 0.80. Since the value is fall under the range 0.70 to 0.80, therefore the 5 items to measure authentic leadership is good reliability.

Interpretation of Mission and Goal Setting

Based on the result, the reliability test show Cronbach's Alpha value of mission and goal setting is 0.722052 that fall under the range 0.70 to 0.80. Since the value is fall under the range 0.70 to 0.80, therefore the 5 items to measure mission and goal setting is good reliability.

Interpretation of Procedural Justice

Based on the result, the reliability test show Cronbach's Alpha value of procedure justice is 0.693277 that fall under the range 0.60 to 0.70. Since the value is fall under the range

0.60 to 0.70, therefore the 5 items to measure procedural justice is fair reliability.

Interpretation of Safety and Health

Based on the result, the reliability test show Cronbach's Alpha value of safety and health is 0.633589 that fall under the range 0.60 to 0.70. Since the value is fall under the range 0.60 to 0.70, therefore the 5 items to measure safety and health is fair reliability.

Interpretation of Reward and Recognition

Based on the result, the reliability test show Cronbach's Alpha value of reward and recognition is 0.667615 that fall under the range 0.60 to 0.70. Since the value is fall under the range 0.60 to 0.70, therefore the 6 items to measure reward and recognition is fair reliability.

3.7.3 Inferential Statistics

3.7.3.1 Pearson Correlation Analysis

The dependable variable that we studied is work engagement while the independent variables are authentic leadership, mission and goal setting, procedural justice, safety and health and lastly, reward and recognition. We will use Pearson correlation matrix to test all hypothesis.

Pearson Correlation Analysis is functioning as an investigator of variation in one factor, towards variation with one or more factors based on their correlation coefficients.

Pearson correlation analysis is the statistical measure of the intensity of a linear relationship between paired variables that are dependent and independent variables. We can categorize the correlation by taking in consideration of one variable increases will lead to what happen to other variable:

- Positive correlation – the other variable has a tendency to also increase;
- Negative correlation – the other variable has a tendency to decrease;
- No-correlation – the other variable does not tend to either increase or decrease.

Under correlation coefficient, small letter "*r*" represents a number between -1 and +1 that used to measure the degree of relationship between two variable X and variable Y. The higher value of the correlation coefficient "*r",* the stronger the relationship between two variables. A positive value for the correlation coefficient means that a positive relationship and vice versa. The table below had shown the interpretation of the correlation coefficient

3.7.3.2 Multiple Regression Analysis

Based on Sekaran & Bougie (2014), multiple regression analysis is an analysis used to examine impacts of one or more independent variables to one dependent variable. Through these analyses, we can identify on the most influential factor (independent variables) that affect employee affective commitment (dependent variable), this is done by referring to the regression coefficients that act as the indicator of the relationship between the independent variables and dependent variable.

3.8 Conclusion

In general, Chapter 3 has highlighted and described on how the research methodology has been conduct. This chapter also discuss on the assessment of each variable, the process of data collection and the analysis of the primary and secondary sources. One of the variables, Empowerment has showed a poor reliability in our pilot study. Therefore, we decided to take out this variable from our study and proceed with the remaining five variables in our full study. The following chapters will present the patterns of the result and analysis of the result that are relevant to the research questions and the hypothesis.

CHAPTER 4: RESEARCH RESULTS

4.0 Introduction

In this chapter, there will be further analysis and explanation for our study. All the data we gathered from a total of 209 set of questionnaires are analysed and had been interpreted through Statistical Analysis System (SAS) software as an analytical tool that we chose for the purpose of our study in this research. Descriptive analysis will be discussed by respondents' demographic profile and other general information of respondents. Frequency analysis is being used in central tendencies measurement of constructs, where it is shown in the form of tables and charts. Thereafter, scale measurement is conducted to shown the results of reliability analysis. Then, inferential analysis is included as well which it consists of Pearson's correlation analysis and multiple linear regression analysis. A summary will be given in the end for concluding this chapter.

4.1 Descriptive Analysis

Frequency analysis is used for analysing our respondents' demographic information. These include gender, age, ethnic group, marital status, work industry, educational level, individual income level, and job type. All the data can be obtained in questionnaire's Section A that has been prepared by researchers. The final results of the frequency analysis will be discussed in the following sub-chapters below.

4.1.1 Respondent's Demographic Profile

In this section, demographic data that obtained from respondents that include gender, age, ethnic group, marital status, work industry, educational level, individual income level, and job type.

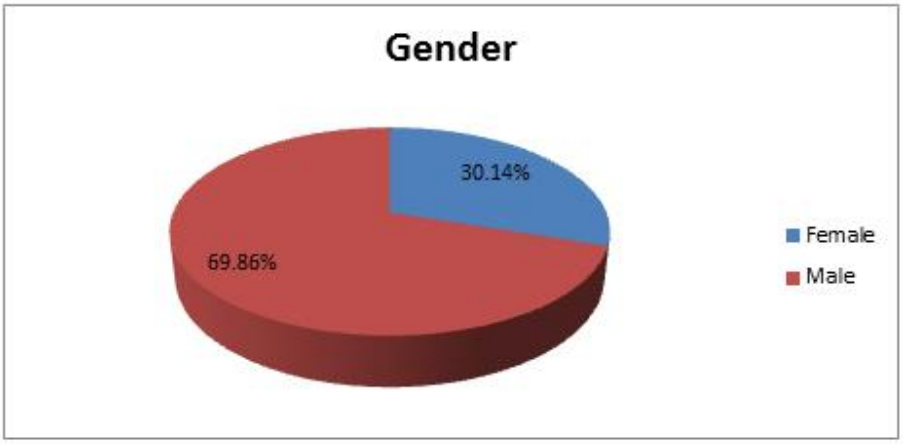
4.1.1.1 Gender

Table 4.1 Statistics of Respondents Gender

Gender	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
Female	63	30.14	63	30.14
Male	146	69.86	209	100

Source: Developed for the research

Figure 4.1: Statistics of Respondents Gender



Source: Developed for the research

Based on the table 4.1 and figure 4.1, a total of 69.86 % respondents are male whilst female respondents take up to the rest of 30.14 %. In the total number of 209 set of questionnaires, there are 146 male respondents and 63 female respondents who are involved in this research. From the Table 4.1 and Figure 4.1, it shows that the number of male respondents is slightly lower than female respondents.

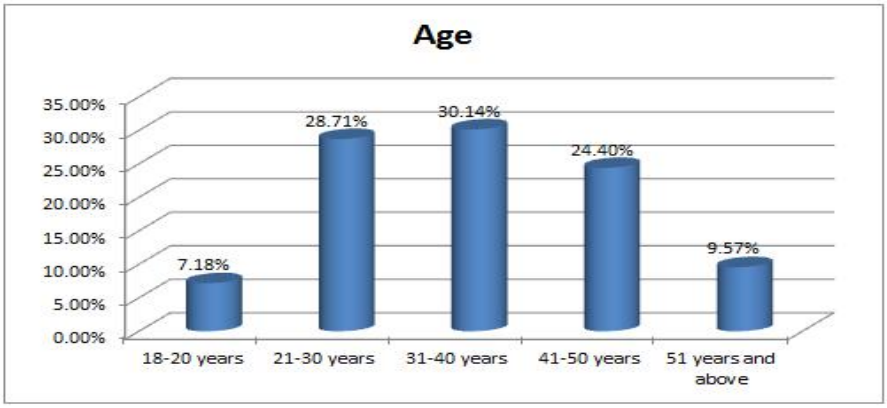
4.1.1.2 Age

Table 4.2: Statistics of Respondent Age

Age	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
18-20 years	15	7.18	15	7.18
21-30 years	60	28.71	75	35.89
31-40 years	63	30.14	138	66.03
41-50 years	51	24.40	189	90.43
51 years and above	20	9.57	209	100.00

Source: Developed for the research

Figure 4.2: Statistics of Respondent Age



Source: Developed for the research

From table 4.2 and figure 4.2, researchers found out that there are a few age groups of respondents who had been involved in the survey. From the results above, the largest group of respondents is fall under the category of 31-40 years old which contributes 30.14 % and consists of 63 respondents. The age group of 21-30 years old has contributes 28.71 % which included 60 respondents. There are a total of 51 respondents in the age group of 41-50 years old have contributes 24.40 % in the survey. The respondents from the age group of 18-20 years old and 51 years old and above have both contributed 7.18 % and 9.57 % respectively, there consists of 15 and 20 respondents for each of both age groups.

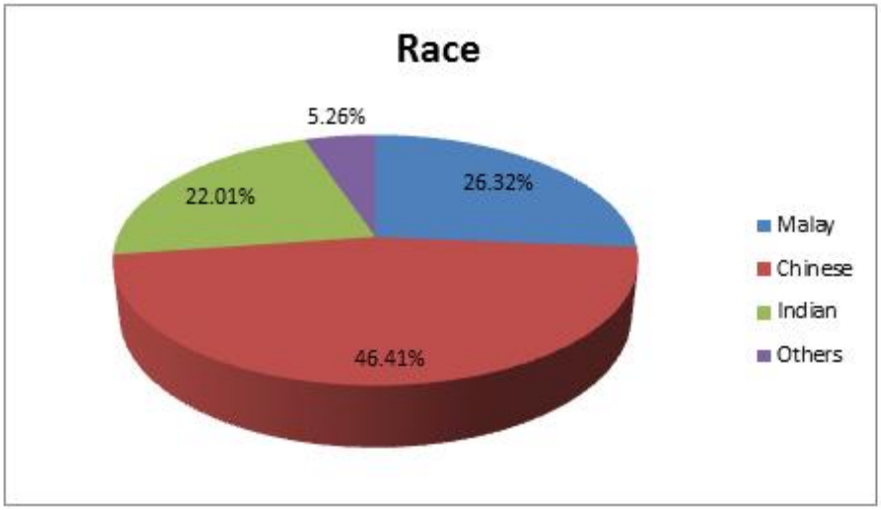
4.1.1.3 Race

Table 4.3: Statistics of Respondents Ethnic Group

Race	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
Malay	55	26.32	55	26.32
Chinese	97	46.41	152	72.73
Indian	46	22.01	198	94.74
Others	11	5.26	209	100.00

Source: Developed for the research

Figure 4.3: Statistics of Respondents Ethnic Group



Source: Developed for the research

In the aspect of ethnic group, there consists of four types of ethnic group which are Malay, Chinese, Indian and others. From the table 4.3 and Figure 4.3 shows that there are 46.41 % of respondents which had made up of 97 respondents are Chinese whilst there are 26.32 % of the respondents are Malay and consists of 55 respondents. At the same time, there are 46 Indian respondents and contribute 22.01 % in the survey. There are 11 respondents from other ethnic group and only cover up the total of 5.26 % in the survey. There are 46.61 % of Chinese respondents had involved in our survey. This may be due to the population of Chinese residents in Perak state are slightly higher than that of Malay.

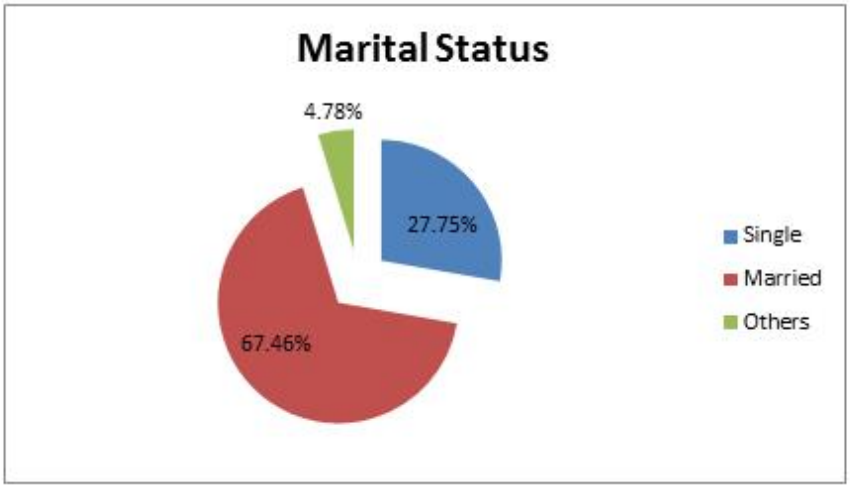
4.1.1.4 Marital Status

Table 4.4: Statistics of Respondents Marital Status

Marital Status	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
Single	58	27.75	58	27.75
Married	141	67.46	199	95.22
Others	10	4.78	209	100.00

Source: Developed for the research

Figure 4.4: Statistics of Respondents Marital Status



Source: Developed for the research

In term of marital status, there are a total of three categories which include single, married, and others. Table 4.4 and Figure 4.4 show that there is 141 respondents are married which take up to 67.46 %, while 27.75 % of respondents are still single with the total number of 758persons. There are 10 respondents who chose “others” in marital status which consists of 4.78 %.

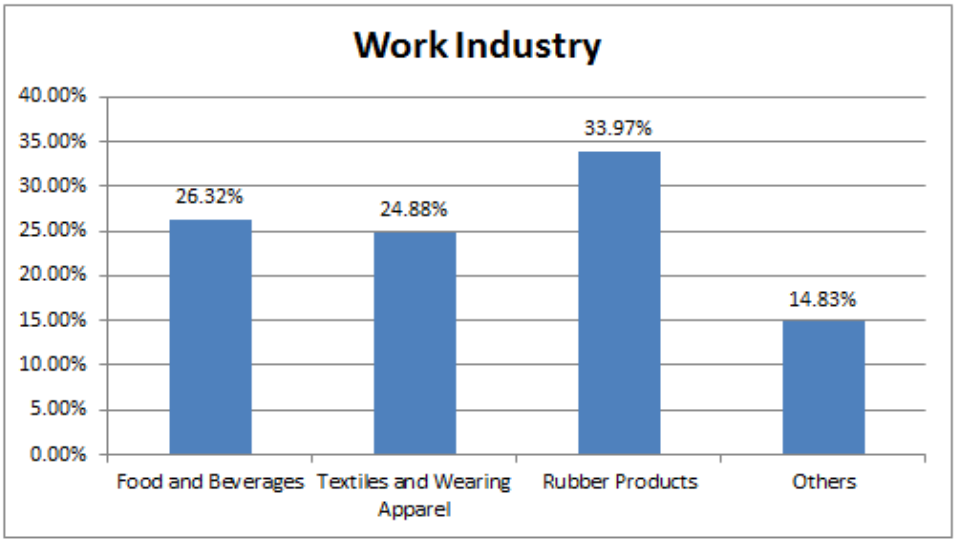
4.1.1.5 Work Industry

Table 4.5: Statistics of Respondents Work Industry

Work Industry	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
Food and Beverages	55	26.32	55	26.32
Textiles and Wearing Apparel	52	24.88	107	51.20
Rubber Products	71	33.97	178	85.17
Others	31	14.83	209	100.00

Source: Developed for the research

Figure: 4.5 Statistics of Respondents Work Industry



Source: Developed for the research

From Table 4.5 and Figure 4.5, work industries are classified into several types such as food and beverages, textiles and wearing apparel, rubber products, and others. Rubber products have 33.97 % in total and there is 71 of it out of 209 respondents. Then, food and beverages have 55 respondents where it takes up 26.32 %, meanwhile textiles and wearing apparel have 24.88 % and respondents of 52, which lesser than food and beverages by miniscule amount. Others work industry has 14.83 % and 31 respondents in total.

4.1.1.6 Individual Income Level

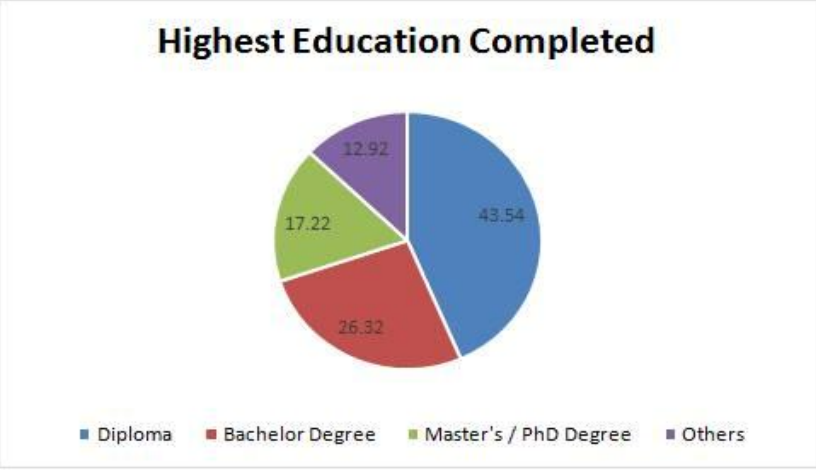
Table 4.6: Statistics of Respondents Individual Income Level

Individual Income Level	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
Below RM2000	64	30.62	64	30.62
RM 2001-RM 3000	80	38.28	144	68.90
RM 3001-RM 4000	28	13.40	172	82.30
RM 4001-RM 5000	20	9.57	192	91.87
RM 5001- RM 6000	11	5.26	203	97.13
RM 6001- RM7000	6	2.87	209	100.00
Above RM 7000	0	0	0	0

Source: Developed for the research

4.1.1.8 Education Level

Figure 4.8: Statistics of Respondents' Highest Education Completed



Source: Developed for the research

Based on Table 4.6 and Figure 4.6, researchers found out that there are different individual income level in respondents participated in the survey. Those who earned below RM 2000 per month are 30.62 % and have 64 respondents. For RM 2001-3000, there are 80 respondents with the percentage of 38.28 %. Meanwhile, there are 28 respondents that consist of 13.40 % in total fall in the category of RM 3001-4000, whilst RM 4001-5000 have 9.57 % and 20 respondents in it. As for RM 5001-6000 and RM 6001-7000, there are 11 respondents that represent 5.26 % for RM 5001-6000 and 6 respondents that take up to 2.87 % in total for RM 6001-7000. There is no respondent that is earning above RM 7000, which makes them with 0 %.

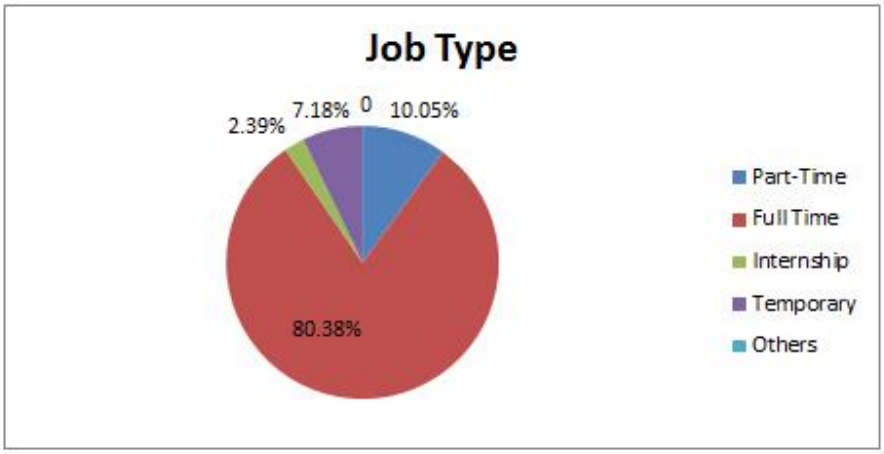
4.1.1.7 Job Type

Table 4.7: Statistics of Respondents Job Type

Job Type	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
Part-Time	21	10.05	21	10.05
Full Time	168	80.38	189	90.43
Internship	5	2.39	194	92.82
Temporary	15	7.18	209	100.00
Others	0	0	0	0

Source: Developed to the research

Figure 4.7: Statistics of Respondents Job Type



Source: Developed for the research

Researchers found that there are different job types in respondents that involved in the survey. Based on table 4.7 and Figure 4.7, full time employment has a total of 168 respondents which makes it 80.38 % out of 100 %. Part-time employment 10.05 % where it have 21 respondents in it, then follow up by temporary employment which consists of 15 respondents that represent 7.18 %. Finally, there are only 5 respondents that make it 2.39 % that fall in the internship employment.

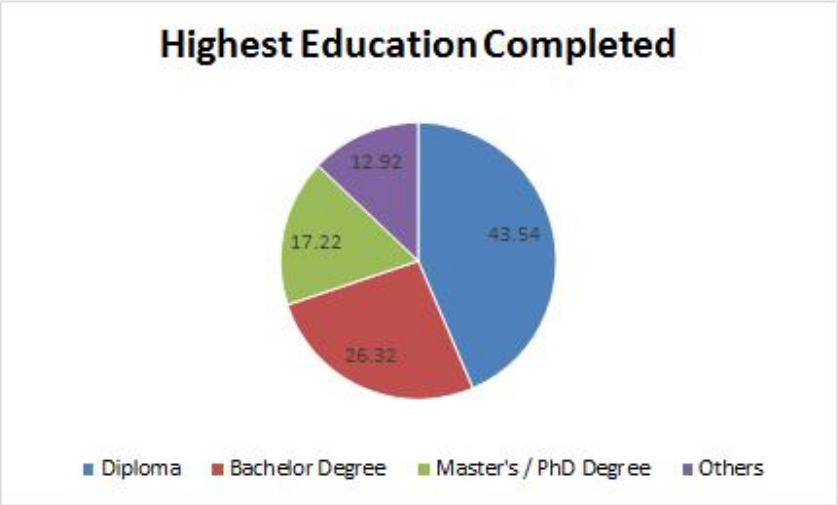
4.1.1.8 Education Level

Table 4.4 Statistics of Respondents' Highest Education Completed

Education Level	Frequency	Percentage (%)	Cumulative Frequency	Cumulative Percentage (%)
Diploma	91	43.54	91	43.54
Bachelor Degree	55	26.32	146	69.86
Master's / PhD Degree	36	17.22	182	87.08
Others	27	12.92	209	100

Source: Developed for the research

Figure 4.7: Statistics of Respondents' Highest Education Completed



Source: Developed for the research

There are four types of educational level that are being discussed in the survey. The highest educational level that the respondents have is Diploma education level which consists of 91 respondents and 43.54 %. Then, there are 55 respondents have completed their Bachelor Degree and contribute 26.32 % from the total of 209 respondents. After that, it is followed by the Master's / PhD Degree respondents who consists of 36 of them and contributes 17.22 % in the survey.

4.1.2 Central Tendencies Measurement of Construct

The measurement of central tendencies show the mean score of five interval scale constructs in this section. There are total 26 items are being measured by using 5 points Likert scales within the range from Strongly Disagree to Strongly Agree in SAS.

4.1.2.1 Work engagement

Table 4.9 Descriptive Statistics of Work Engagement

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Standard Deviation	Ranking
I have involved a lot in my job.	0	0	11.48	66.99	21.53	4.10048	0.56709	1
I am too concentrating into my job that forgets to accompany my family.	0	0	31.10	55.98	12.92	3.81818	0.63960	5
I am fully focused into my job.	0	0	22.01	63.16	14.83	3.92823	0.60417	3
My mind often wanders and I think of other things when doing my job.	15.79	59.33	24.88	0	0	3.90909	0.63273	4
I am highly engaged in this job.	0	0	16.27	60.77	22.97	4.06699	0.62428	2
Average	-	-	-	-	-	3.964594	-	-

Source: Developed for the research

There are total of 5 statements are included in table 4.9. The statement “I am too concentrating into my job that forgets to accompany my family.” has the highest mean score of 4.10048. There are 66.99 % of respondents who are agreed to this statement while there are 21.53 % of respondents who are strongly agreed to this statement.

“I am highly engaged in this job.” has a mean score of 4.06699 which ranked second. Most of the respondents of 60.77 % agreed with this statement, and it is followed by 22.97 % of the respondents that is strongly agreed to this statement.

The mean score ranked third place is 3.92823 in “I am fully focused into my job.” where 63.16 % its respondents has agreed to this statement, 14.83 % of it strongly agreed to the statement, while 22.01 % of the respondents are neutral to this statement.

The mean score for the statement “My mind often wanders and I think of other things when doing my job.” is 3.90909 that ranked fourth. There are 59.33 % of respondents who are disagreed, while there are 24.88 % of respondents who are neutral, with 15.79 % of them strongly disagreed to this statement.

The last ranking of the statement is “I am too concentrating into my job that forgets to accompany my family.” The mean score is 3.81818 for this statement with 55.98 % of respondents agreed to it, and 12.92 % of respondents are strongly agreed to this statement. There are 31.10 % of respondents feel neutral towards this statement.

4.1.2.2 Authentic Leadership

Table 4.10 Descriptive Statistics of Authentic Leadership

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Standard Deviation	Ranking
My leader says exactly what he or she means.	0	0.48	9.09	65.07	25.36	4.15311	0.58466	1
My leader encourages everyone to speak their mind.	0	0.48	13.88	65.55	20.10	4.05263	0.59816	2
My leader asks me to take position which supports my core values.	0	0	21.53	65.55	12.92	3.91388	0.58918	4
My leader seeks feedback to improve interaction with others.	0	0.96	15.79	68.90	14.35	3.96651	0.58328	3
My leader demonstrates beliefs that are consistent with action.	0	0.48	22.97	64.59	11.96	3.88038	0.59650	5
Average	-	-	-	-	-	3.993302	-	-

Source: Developed for the research

There are total of 5 statements are included in table 4.10. The statement "My leader says exactly what he or she means." has the highest mean score of 4.15311. There are 65.07 % of respondents who are agreed to this statement while there are 25.36 % of respondents who are strongly agreed to this statement.

"My leader encourages everyone to speak their mind." has a mean score of 4.05263 which ranked second. Most of the respondents of 65.55 % agreed

with this statement, and it is followed by 20.10 % of the respondents that is strongly agreed to this statement.

The mean score ranked third place is 3.96651 in "My leader seeks feedback to improve interaction with others." where 68.90 % its respondents has agreed to this statement, 14.35 % of it strongly agreed to the statement, while 15.79 % of the respondents are neutral to this statement.

The mean score for the statement "My leader asks me to take position which supports my core values." is 3.91388 that ranked fourth. There are 65.55 % of respondents who are agreed, while there are 21.53 % of respondents who are neutral, and 12.92 % of them strongly agreed to this statement.

The last ranking of the statement is "My leader demonstrates beliefs that are consistent with action." The mean score is 3.88038 for this statement with 64.59 % of respondents agreed to it, and 12.92 % of respondents are strongly agreed to this statement. There are 22.97 % of respondents feel neutral towards this statement, and 11.96 % of them strongly agreed.

4.1.2.4 Mission and Goal Setting

Table 4.11 Descriptive Statistics of Mission and Goal Setting

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Standard Deviation	Ranking
Individual are rewarded based on the accomplishment of goal.	0	0	14.35	63.64	22.01	4.07656	0.59958	1
I am taught how to set effective goals.	0	0	30.62	47.37	22.01	3.91388	0.72208	5
All my goals are specific, measureable, attainable, realistic and timely.	0	0	23.92	49.76	26.32	4.02392	0.71009	2
I am given the necessary tools sand support to accomplish my goal.	0	0	26.79	50.72	22.49	3.95694	0.70237	4
We have received briefing on the mission of secondary school.	0	0	22.97	55.98	21.05	3.98086	0.66479	3
Average	-	-	-	-	-	3.990432	-	-

Source: Developed for the research

There are total of 5 statements are included in table 4.11. The statement "Individual are rewarded based on the accomplishment of goal." has the highest mean score of 4.07656. There are 63.64 % of respondents who are agreed to this statement while there are 22.01 % of respondents who are strongly agreed to this statement.

"All my goals are specific, measureable, attainable, and realistic and timely." has a mean score of 4.02392 which ranked second. Most of the respondents of

49.76 % agreed with this statement, and it is followed by 26.32 % of the respondents that is strongly agreed to this statement.

The mean score ranked third place is 3.98086 in "We have received briefing on company goal during my probation period." where 55.98 % its respondents have agreed to this statement, 21.05 % of it strongly agreed to the statement, while 22.97 % of the respondents are neutral to this statement.

The mean score for the statement "I am given the necessary tools sand support to accomplish my goal." is 3.95694 that ranked fourth. There are 50.72 % of respondents who are agreed, while there are 26.79 % of respondents who are neutral, with 22.49 % of them strongly agreed to this statement.

The last ranking of the statement is "I am taught how to set effective goals." The mean score is 3.91388 for this statement with 47.37 % of respondents agreed to it, and 30.62 % of respondents feel neutral to this statement. There are 22.01 % of respondents are strongly agreed towards this statement.

4.1.2.4 Procedural Justice

Table 4.12 Descriptive Statistics of Procedural Justice

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Standard Deviation	Ranking
The procedures use to determine work schedules in my workplace are fair.	0.48	2.39	50.24	30.62	16.27	3.59809	0.80336	5
The pay given by my workplace is fair.	0	2.39	39.23	45.45	12.92	3.68900	0.72319	4
The work scope given by my workplace is fair.	0	0	28.71	53.59	17.70	3.88995	0.67393	1
The health benefit given by my workplace is fair.	0	0.96	26.79	65.07	7.18	3.78469	0.57726	3
The process of grievances by my workplace is fair.	0	0	34.93	50.24	14.83	3.79904	0.67781	2
Average	-	-	-	-	-	3.752154	-	-

Source: Developed for the research

There are total of 5 statements are included in table 4.12. The statement "The work scope given by my workplace is fair." has the highest mean score of 3.88995. There are 53.59 % of respondents who are agreed to this statement while there are 28.71 % of respondents who feel neutral to this statement.

"The process of grievances by my workplace is fair." has a mean score of 3.79904 which ranked second. Most of the respondents of 50.24 % agreed with this statement, and it is followed by 34.93 % of the respondents that is neutral to this statement.

The mean score ranked third place is 3.78469 in “The health benefit given by my workplace is fair.” where 65.07 % its respondents has agreed to this statement, 26.79 % of it are neutral to the statement, while 7.18 % of the respondents are strongly agreed to this statement.

The mean score for the statement “The pay given by my workplace is fair.” is 3.6890 that ranked fourth. There are 45.45 % of respondents who are agreed, while there are 39.23 % of respondents who are neutral, with 12.92 % of them strongly agreed to this statement.

The last ranking of the statement is “The procedures use to determine work schedules by my workplace are fair.” The mean score is 3.59809 for this statement, with 50.24 % of respondents are neutral to it, and 30.62 % of respondents are agreed to this statement. There are 16.27% of respondents are strongly agreed towards this statement.

4.1.2.5 Safety and Health

Table 4.13 Descriptive Statistics of Safety and Health

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Standard Deviation	Ranking
Do you think that your workplace provides sufficient fire safety drills annually?	0	0.96	25.36	55.50	18.18	3.90909	0.68385	2
Do you agree that your working premises are given adequate fire alarms and fire extinguishers?	0	0.96	19.14	55.98	23.92	4.02871	0.68580	1
Do you agree that there is suitable and sufficient first aid equipment in your workplace?	0	1.44	19.62	67.46	11.48	3.88995	0.59835	4
Do you feel that there is enough prevention for workplace accidents?	0	1.44	23.92	57.42	17.22	3.90431	0.67967	3
Do you agree that you are given sufficient medical and insurance benefits?	0	4.31	26.32	56.46	12.92	3.77990	0.72016	5
Average	-	-	-	-	-	3.902392	-	-

Source: Developed for the research

There are total of 5 statements are included in table 4.13. The statement "Do you agree that your working premises are given adequate fire alarms and fire extinguishers?" has the highest mean score of 4.02871. There are 55.98 % of respondents who are agreed to this statement while there are 23.92 % of respondents who are strongly agreed to this statement.

"Do you think that your workplace provides sufficient fire safety drills annually?" has a mean score of 3.90909 which ranked second. Most of the

respondents of 55.50 % agreed with this statement, and it is followed by 25.36 % of the respondents that is neutral to this statement.

The mean score ranked third place is 3.90431 in “Do you feel that there is enough prevention for workplace accidents?” where 57.42 % its respondents has agreed to this statement, 23.92 % of them are neutral to the statement, while 17.22 % of the respondents are strongly agreed to this statement.

The mean score for the statement “Do you agree that there is suitable and sufficient first aid equipment in your workplace?” is 3.88995 that ranked fourth. There are 67.46 % of respondents who are neutral, while there are 19.62 % of respondents who are neutral, with 11.48 % of them strongly agreed to this statement.

The last ranking of the statement is “Do you agree that you are given sufficient medical and insurance benefits?” The mean score is 3.77990 for this statement with 56.46 % of respondents agreed to it, and 26.32 % of respondents are neutral to this statement. There are 12.92 % of respondents are strongly agreed to this statement.

4.1.2.6 Reward and Recognition

Table 4.14 Descriptive Statistics of Reward and Recognition

Statement	SD (%)	D (%)	N (%)	A (%)	SA (%)	Mean	Standard Deviation	Ranking
I am satisfied with my base salary.	0	0.96	17.22	50.24	31.58	4.12440	0.71645	1
I am satisfied with how my raise.	0	0	28.23	51.20	20.57	3.92344	0.69606	4
Those who do well stand a fair chance of being promoted.	0	0	20.10	54.07	25.84	4.05742	0.67692	3
I receive appropriate recognition for my contribution.	0	0.48	36.36	48.33	14.83	3.77512	0.69487	5
I understand the type of behavior leading to recognition.	0	0	16.75	55.50	27.75	4.11005	0.65950	2
Overall, I am satisfied with praise and recognition for good job.	0	2.39	32.06	60.77	4.78	3.67943	0.60256	6
Average	-	-	-	-	-	4.733972	-	-

Source: Developed for the research

There are total of 6 statements are included in table 4.14. The statement "I am satisfied with my base salary." has the highest mean score of 4.12440. There are 50.24 % of respondents who are agreed to this statement while there are 31.58 % of respondents who are strongly agreed to this statement.

"I understand the type of behavior leading to recognition." has a mean score of 4.11005 which ranked second. Most of the respondents of 55.50 % agreed

with this statement, and it is followed by 27.75 % of the respondents that is strongly agreed to this statement.

The mean score ranked third place is 4.05742 in "I am fully focused into my job. Those who do well stand a fair chance of being promoted." where 54.07 % its respondents has agreed to this statement, 25.84 % of it strongly agreed to the statement, while 20.10 % of the respondents are neutral to this statement.

The mean score for the statement "I am satisfied with how my raise." is 3.92344 that ranked fourth. There are 51.20 % of respondents who are agreed, while there are 28.23 % of respondents who are neutral, with 20.57 % of them strongly agreed to this statement.

The fifth ranking of the statement is "I receive appropriate recognition for my contribution." The mean score is 3.77512 for this statement with 48.33 % of respondents agreed to it, and 36.36 % of respondents are neutral to this statement. There are 14.83 % of respondents are strongly agreed to this statement.

The statement "Overall, I am satisfied with praise and recognition for good job." ranked the last with the mean score 3.67943. There are 60.77 % of respondents agreed to the statement, 32.06 % of them feel neutral towards the statement, and 4.78 % of the respondents strongly agreed to this statement.

4.2 Scale Measurement

In this section, reliability analysis is being conducted in order to figure out whether data that collected is reliable to produce with accurate and good results through testing the consistency and stability. Cronbach's Alpha coefficient is used to determine consistency of response of respondents to all items that are being measured for our study. This shows that how well are the set of items are positively correlated with one another. According to Cronbach's Alpha thumb', the range of 0.80 to 0.95 is considered very good reliability, while the range of 0.70 to 0.80 is good reliability, 0.60 to 0.70 is fair reliability and for less than 0.60, it is a poor reliability. 0.60 is the acceptable level in the early stage for basic research normally. It is better for reliability coefficient to get nearer to 1.0.

Table 4.15 Reliability Statistics for Variables

Variables	Cronbach's Alpha		No. of items
	Pilot Study	Full Study	
Dependent Variable Work Engagement	0.746951	0.738446	5
Independent variables Authentic Leadership	0.731293	0.632931	5
Mission and Goal Setting	0.722052	0.755297	5
Procedural Justice	0.693277	0.619548	5
Safety and Health	0.633589	0.713953	5
Reward and Recognition	0.667615	0.671354	6

Source: Data generated by Statistical Analysis System (SAS) version 5.1

Our dependent variables, work engagement with alpha value 0.738446 in full study show slightly decrease by comparing with 0.746951 in pilot study. However, it still consider as good reliability. Two out of five independent variables which is authentic leadership and justice has decrease in full study but the remaining variables mission and goal setting, safety and health and reward and recognition has shown improvement. Authentic leadership with the Cronbach‘s alpha 0.731293 in pilot study has decreased to 0.632931 in full study but still consider as fair reliability. Mission and goal setting with Cronbach’s alpha 0.722052 in pilot study has increased to 0.755297 in full study by keeping in good reliability. Cronbach’s alpha 0.693277 of procedure justice show decreased to 0.619548 in full study and it fall under fair reliability. Safety and health show much increased in full study with Cronbach’s alpha 0.633589 in pilot study become 0.713953 in full study. This indicates that safety and health fall under good reliability in full study. Lastly, reward and recognition with Cronbach’s alpha 0.667615 in pilot study slightly increase to 0.671354 in full study and still remain as fair reliability.

In this study, although work engagement, authentic leadership, and procedure justice has slightly decreased however all variables still acceptable since all variables Cronbach’s alpha is more than 0.60. Meanwhile, variables like work engagement, mission and goal setting, and safety and health represent with a good reliability with Cronbach’s alpha more fall under the range 0.70 to 0.80.

4.3 Inferential Analysis

4.3.1 Pearson's Correlation Coefficient Analysis

Correlation among two variables could be measured by using Pearson's correlation coefficient. Under the measurement of an interval level or a ratio level, a Pearson's correlation coefficient can be an indicator for the direction, strength and even the significance of the relationship of all variables that were used for measurement. It isused to test the hypothesis of the four independent variables for an instance: empowerment, authentic leadership, mission and goal setting, procedural justice, safety and health, and also reward and recognition, along with the dependent variable, for an example work engagement. If the p-value that generated from this test is less than the alpha value ($p < 0.01$ or 0.05), the relationship between the independent variable and dependent variable is significant.

Table 4.16 Pearson Correlation Coefficient

Coefficient Range	Strength of Association
± 0.91 to ± 1.00	Very strong
± 0.71 to ± 0.90	High
± 0.41 to ± 0.70	Moderate
± 0.21 to ± 0.40	Small but definite relationship
± 0.00 to ± 0.20	Slight, almost negligible

Source: Hair, J. F. Jr., Money, A.H., Samouel, P., & Page, M. (2007). *Research methods for business*. Chichester, West Sussex: John Wilet & Sons, Inc.

Table 4.17 Result of Pearson's Correlation Coefficient

		Authentic Leadership	Mission and Goal Setting	Procedural Justice	Safety and Health	Reward and Recognition
Work engagement	Pearson Correlation	0.3092	0.6939	0.5446	0.7144	0.7034
	Sign (2 tailed)	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
	N	209	209	209	209	209

Source: Data generated by Statistical Analysis System (SAS) version 5.1

4.3.1.1 Authentic Leadership

Direction

Based on the results, there is positive relationship between authentic leadership and work engagement due to positive value of correlation coefficient. Authentic leadership variable has a 0.30919 correlation with work engagement. Therefore, when authentic leadership is high, work engagement is high.

Strength

The value of 0.30919 falls under the coefficient range of ±0.21 to ± 0.40. Therefore, the relationship between authentic leadership and work engagement is small but definite relationship.

Significance

The relationship between authentic leadership and work engagement is significant because the p-value <0.0001 is less than alpha value 0.05.

4.3.1.2 Mission and Goal Setting

Direction

Based on the results, there is positive relationship between mission and goal setting and work engagement due to positive value of correlation coefficient. Authentic leadership variable has a 0.69393 correlation with work engagement. Therefore, when authentic leadership is high, work engagement is high.

Strength

The value of 0.69393 falls under the coefficient range of ±0.41 to ± 0.70. Therefore, the relationship between mission and goal setting and work engagement is moderate.

Significance

The relationship between mission and goal setting and work engagement is significant because the p-value <0.0001 is less than alpha value 0.05.

4.3.1.3 Procedure Justice

Direction

Based on the results, there is positive relationship between procedure justice and work engagement due to positive value of correlation coefficient. Authentic leadership variable has a 0.54464 correlation with work engagement. Therefore, when authentic leadership is high, work engagement is high.

Strength

The value of 0.54464 falls under the coefficient range of ±0.41 to ± 0.70. Therefore, the relationship between procedure justice and work engagement is moderate.

Significance

The relationship between procedure justice and work engagement is significant because the p-value <0.0001 is less than alpha value 0.05.

4.3.1.4 Safety & Health

Direction

Based on the results, there is positive relationship between safety and health and work engagement due to positive value of correlation coefficient. Authentic leadership variable has a 0.71440 correlation with work engagement. Therefore, when authentic leadership is high, work engagement is high.

Strength

The value of 0.71440 falls under the coefficient range of ±0.71 to ± 0.90. Therefore, the relationship between safety and healthy and work engagement is high.

Significance

The relationship between safety and healthy and work engagement is significant because the p-value <0.0001 is less than alpha value 0.05.

4.3.1.5 Reward and Recognition

Direction

Based on the results, there is positive relationship between safety and health and work engagement due to positive value of correlation coefficient. Authentic leadership variable has a 0.70338 correlation with work engagement. Therefore, when authentic leadership is high, work engagement is high.

Strength

The value of 0.70338 falls under the coefficient range of ±0.41 to ± 0.70. Therefore, the relationship between reward and recognition and work engagement is moderate.

Significance

The relationship between reward and recognition and work engagement is significant because the p-value <0.0001 is less than alpha value 0.05.

4.3.2 Multiple Linear Regression Analysis

The relationship between two or more independent variables (authentic leadership, mission and goal setting, procedural justice, safety and health, reward and recognition) and a dependent variable (work engagement) can be explained by using Multiple Linear Regression Analysis. The generated result by the multiple linear regression analysis is used to determine the contribution of independent variables toward dependent variable. Furthermore, R square value can help to explain the variance of the dependent variable. Adjusted R square needs to be used when exist of multiple independent variables in the model because it is more accurate compared with R square. F value from the result can be used to compare the variance explained by the regression to the unexplained variance. From the F value that showed in the result, the overall relationship is significant.

Table 4.18 Analysis of Variance

Analysis of Variance					
Source	**DF**	**Sum of Squares**	**Mean Square**	**F value**	**Pr > F**
Model	5	27.37540	5.47508	101.38	<0.0001
Error	203	10.96259	28.96398		
Corrected Total	208	38.33799			

Source: Data generated by Statistical Analysis System (SAS) version 5.1
e

Table 4.18, the p-value (<0.0001) is less than the alpha value 0.05. Ergo, the F-statistic is significant. The model for this study is a good descriptor of the relation between the dependent and predictor variables. Therefore, the independent variables (Leadership, Mission and Goal Setting, Procedural Justice, Safety and Health, and Reward and Recognition) are significant explain the variance in work engagement. The alternate hypothesis (H_1) is supported by the data.

Table 4.19 Analysis of Variance

Root MSE	Dependent Mean	Coefficient Variance	R-Square	Adjusted R-Square
0.23239	3.96459	5.86151	0.7141	0.7070

Source: Data generated by Statistical Analysis System (SAS) version 5.1

The R square are used to indicates the extent or percentage the independent variables can explain the variations in the dependent variable. In this research, independent variables (Leadership, Mission and Goal Setting, procedural justice, Safety and Health, and Reward and Recognition) can explain 71.41% of the variations in dependent variable (Work Engagement). However, it is still leaves 28.59% (100% - 71.41%) unexplained in this research. In other words, there are other additional variables that are important in explaining work engagement that have not been considered in this research.

Table 4.20 Multiple Linear Regression Analysis

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > [t]
Intercept	1	-0.06832	0.21659	-0.32	0.7527
LS	1	0.07053	0.04541	1.55	0.1219
MS	1	0.27185	0.04558	5.96	<0.0001
PJ	1	0.11108	0.04434	2.51	0.0130
SH	1	0.34660	0.04517	7.67	<0.0001
RR	1	0.22741	0.05671	4.01	<0.0001

Source: Data generated by Statistical Analysis System (SAS) version 5.1

Based on the Table 4.20 parameter estimated the table show that for the Leadership (predictor variable) is not significant enoughto predict dependent variable (Work Engagement) for this research due to it is 0.1219 which is more than the alpha value 0.05. Mission and Goal Setting (predictor variable) is significant to predict dependent variable (Work Engagement) in this research due to it is <0.0001 which is less than the alpha value 0.05.

Moreover, Procedural justice (predictor variable) is significant to predict dependents variable (Work Engagement) for this research due to it is 0.0130 which is less than alpha value 0.05. Follow by, Safety and Health (predictor variable) is significant to predict dependent variable (Work Engagement) due to it is <0.0001 which is less than alpha value 0.05. Lastly, Reward and Recognition (predictor variable) is significant to predict dependent variable (Work Engagement) due to it is <0.0001 which is lower than the alpha value 0.05.

In case of Authentic Leadership, we have found evidence that we can use to justify or explain that reason of Authentic Leadership is not significant to predict work engagement. Respondents may not totally understand the meaning and dimensions of Authentic Leadership, and they have different perspective on how an authentic leader should be. This causes the inconsistent rating of the authenticity of leader in the manufacturing industry. This is supported by Penger &Černe (2014), they say that there is lack of consensus of the researchers in the field of authentic leadership for the past developed conceptualschemes. Many findings of different researchers have too many different explanation and definition regarding the constructs and elements of the Authentic Leadership that will cause the misunderstanding or confusing of people on other theories of leadership, especially of ethical, transformational, and servant leadership.

Another valid reason is that, the role of authentic leaders had changed in the manufacturing industry or in other industry. This can be supported by the study of Liu & McMurray (2003), Liu and McMurray had said that the role of a leader was more to an "assistant", "helper", or "observer" for the group in the 1990's era; while the expected role of a leader today is as "a leader of the team" that ensure that carried out group tasks in a safe manner, be able to motivate and encourage teamwork, and identify problems then implement improvement activities. This research highlights that the role of leader may change due to the different needs of employee at a specific period.

From the Table 4.20, the equation that used to determine the statistical significance of each independent variable on the dependent variable can be formed through substituting the values.

Regression Equation:

$$y = -0.06832 + 0.07053\ (X_1) + 0.27185\ (X_2) + 0.11108\ (X_3) + 0.34660\ (X_4) + 0.22741\ (X_5)$$

Where,

y = Work Engagement

x_1 =Leadership

x_2= Mission and Goal Setting

x_3= Procedural Justice

x_4= Safety and Health

[redacted]= Reward and Recognition

The most highest of the predictor variable is Safety and Health that contribute to the variation of the dependent variable (Work Engagement) because the value of "Parameter Estimate" (under Table 4.20) for this predictor variable is 0.34660 if compare to other predictor variables (Leadership, Mission and Goal Setting, Procedural Justice, and Reward and Recognition). This explains self-efficacy make the strongest contribution to explain the variation in dependent variable (Work Engagement) as compared to other variables in this model.

The second highest is Mission and Goal Setting is the predictor variables to the variation of the dependent variable (Work Engagement) because the

value of "Parameter Estimate" (under Table 4.20) for this predictor variable is 0.27185 if compare to other predictor variables (Leadership, Procedural Justice, Safety and Health, and Reward and Recognition). This explains Mission and Goal Setting make the second strongest contribution to explain the variation in dependent variable (Work Engagement) as compared to other variables in this model.

The third largest is Reward and Recognition is the predictor variables to the variation of the dependent variable (Work Engagement) because the value of "Parameter Estimate" (under Table 4.20) for this predictor variable 0.22741 if compare to other predictor variables (Authentic Leadership, Mission and Goal Setting, Procedural Justice, and Safety and Health). This explains Reward and Recognition make the third strongest contribution to explain the variation in dependent variable (Work Engagement) as compared to other variables in this model.

The fourth largest is Procedural Justice is the predictor variables to the variation of the dependent variable (Work Engagement) because the value of "Parameter Estimate" (under Table 4.20) for this predictor variable is 0.11108 if compare to other predictor variables (Authentic Leadership, Mission and Goal Setting, Safety and Health, and Reward and Recognition). This explains procedural justice makes the fourth strongest contribution to explain the variation in dependent variable (Work Engagement) as compared to other variables in this model.

For the lowest which is Authentic Leadership that contribute to the variation of the dependent variable (Work Engagement) because the value of "Parameter Estimate" (under Table 4.20) for this predictor variable is 0.07053 if compared to other predictor variables (Mission and Goal Setting, Procedural Justice, Safety and Health, and Reward and Recognition). This explains Leadership make the least contribution to explain the variation in dependent variable (Work Engagement) as compared to other variables in this model.

Table 4.21 Result of Hypothesis Test

Hypothesis	Description	Conclusion
Hypothesis 1_B	H_{1B} = Authentic leadership is show significant effect to work engagement in manufacturing industry in Perak.	Rejected
Hypothesis 1_C	H_{1C} = Mission and goal setting show significant effect to engagement in manufacturing industry in Perak.	Accepted
Hypothesis 1_D	H_{1D} = Procedural justice show significant effect to work engagement in manufacturing industry in Perak.	Accepted
Hypothesis 1_E	H_{1E} = Safety and health show significant effect to work engagement in manufacturing industry in Perak.	Accepted
Hypothesis 1_F	H_{1F} = Reward and recognition show significant effect to work engagement in manufacturing industry in Perak.	Accepted

Source: Developed for the research

Through Table 4.21, we found out that all the independent variables have positive significant relationship with the dependent variable. Thus, all the null hypotheses (H_0) are rejected while the alternative hypotheses (H_{1C}, H_{1D}, H_{1E}, and H_{1F}) are accepted, except H_{1B}.

Table 4.22 Summary of Significance Test

Variable	**p - value**	**Significance level to the study**
Authentic leadership	0.1219	Not significant to the dependent variable (work engagement).
Mission and goal setting	<0.0001	Significant to the dependent variable (work engagement).
Procedural Justice	0.0130	Significant to the dependent variable (work engagement).
Safety and Health	<0.0001	Significant to the dependent variable (work engagement).
Reward and recognition	<0.0001	Significant to the dependent variable (work engagement).

Source: Developed for the research

4.3.3 Summary

To sum it all up, p-value of each of independent variables have to meet up with the requirement of less than 0.05 in order to show significance toward dependent variable. If the p-value is more than 0.05, then that particular independent variable is not significant to dependent variable. Based on Table 4.22, it shows that all independent variables are significant except Authentic Leadership that has p-value of 0.1219, which has exceeded the 0.05 of value.

4.4 Conclusion

In conclusion, we had summarized the descriptive analysis for the survey by the use of frequency analysis. Moreover, we had done the reliability test by using the SAS Guide software. Through the reliability test, we found out that most of the independent variables are positive correlated with the dependent variable, in exception of empowerment as independent variable. Thus, empowerment is rejected for the independent variable in this study. In the aspect of the inferential analysis, we used the Pearson Correlation Coefficient and Multiple Linear Regression in order to determine the relationship between the independent variables and the dependent variable. The following chapter will be discussing more on the analysis.

CHAPTER 5: DISCUSSION AND CONCLUSION

5.0 Introduction

Throughout this chapter, we will further discuss on statistical analysis embracing of descriptive analysis and inferential analysis which has been discussed in chapter 4. This chapter also includes the discussion on major findings and the implications of the study. Besides that, limitations of the study will be discuss and provide some recommendations for future research. Last but not least, the overall conclusion will be highlighted.

5.1 Summary of Statistical Analysis

The summary description of the statistical analysis consists of the entire descriptive and inferential analyses introduced and discussed in Chapter 4 which are the descriptive analyses, scale measurement (reliability analysis), and inferential analysis.

5.1.1 Respondent Demographic Profile

Overall, 250 respondents have contributed in our survey and this research project. Our research primarily focuses on all public and private manufacturing industry in a state of location which is in Perak.

From the results generated in chapter 4, there are more than half of our total respondents are male workers which comprise 146 respondents (69.86%) while the rest of 63 respondents (30.14%) are female workers.

Most of the target respondents are between 31-40 years old, they are made up of 63 respondents out of total 209 respondents (30.14%). Whereas, the second largest of respondents from age range is between 21-30 years old which made up of 60 respondents (28.71%). The third which is between 41-50 years old that made up of 51 respondents (24.40), for the fourth which is 51 years and above that having 20 respondents (9.57) and below is the least which only 15 respondent (7.18%) belongs to this group. Next, for race group, majority of our respondents are Chinese which are 97 respondents (46.41%), Malay which are 55 respondents (26.32%), Indian which are 46 respondents (22.01%), and for the least is from others race are 11 respondents (5.26%).

Furthermore, for Marital Status, majority of our respondents are married which are 141 respondents (67.46%), for the single which are 58 respondents (27.75) and for the least is others which are only 10 respondents (4.78%). For the work industry the most is the rubber products which are 71 respondents (33.97%), Food and Beverages which are 55 respondents (26.32%), Textiles and Wearing Apparel which are 52 respondents (24.88%) and for the least is others industry which are 31 respondents (14.83%).

Moreover, 64 respondents (30.62%) have income level that is below RM2000 and only 6 respondents (2.87%) are having high income level of RM6001-RM7000. For the income level of RM 2001- RM3000 are 80 respondents (38.28%), around RM 3001-RM4000 are 28 respondents (13.40%), RM4001-RM5000 are 20 respondents (20%) and RM5001- RM6000 are 11 respondents (5.26%).

Most of our respondents which made up of 168 respondents (80.38%) out of 209 respondents contribute the biggest portion are the full time and while only 5 respondents (2.39%) are internship. Lastly, 21 respondents (10.05%) are part-timer and for the temporary worker which are 15 respondents (7.18%).

5.1.2 Central Tendencies Measurement of Constructs

According to the results on the analysis conducted, most of the respondents are having the same opinion and agree with the 31 questions that constructed in our questionnaire regarding the 5 variables (Authentic Leadership, Mission and Goal Setting, Procedural Justice, Safety and Health, and Reward and Recognition) are having significant relationship with work engagement in manufacturing industry.

Table 5.1: Summary of Central Tendencies Measurement

Variables	Mean		Standard deviation	
	Lowest	Highest	Lowest	Highest
1) Work Engagement (Refer Table 4.9)	3.81818 (Mean 2)	4.10048 (Mean 1)	0.56709 (Mean 1)	0.63960 (Mean 2)
2) Authentic Leadership (Refer Table 4.10)	3.53333 (Mean 4)	3.80000 (Mean 1,3)	0.55086 (Mean 3)	0.73030 (Mean 4)
3) Mission and Goal Setting (Refer Table 4.11)	3.60000 (Mean 4)	3.90000 (Mean 1)	0.52083 (Mean 3)	0.72397 (Mean 4)
4) Procedural Justice (Refer Table 4.12)	3.53333 (Mean 1)	3.83333 (Mean 4)	0.53067 (Mean 4)	0.73030 (Mean 1)
5) Safety and Health (Refer Table 4.13)	3.43333 (Mean 1)	3.86667 (Mean 4)	0.50742 (Mean 4)	0.62881 (Mean 5)
6) Reward and Recognition (Refer Table 4.14)	3.43333 (Mean 2)	3.86667 (Mean 5)	0.50742 (Mean 5)	0.77013 (Mean 1)

Source: Developed from research

From the results generated by SAS system version 5.1, the mean of all items by referring to Central Tendencies Measurement of Construct (Table 9 to Table 4.14) is within the range of 3.43333 to 4.10048 while the standard deviation is ranging from 0.50742 to 0.77013.

5.1.3 Reliability Test

From the result that generated from chapter four, the five independent variables are having positive relationship with the dependent variable because the Cronbach's alpha value are all greater than 0.6. The independent variable of authentic leadership has the Cronbach's alpha value of 0.6329. The Cronbach's alpha value of mission and goal setting is 0.7553. For the independent variable of procedural justice has the Cronbach's alpha value of 0.6195. The Cronbach's alpha value for the independent variable of safety and health has 0.7140. Finally, the dependent variable of work engagement has the Cronbach's alpha value of 0.7384. By abiding to the Cronbach's Alpha rule of thumb, all the independent variables and the dependent variable are to be considered very good reliability because they are fall under the range of 0.80-0.95.

5.1.4 Inferential Analysis (Pearson Correlation Analysis)

From the research, the Safety and Health has the most significant value of 0.7144, and followed by Reward and Recognition, Mission and Goal Setting, Procedural Justice, and Authentic Leadership which have the significant value of 0.7034, 0.6939, 0.5446, and 0.3092. Reward and Recognition, Mission and Goal Setting, Procedural Justice, and Authentic Leadership are all moderate relationship because they all fall under the range of ± 0.41 to ± 0.70. Meanwhile, the Safety and Health showed strong relationship with work engagement because it has 0.7144 which fall under the range of ± 0.71 to ± 1.00. Thus, there is significant positive relationship between the independent variables with the dependent variable.

5.1.5 Inferential Analysis (Multiple Linear Regression Analysis)

Table 5.2 Multiple Linear regression Analysis

Parameter Estimates					
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > [t]**
Work engagement	1	-0.06832	0.21659	-0.32	0.7527
Authentic Leadership	1	0.07053	0.04541	1.55	0.1219
Mission and Goal Setting	1	0.27815	0.04558	5.96	<0.0001
Procedural Justice	1	0.11108	0.04434	2.51	0.0130
Safety and Health	1	0.34660	0.04517	7.67	<0.0001
Reward and Recognition	1	0.22741	0.05671	4.01	<0.0001

Source: Data generated by Statistical Analysis System (SAS) version 5.1

From Table 5.2, the relationship that showed by all of the independent variables are significant with the dependent variable because all the variables have the significant value which less than 0.05, except Authentic Leadership. Thus, the alternative hypothesis (H_{1B}, H_{1C}, H_{1D}, H_{1E}, and H_{1F}) have been accepted, except Authentic Leadership. The R square shows the percentage of the independent variables that can explain the variations in the dependent

variable. In this research, independent variables (Authentic Leadership, Mission and Goal Setting, Procedural Justice, Safety and Health, and Reward and Recognition) can explain 71.41% of the variations in dependent variable (Employee Engagement). However, it is still leaves 28.59% (100% - 71.41%) unexplained in this research. In other words, there are other variables might be more appropriate and important to explain work engagement that have not been considered in this research.

Multiple regression equation

Work engagement = - 0.0683 + 0.0705 (authentic leadership) + 0.2719 (mission and goal setting) + 0.1111 (procedural justice) + 0.3466 (safety and health) + 0.2274 (reward and recognition)

Based on the multiple regression equation above, authentic leadership has the highest parameter estimation of 0.0705 which is also has highest contribution to the variation of the dependent variable (work engagement). Safety and health has the parameter estimation of 0.3466 and it has the second highest contribution to the variation of the dependent variable. Other than that, mission and goal setting has the parameter estimation of 0.2719 which is third in ranking in the contribution to the variation of the dependent variable. Then, reward and recognition has parameter estimation of 0.2274 which ranked fourth in contribution to the variation of the dependent variable (work engagement). Lastly, procedural justice has the lowest parameter estimation of 0.1111 which is contribute the least to the variation of the dependent variable (work engagement).

5.2 Discussions of Major Findings

Table 5.3: Summary of Hypotheses Testing Results

Hypotheses	Hypothesis Statement	Result
Hypothesis 1	H_1 = Conducive work environment shows significant effect to work engagement in manufacturing industry in Perak.	Highly Acceptable
Hypothesis 1_B	H_{1B} = Authentic leadership shows significant effect to work engagement in manufacturing industry in Perak.	Rejected
Hypothesis 1_C	H_{1C} = Mission and goal setting shows significant effect to work engagement in manufacturing industry in Perak.	Accept
Hypothesis 1_D	H_{1D} = Procedural justice shows significant effect to work engagement in manufacturing industry in Perak.	Accept
Hypothesis 1_E	H_{1E} = Safety and health shows significant effect to work engagement in manufacturing industry in Perak.	Accept
Hypothesis 1_F	H_{1F} = Reward and recognition shows significant effect to work engagement in manufacturing industry in Perak.	Accept

Source: Developed from research

5.2.1 Hypothesis 1_B: Authentic Leadership (LS)

According to Table 5.3, $H1_B$ is accepted as it has positive correlation coefficient value of 0.30919 which indicates moderate correlation in strength and its p-value is <0.0001 which less than the alpha value 0.05. Hence, this shown that, there is a positive and significant relationship between Authentic Leadership and work engagement. This hypothesis is proven and supported by some previous researchers' studies.

Avolio and Luthans (2003) define authentic leaderships is a two ways influencing leaderships that can motivate the employee. Stander (2015) and his partner have also found that there is indirect relationship between authentic leadership and work engagement. Authentic leadership are said to be mediated towards work engagement by a workforce that has high levels of optimism and a certain trust level of the employee.

There is a more significant study that done by Alok (2012). Alok and his colleague have suggested a hypothesis that included promotional psychological ownership as a mediating variable. At the end of their study, they prove that promotional psychological ownership can be said to fully mediate the relationship between authentic leadership and work engagement.

5.2.2 Hypothesis 1_C: Mission and Goal Setting (MG)

According to table 5.3, $H1_C$ is accepted as it has positive correlation coefficient value of 0.69393 which indicates moderate correlation in strength and its p-value is <0.0001 which less than alpha value 0.05. Hence, this shown that, there is a positive and significant relationship between Mission and Goal Setting and work engagement. This hypothesis is proved and supported by various previous researches and studies.

Mission statement had been defined as a official written document that functioning to capture an organization's special reason of existing by Bart (2001). A meaningful mission statement can distinguishes the organization from another, and include the organization own characteristics such as organization purpose, unique qualities, values to use all these to guide or provide a direction for a particular organization and its member.

We have referred to the research of Shinichi, Katsuyuki, Hideaki, Hong and Park (2010). The finding of their research proved that mission statement do have a positive impact of top management commitment on the organizational values, as it helps to boost the employee effort toward everyone's commitment to quality organizations goal and customer services. Hence, we can sum up that mission and goal setting have a significant relationship with work engagement.

5.2.3 Hypothesis 1_D: Procedural Justice (PJ)

According to table 5.3, $H1_D$ is accepted as it has positive correlation coefficient value of 0.54464 which indicates moderate correlation in strength and its p-value is <0.0001 which less than alpha value 0.05. Hence, this shown that there is a positive and significant relationship between procedural justice and work engagement. This hypothesis is proved and supported by various previous researchers' studies.

De Cremer et al (2008) stated that Procedural Justice is giving employee an opportunity to involve themselves in decision-making processes and also involve the implementation of valid and transparent decision-making rules. Moreover, Procedural Justice considered as a important factor on employee cooperative behaviour and employee-organization relationship (Konovsky 2000; Tyler 2000).

Saks (2006) stated that with a higher level of procedural justice by employee will be likely to reciprocate with higher organizational engagement. Other than that, McFarlin & Sweeney (1992) also stated that with a higher perception of procedural justice can let employee having a positive evaluation of their supervisor. Therefore, this shown that there is a positive and significant relationship between Procedure Justice and work engagement.

5.2.4 Hypothesis 1_E: Safety and Health (SH)

According to table 5.3, $H1_E$ is accepted as it has positive correlation coefficient value of 0.71440 which indicates small but definite relationship and its p-value is <0.0001 which less than alpha value 0.05. Hence, this shown that there is a positive and significant relationship between safety and health and work engagement. This hypothesis is proved and supported by various previous researches and studies.

Siti and Zahari (2006) said that a working environment that is not safe would affect the employees' work engagement level. Employees can perform better in a work environment where they are feeling safe and healthy. A safe work environment is where a place that injuries and accidents do not happen so frequent.

A safe work environment can describe as the openness and supportiveness in the organization. Thus, a safe environment can make employees to be more engage towards their work (Kahn, 1990). Gallup also carried out a poll on their employees and the result proved that workplace health and safety have very big implications on work engagement and overall business performances. From the result, we can see that almost half, 40% of employees said that if their boss does not care for them, then they would be disengaging from their work.

5.2.5 Hypothesis 1_F: Reward and Recognition (RR)

According to table 5.3, $H1_F$ is accepted as it has positive correlation coefficient value of 0.70338 which indicates high correlation in strength and its p-value is <0.0001 which less than alpha value 0.05. Hence, this shown that, there is a positive and significant relationship between Reward and Recognition and employee engagement. This hypothesis is proved and supported by various previous researches and studies.

Rewards and recognition transcends the boundaries of monetary which been classified into intrinsic rewards and extrinsic rewards (Porter and Lawler, 1968) and it help to sustain and building the commitment among employees to ensure high of performance exist (Wang, 2004). Employee will become engage in work when they are received the fair reward given because of their skills and knowledge (Bhattacharya and Mukherjee, 2009). According to Rashid et al., (2011), it also show that employees are more tendencies to engagement when given appropriate reward and actively participate in decision making (Rashid et al., 2011). Study of Saks (2006) also shows that employee is willing to contribute higher level of engagement by receiving reward and recognition. Employee who going through a formal promotion programme or performance being evaluated will have a higher level of engagement. (Simon, 2009).

Employees are more likely to focus more their job when receiving reward and recognition subsequently create better performance (Darling et al, 1997). Besides that, in order to achieve the organizational goals, the employer shpuld give reasonable rewards to all the employees (Vandenberghe and Tremblay, 2008). Reward and Recognition also serves as the most contingent factor in keeping employees' self-esteem high and passionate (Danish and Usman,

2010).Therefore, this prove that the relationship between reward and recognition and work engagement is positive and significance.

5.3 Implication of the Study

5.3.1 Managerial Implication

The term work engagement often attract the attention of organization is recent years, which can become a sources of organizational competitiveness. Work engagement is the main power in helping employee directed toward organizational goals, where engaged employees typically work harder by showing higher level of discretion effort (Macey, Schneider, Barbera, & Young, 2009). Zigarmi and Xanthopoulou (2009) said that without engaged employees, financial performance, productivity and profitability of an organization will be affect because employee unable to present a positive emotion and better health. Based on the result, we able to gather more information to provide guideline to let manager more understanding on how effective of work environment in conducive work engagement among employees. In order to make sure employees are engage in work, it is important for an organization's manager to come out with an appropriate strategy by including these four variables due to employees with high level of work engagement able to help achieve organization objective by contributing their best effort. It is vital for every organization to make sure their employees are constantly engaging in their work.

Throughout this research project, we can identify mission and goal setting, procedural justice, safety and health, and reward and recognition has significance relationship relatively to employee work engagement. These four variables has showed significant relationship after been tested in multiple regression tests and based on this result we assert the extent of work engagement level highly associate with mission and goal setting, procedural justice, safety and health and reward and recognition. Therefore, if these four variables is well monitor and implement with appropriate strategy, work engagement can be the best tool for company to gain competitive advantages and stay competitive by placing them ahead of their competitor. (Rashid et al, 2010). Based on the research model, when an employee is engaged, it subsequently will enhance employee job satisfaction, organizational commitment, organizational citizen behaviour and lower intention to quit.

Although this research provide guideline on how mission and goal setting, procedural justice, safety and health and reward and recognition in enhance the work engagement of employees, however company manager can pay attention to the aspect other than organizational factor. According to Markos and Sridevi, (2010), work engagement nearly covers all the facet of human resources and appropriated of management will cause employee fail in fully engage in their job. Perceive organization support by employees whereby organization show appreciating the contribution and effort of employees help employees to continuously attach their commitment and discretion effort to accomplish organizational goals. Support from supervisor is important in an organization because supervisor can help employee to easily complete their task when supervisor play an important role in guiding and monitoring employees. Setting challenging but achievable tasks for employees provide employees the chance to use their variety skills to complete the task and stand the chance to show their capability.

This research study provide an incremental knowledge for manager in understanding the organization working environment in effectively increase the work engagement of employee in manufacturing industry. With high level of work engagement, employees apply full potential and capabilities to their works in order to compete effectively in the business environment. (King)

5.3.2 Researcher Implication

For researcher perspective, perhaps they can continue study on authentic leadership in increasing the level of work engagement of employees. Although in our research study unable to prove that authentic leadership has significance relationship with work engagement, however undeniable authentic leadership plays an important role in affecting employee's work engagement. Authentic leader in an organization ought to be demonstrating the moral standard and ethical demeanour in their daily behaviour, talk, decision and talk in order to effective and successful over the long term. Authentic leader have a deep sense of purpose by showing a high degree of integrity in order effectively promoting a more trustable relationship among work group and potential positive outcome. According to Luthans, Avolio, Avey & Norman (2007), authentic leadership will influence employee by directing them into a positive psychological state eventually engage in their work. Therefore, researcher may continue to develop a long term study on authentic leadership to test the relationship between authentic leadership and work engagement.

5.4 Limitations of the Study

Throughout the whole research process, we met some problems and these affect the progress for the research. We will explain the limitation of this research in this part, in order to improve the quality and meet higher expectation of the research. Even though there are many conceptual studies and published journals, but there are only a few journals that are closely related to empowerment, authentic leadership, mission and goal setting, procedural justice, safety and health, and reward and recognition towards work engagement in manufacturing firms.

Sample size is the first limitation of this research. The sample size for this study is limited as we only focus on the manufacturing films in Perak. Malaysia has thirteen states but our sample frame is only in Perak. Based on the area coverage, our sampling might encounter issue such as the sample size is not large enough to represent the whole Malaysia country.

One of the limitations in this research is the limited time frame for this research. Due to limited time frame, we adopt cross sectional study instead of long-term study for this research. We only carry out observational study that involves analysis of data at a specific time.

Another limitation of this research is our data collection method. In this research, we used convenient sampling as our data collection method. Convenient sampling cannot represent the whole population of the manufacturing industry in Perak, as we just randomly choose the companies in Perak.

5.5 Recommendations for Future Research

We found out there are few limitations in this research and this shows that the results might not be very reliable. We recommend some of the ways to minimize and avoid the limitations that we faced in this research. Some other researchers can consider these recommendations into their studies as well.

Firstly, we should increase the sample size for this research study. Larger sample size will make the results to be more accurate and reliable. We only focus on Perak state in this research, Perak is just one of the states in Malaysia. Hence, the future studies should include more states in Malaysia, in order to increase the reliability of the data.

Probability sampling should be adopted in future study, in order to collect data that are more reliable. Long-term studies can be considered as well as it means to collect the data continuously throughout the period. Through long-term study, more reliable and accurate data can be collected.

5.6 Conclusion

Been through the whole research, we have a better understanding on the effects of conducive working environment on employees' work engagement in the manufacturing industry. Based on the findings, there are 5 dimensions of conducive working environment (authentic leadership, mission & goal setting, procedural justice, safety & health, and rewards & recognition) may affect the employees' work engagement in manufacturing industry. The results indicate that there is a positive and significant relationship between these 5 dimensions of conducive working environment and work engagement of employees. In brief, the results obtained from this study are useful to the manager or top management who wishes to increase the work engagement among their employees by improving the working environment. With the increase of the employees' work engagement, managers or top management can control and monitor the employees' behaviour and work performance can be maintain or even improved. At the end, we hope that the results of this study can be contribute to the society and act as a reference for other researchers that study on conducive working environment and work engagement, and we hope that this research will used by other researchers to do further survey on authentic leadership with work engagement.

References

Aktar, S., Sachu, M. K., & Ali, M. E. (2012). The impact of rewards on employee performance in commercial banks of Bangladesh: an empirical study. *IOSR Journal of Business and Management*, *6*(2), 9-15.

Alam, M. S., Shaheed, A. A., Sahabuddin, M., & Akter, S. (2013). Relationship between employee recognition and employee contribution in service industry. *International Journal of Business and Marketing Management*, *1*(1), 1-8.

Albar, M. J., García-Ramírez, M., Jiménez, A. M. L., & Garrido, R. (2012). Spanish adaptation of the scale of psychological empowerment in the workplace. *The Spanish journal of psychology*, *15*(02), 793-800.

Albrecht, S.L. (Ed.). (2010). *Handbook of employee engagement: Perspectives, issues, research and practice*. Glos, England: Edward Elgar.

Alok, K., & Israel, D. (2012). Authentic leadership & work engagement.*Indian Journal of Industrial Relations*, 498-510.

Alsop, R., & Heinsohn, N. (2005). Measuring empowerment in practice: Structuring analysis and framing indicators. *World Bank policy research working paper*, (3510).

Arnolds, C. A., & Venter, D. J. L. (2007). The strategic importance of motivational rewards for lower-level employees in the manufacturing and retailing industries. *SA Journal of Industrial Psychology*, *33*(3), 15-23.

Aryee, S. and Y.W. Chay. 2001. Workplace justice, citizenship behavior, and turnover

Aryee, S., Chen, Z. X., & Budhwar, P. S. (2004). Exchange fairness and employee performance: An examination of the relationship

Aryee, S., P.S. Budhwar and Z.X. Chen. 2002. Trust as a mediator of the relationship between organizational justice and work outcomes: Test of social exchange model. *Journal of Organizational Behavior* 23(3): 267-286.

Asmus, S., Karl, F., Mohnen, A., & Reinhart, G. (2015). The impact of goal-setting on worker performance-empirical evidence from a real-effort production experiment. *Procedia CIRP*, *26*, 127-132.

Ayache, Z., & Naima, G. (2014). The Impact of Flexible Benefits Plan on Organization Commitment and Intention to Quit. *Mediterranean Journal of Social Sciences*, *5*(8), 136.

Bakar, R. A. (2013). *Understanding factors influencing employee engagement: a study of the financial sector in Malaysia* (Doctoral dissertation, RMIT University).

Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career development international*, *13*(3), 209-223.

Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, *22*(3), 187-200.

Bakker, A.B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, *13*, 209–223.

Bakker, A.B., & Xanthopoulou, D. (2009). The crossover of daily work engagement: Test of an actor–partner interdependence model. *Journal of Applied Psychology*, *94*, 1562–1571.

Barclay, L. J., Skarlicki, D. P., & Pugh, S. D. (2005). Exploring the role of emotions in injustice perceptions and retaliation. Journal of Applied Psychology, 90, 629–643.

Bart, C. K., & Hupfer, M. (2004). Mission statements in Canadian hospitals.*Journal of Health Organization and Management*, *18*(2), 92-110.

Bernerth, J., & Walker, H. J. (2012). Reexamining the workplace justice to outcome relationship: Does frame of reference matter?

between organizational politics and procedural justice. Organizational Behavior and Human Decision Processes, 94(1), 1–14.

Billett, S. (2001). Learning through work: workplace affordances and individual engagement. *Journal of workplace learning*, *13*(5), 209-214.

Bird, D. K. (2009). The use of questionnaires for acquiring information on public perception of natural hazards and risk mitigation–a review of current knowledge and practice. Natural Hazards and Earth System Sciences, 9(4), 1307-1325.

Blair-Loy, M., Wharton, A. S., & Goodstein, J. (2011). Exploring the relationship between mission statements and work-life practices in organizations. *Organization Studies*, *32*(3), 427-450.

Brinkman, W. P. (2009). Design of a questionnaire instrument. *S. Love (Edt). Handbook of mobile technology research methods*, 31-53.

Brown, W. A., & Yoshioka, C. F. (2003). Mission attachment and satisfaction as factors in employee retention. *Nonprofit Management and Leadership*, *14*(1), 5-18.

Buell, J. M. (2007). What it takes to be an authentic and transparent leader: living the organization's mission, vision and values. *Healthcare executive*,*23*(6), 20-24.

Bustamam, F. L., Teng, S. S., & Abdullah, F. Z. (2014). Reward management and job satisfaction among frontline employees in hotel industry in Malaysia. *Procedia-Social and Behavioral Sciences*, *144*, 392-402.

Byrne, Z.S., and Cropanzano, R. (2001), 'The History of Organizational Justice: The Founders Speak,' in Justice in the Workplace: From Theory to Practice (Vol. 2), ed. R. Cropanzano, Mahwah, NJ: Lawrence Erlbaum, pp. 3–26.

Chamundeswari, S. (2013). Job satisfaction and performance of school teachers. *International Journal of Academic Research in Business and Social Sciences*, *3*(5), 420.

citizenship behaviour: Insights from the group value model. Journal of Management Studies, 45(8), 1377–1400.

Coetzer, C. F., & Rothmann, S. (2007). Job demands, job resources and work engagement of employees in a manufacturing organisation. *Southern African Business Review*, *11*(1), 17-32.

Cole, K. S., Stevens-Adams, S. M., & Wenner, C. A. (2013). A Literature Review of Safety Culture. *Sandia National Laboratories*.

Crabtree, S. (2013). Worldwide, 13% of employees are engaged at work.*Gallup, last modified October*, *8*.

Crawford, M. G. (2015). Employee Engagement: Restoring Viability to a Corporate Cliché.

Crossman, A., & Abou-Zaki, B. (2003). Job satisfaction and employee performance of Lebanese banking staff. *Journal of Managerial Psychology*,*18*(4), 368-376.

Danish, R. Q., & Usman, A. (2010). Impact of reward and recognition on job satisfaction and motivation: An empirical study from Pakistan. *International journal of business and management*, *5*(2), 159.

De Cremer, D., Brebels, L., & Sedikides, C. (2008). Being uncertain about what? Procedural fairness effects as a function of general uncertainty and belongingness uncertainty. Journal of Experimental Social Psychology, 44(6), 1520–1525.

DeCremer, D., & Stouten, J. (2005). When does giving voice or not matter? Procedural fairness effects as a function of closeness of reference points. Current

Department Of Statices Malaysia, Official Portal (2012). Retrieved from: https://www.statistics.gov.my/index.php?r=column/cthemeByCat&cat=92&bul_id=enZUVDZxcHI5c1NFYzNSeUtxYWh3QT09&menu_id=SjgwNXdiM0JlT3Q2TDBlWXdKdUVldz09

Desmidt, S., Prinzie, A., & Decramer, A. (2011). Looking for the value of mission statements: a meta-analysis of 20 years of research. *Management Decision*, *49*(3), 468-483.

Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology*, *83*(3), 579-599.

Fauzi, N. F. B., Ahmad, F., & Gelaidan, H. M. (2013). The Employee Retention Status in Paddy and Rice Industry in Malaysia. *Middle-East Journal of Scientific Research*, *18*(5), 642-650.

Folger, R., & Cropanzano, R. (2001). Fairness theory: Justice as accountability. In J. Greenberg & R. Cropanzano (Eds.), Advances in organizational justice

Fredrickson, B.L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, *56*, 218–226.

Gatling, A. (2014). The authentic leadership qualities of business coaches and its impact on coaching performance. *International Journal of Evidence Based Coaching and Mentoring*, *12*(1), 27.

Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of school psychology*, *43*(6), 495-513.

Hakanen, J.J., Perhoniemi, L., & Toppinen-Tanner, S. (2008). Positive gain spirals at work: From job resources to work engagement, personal initiative and work–unit innovativeness. *Journal of Vocational Behavior*, *73*, 78–91.

Hassan, A., & Ahmed, F. (2011). Authentic leadership, trust and work engagement. *International Journal of Human and Social Sciences*, *6*(3), 164-170.

Hobfoll, S.E., Johnson, R.J., Ennis, N., & Jackson, A.P. (2003). Resource loss, resource gain, and emotional outcomes among inner city women. *Journal of Personality and Social Psychology*,

Hsiaw, A. (2013). Goal-setting and self-control. *Journal of Economic Theory*,*148*(2), 601-626.

Imran, A., Ahmad, S., Nisar, A. Q., & Ahmad, U. (2014). Exploring relationship among rewards, recognition and employees' job satisfaction: A descriptive study on libraries in Pakistan. *Middle-East Journal of Scientific Research*, *21*(9), 1533-1540.

Institute for Employment Studies, Brighton.

intentions in a union context: Examining the mediating role of perceived union support and union instrumentality. *Journal of Applied Psychology* 86(1): 154-160.

Islam, M. A., & Noor, I. M. (2014). The Relationship between Psychological Meaningfulness and Employee Engagement: Moderating Effect of Age and Gender. *Journal of Asian Scientific Research*, *4*(12), 711.

Jehanzeb, K., Rasheed, M. F., & Rasheed, A. (2012). Impact of rewards and motivation on job satisfaction in banking sector of Saudi Arabia. *International Journal of Business and Social Science*, *3*(21).

Jensen, S. M., & Luthans, F. (2006). Entrepreneurs as authentic leaders: Impact on employees' attitudes. *Leadership & Organization Development Journal*, *27*(8), 646-666.

Judge, T.A., Van Vianen, A.E.M., & De Pater, I. (2004). Emotional stability, core self-evaluations, and job outcomes: A review of theevidence and an agenda for future research. *Human Performance*, *17*, 325–346.

Jung, C. S. (2013). Organizational goal ambiguity and job satisfaction in the public sector. *Journal of Public Administration Research and Theory*, mut020.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*, 692-724.

Khan, M. Y., Rizwan, M., Arshad, M. I., & Anwar, M. F. (2013). Impact of Employee Motivation on Job Satisfaction With Respect To Corporate Social Responsibility and Rewards. *Journal of Public Administration and Governance*, *3*(3), 226-243.

Kiersch, C. E., & Byrne, Z. S. (2015). Is Being Authentic Being Fair? Multilevel Examination of Authentic Leadership, Justice, and Employee Outcomes. *Journal of Leadership & Organizational Studies*, *22*(3), 292-303.

King, D. L., Case, C. J., & Premo, K. M. (2012). An International Mission Statement Comparsion: United States, France, Germany, Japan, and China.*Academy of Strategic Management Journal*, *11*(2), 93.

Kittredge, A. (2010). Predicting work and organizational engagement with work and personal factors.

Koch, B. J., Galaskiewicz, J., & Pierson, A. (2015). The effect of networks on organizational missions. *Nonprofit and Voluntary Sector Quarterly*, *44*(3), 510-538.

Kopaneva, I., & Sias, P. M. (2015). Lost in Translation Employee and Organizational Constructions of Mission and Vision. *Management Communication Quarterly*, 0893318915581648.

Leiter, M. P. (2010). Published in 2010 by Psychology Press 27 Church Road, Hove, East Sussex BN3 2FA Simultaneously published in the USA and Canada by Psychology Press.

Leventhal, G.S., J. Karuza and W.R. Fry, 1980. Beyond Fairness: A Theory of Allocation

Lind, A. and Tyler, T. 1988. *The Social Psychology of Procedural Justice*. Plenum: New York.

Lind, E. A., & Tyler, T. R. (1988). The social psychology of procedural justice. New York: Plenum Press.

Liu, L., & McMurray, A. J. (2004). Frontline leaders: The entry point for leadership development in the manufacturing industry. *Journal of European Industrial Training*, *28*(2/3/4), 339-352.

Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969–1980. *Psychological bulletin*, *90*(1), 125.

Macedo, I. M., Pinho, J. C., & Silva, A. M. (2015). Revisiting the link between mission statements and organizational performance in the non-profit sector: The mediating effect of organizational commitment. *European Management Journal*.

Macey, W.H., Schneider, B., Barbera, K., & Young, S.A. (2009). *Employee engagement: Tools for analysis, practice, and competitive*

Malbašić, I., Rey, C., & Potočan, V. (2015). Balanced organizational values: From theory to practice. *Journal of Business Ethics*, *130*(2), 437-446.

Markos, S., & Sridevi, M. S. (2010). Employee engagement: The key to improving performance. *International Journal of Business and Management*,*5*(12), 89.

Matthews, R. A., Michelle Diaz, W., & Cole, S. G. (2003). The organizational empowerment scale. *Personnel Review*, *32*(3), 297-318.

McAdams, M. T., Kerwin, J. J., Olivo, V., & Goksel, H. A. (2011). National assessment of the occupational safety and health workforce. *Rockville, MD: Westat*.

McDonald, R. E. (2007). An investigation of innovation in nonprofit organizations: The role of organizational mission. *Nonprofit and voluntary sector quarterly*, *36*(2), 256-281.

Medlin, B., & Green Jr, K. W. (2009). Enhancing performance through goal setting, engagement, and optimism. *Industrial Management & Data Systems*, *109*(7), 943-956.

Miñambres, J. G. (2011). *Make it Challenging: Motivation through Goal Setting* (No. we1123).

Munap, R., Badrillah, M. I. M., & Rahman, B. A. (2013). Organizational Rewards System and Employees' Satisfaction at Telekom Malaysia Berhad.*Journal of Educational and Social Research*, *3*(3), 281.

Murphy, K., & Tyler, T. (2008). Procedural justice and compliance behaviour: The mediating role of emotions. European Journal of Social Psychology, 38, 652–668.

Nujjoo, A., & Meyer, I. (2012). The relative importance of different types of rewards for employee motivation and commitment in South Africa. *SA Journal of Human Resource Management*, *10*(2), 10-pages.

Ologbo, A. C., & Sofian, S. (2013). Individual and Organizational Factors of Employee Engagement on Employee Work Outcomes. *International Journal of Business and Behavioral Sciences*, *3*(3).

Ordóñez, L. D., & Welsh, D. T. (2015). Immoral goals: how goal setting may lead to unethical behavior. *Current Opinion in Psychology*, *6*, 93-96.

Payam, G. (2013). *The relationship between rewards and employee performance* (Doctoral dissertation, Multimedia University).

Penger, S., & Černe, M. (2014). Authentic leadership, employees' job satisfaction, and work engagement: A hierarchical linear modelling approach.*Economic Research-Ekonomska Istraživanja*, *27*(1), 508-526.

Phellas, C. N., Bloch, A., & Seale, C. (2011). Structured methods: interviews, questionnaires and observation. *Researching society and culture*,*3*.

Preferences, Springer-Verlag, New York, NY.

Psychology, 24, 203–213.

Ram, P., & Prabhakar, G. V. (2011). The role of employee engagement in work-related outcomes. *Interdisciplinary Journal of Research in Business*,*1*(3), 47-61.

Ram, P., & Prabhakar, G. V. (2011). The role of employee engagement in work-related outcomes. *Interdisciplinary Journal of Research in Business*,*1*(3), 47-61.

Restubog, S. L. D., Hornsey, M. J., Bordia, P., & Esposo, S. R. (2008). Effects of psychological contract breach on organizational

Roberts, C. (2007). Mixing modes of data collection in surveys: A methodological review.

Robinson, D., Perryman, S. and Hayday, S. (2004), The Drivers of Employee Engagement,

S Eric Anderson PhD, M. B. A., & Brad Jamison PhD, M. B. A. (2015). Do the Top US Corporations Often Use The Same Words in their Vision, Mission and Value Statements?. *Journal of Marketing and Management*,*6*(1), 1.

Sahai, S., & Srivastava, A. K. (2012). Goal/target setting and performance assessment as tool for talent management. *Procedia-Social and Behavioral Sciences*, *37*, 241-246.

San, O., Theen, Y., & Heng, T. (2012). The reward strategy and performance measurement (evidence from Malaysian insurance companies). *International Journal of Business, Humanities and Technology*, *2*(1), 211-223.

Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the Job Demands-Resources Model: Implications for improving work and health. In*Bridging occupational, organizational and public health* (pp. 43-68). Springer Netherlands.

Schaufeli, W.B., & Bakker, A.B. (2004). Job demands, job resourcesand their relationship with burnout and engagement: A multisamplestudy. *Journal of Organizational Behavior*, *25*, 293–315.

Schaufeli, W.B., Bakker, A.B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior*, *30*, 893–917.

Sekaran, U., & Bougie, R. (2010). Research methods for business: A skill building approach (5th Ed.). Chichester, West Sussex: John Wiley & Sons, Inc, (page325.)

Shah, M. J., Akhtar, G., Zafar, H., & Riaz, A. (2012). Job satisfaction and motivation of teachers of public educational institutions. *International Journal of Business and Social Science*, *3*(8).

Stander, F. W., De Beer, L. T., & Stander, M. W. (2015). Authentic leadership as a source of optimism, trust in the organisation and work engagement in the public health care sector. *SA Journal of Human Resource Management*, *13*(1), 12-pages.

Stander, M. W., & Rothmann, S. (2010). Psychological empowerment, job insecurity and employee engagement. *SA Journal of Industrial Psychology*,*36*(1), 1-8.

Suvorov, A., & Van de Ven, J. (2008). Goal setting as a self-regulation mechanism. *Available at SSRN 1286029*.

Swales, J. M., & Rogers, P. S. (1995). Discourse and the projection of corporate culture: The mission statement. *Discourse & Society*, *6*(2), 223-242.

Taghi Alavi, M., & Karami, A. (2009). Managers of small and medium enterprises: mission statement and enhanced organisational performance.*Journal of Management Development*, *28*(6), 555-562.

Thibaut, J., & Walker, L. (1975). Procedural justice: A psychological analysis. Hillsdale, NJ: Erlbaum.

Vijayakumar, V. T. R., & Subha, M. B. Impact of Rewards and Recognition on Employees Job Satisfaction and Motivation in Private Banks of Tirunelveli City.

Vizeu, F., & Matitz, Q. R. S. (2013). Organizational sacralization and discursive use of corporate mission statements. *BAR-Brazilian Administration Review*, *10*(2), 176-194.

Williams Jr, R., L. Morrell, D., & V. Mullane, J. (2014). Reinvigorating the mission statement through top management commitment. *Management Decision*, *52*(3), 446-459.

Wong, C. A., & Laschinger, H. K. (2013). Authentic leadership, performance, and job satisfaction: the mediating role of empowerment. *Journal of advanced nursing*, *69*(4), 947-959.

Wong, C., & Cummings, G. (2009). Authentic leadership: a new theory for nursing or back to basics?. *Journal of Health Organization and Management*,*23*(5), 522-538.

Wright, B. E., & Pandey, S. K. (2011). Public Organizations and Mission Valence When Does Mission Matter?. *Administration & Society*, *43*(1), 22-44.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of occupational and organizational psychology*,*82*(1), 183-200

Yearta, S. K., Maitlis, S., & Briner, R. B. (1995). An exploratory study of goal setting in theory and practice: A motivational technique that works?.*Journal of Occupational and Organizational Psychology*, *68*(3), 237-252.

Zainuddin, N., Nor, M., Norsyamimi, N., & Johari, H. (2013). Turnover intention among electrical and electronics sub-sector employees in Malaysia: Job characteristics perspective.

Zakaria, Z., Hussin, Z. H., Noordin, N., Sawal, M. Z. H. M., & Zakaria, Z. (2011). The Relationship between Reward Practice and Employees Performance: An Empirical Study. In *International Conference on Management and Artificial Intelligence. IACSIT Press, Bali, Indonesia. IPEDR* (Vol. 6, pp. 142-145).

APPENDICES

APPENDIX 1.0

Manufacturing population in Perak

State	Gross output (RM billion)	Intermediate input (RM billion)	Total employees	Salaries & wages (RM billion)	Average salaries & wages received per month (RM)
Johor	142.1	115.8	347,386	7.9	1,889
Kedah	37.4	27.1	120,493	3.3	2,256
Kelantan	4.2	3.3	22,837	0.3	1,224
Melaka	89.9	79.5	72,526	1.9	2,134
Negeri Sembilan	49.1	42.2	76,466	2.2	2,380
Pahang	28.0	21.8	48,881	1.3	2,296
Perak	34.0	26.4	160,105	3.4	1,774
Perlis	1.3	1.0	6,595	0.2	2,003
Pulau Pinang	100.5	75.0	243,238	7.2	2,470
Sabah	33.1	28.0	74,930	1.3	1,465
Sarawak	93.2	56.0	100,233	2.0	1,630
Selangor	237.7	184.0	620,529	16.7	2,246

Source: Department of Statistics Malaysia

APPENDIX 2.0

Questionnaire

UNIVERSITI TUNKU ABDUL RAHMAN

FACULTY OF BUSINESS & FINANCE

BACHELOR OF BUSINESS ADMINISTRATION (HONS)

FINAL YEAR PROJECT

Title: The effectiveness of conducive work environment towards work engagement of manufacturing industry in Perak

Survey Questionnaire

Dear respondent,

Instructions:
This questionnaire consists of **TWO (2)** sections. Section A and B. Please complete all questions. The contents of this questionnaire will be kept strictly **PRIVATE AND CONFIDENTIAL.** Please use either a blue or black pen to tick and circle at appropriate boxes provided.

We are final year students from UNIVERSITI TUNKU ABDUL RAHMAN, and currently pursuing Bachelor of Business Administration (Hons). The purpose of this questionnaire is to study the effect of organisational factor on work engagement. We would like to take your time to participate in our research. Please answer **ALL** questions provided in the questionnaire. All responses provided are solely for our research purposes.

KEAH CHIN GIAP	13ABB04240	017-5504676	shanekeah@gmail.com
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NG CHOON HONG	12ABB00260	010-2654123	nghong19@gmail.com
TEH LIANG JIAN	13ABB05512	019-5673621	liangjianz93@gmail.com

Section A: Demographic Profile

Please provide the following information about yourself by placing a "√" on one of the blank space to assist us in analysing the responses.

1. Gender:
   - □ Female
   - □ Male

2. Age:
   - □ 18-20 years
   - □ 21-30 years
   - □ 31-40 years
   - □ 41-50 years
   - □ 51 years and above

3. Race
   - □ Malay
   - □ Chinese
   - □ Indian
   - □ Others: _____(Please Specify)

4. Marital status:
   - ☐ Single
   - ☐ Married
   - ☐ Others: _____(Please Specify)

5. Which industry worked for:
   - ☐ Food and beverages
   - ☐ Textiles and wearing apparel
   - ☐ Rubber Products
   - ☐ Others: _____ (Please specify)

6. Individual monthly income level:
   - ☐ Below RM 2000
   - ☐ RM 2001 – RM 3000
   - ☐ RM 3001 – RM 4000
   - ☐ RM 4001 – RM 5000
   - ☐ RM 5001 – RM 6000
   - ☐ RM 6001 – RM 7000
   - ☐ Above RM 7000

7. Job Type:
   - ☐ Part - Time
   - ☐ Full Time
   - ☐ Internship

- ☐ Temporary
- ☐ Others: _____(Please Specify)

8. Education Level:
   - ☐ Diploma
   - ☐ Bachelor Degree
   - ☐ Master / PhD Degree
   - ☐ Others_____(Please Specify)

Section B: Perception about work engagement

Below are the dimensions about work engagement. Please circle according to the Likert scale which range from strongly disagree, disagree, neutral, agree, and strongly agree with each statement number from 1 to 5, where it indicates as follows:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	2	3	4	5

Definition: Work Engagement is defines as how they connect with their work roles.

Dimension: Work Engagement	SD	D	N	A	SA
1. I have involved a lot in my job.	1	2	3	4	5
2. I am too concentrating into my job that forgets to accompany my family.	1	2	3	4	5
3. I am fully focused into my job.	1	2	3	4	5
4. My mind often wanders and I think of other things when doing my job.	1	2	3	4	5
5. I am highly engaged in this job.	1	2	3	4	5

Definition: Empowerment is an individual's or a group's capability of making choices and transformed it into desired actions and outcomes.

Dimension: Empowerment	SD	D	N	A	SA
1. Employees could provide a review of their respective supervisors.	1	2	3	4	5

2. Employees can decide when they want to take their paid leave of absence.	1	2	3	4	5
3. Employees can give opinion among their assigned workgroup.	1	2	3	4	5
4. Employees can decide in setting their own working standards in workgroup.	1	2	3	4	5
5. Employees can give opinion in determining their job responsibilities in workgroup.	1	2	3	4	5

Definition: Being true to oneself by owning one's experiences, values, thought, emotions and belief and "acting in according with one's true self".

Dimension: Authentic Leadership	SD	D	N	A	SA
1. My leader gives simple and direct instructions.	1	2	3	4	5
2. My leader encourages everyone to speak-out their opinions.	1	2	3	4	5
3. My leader asks me to take position which I can contribute to.	1	2	3	4	5
4. My leader seeks feedback to improve interaction with others.	1	2	3	4	5
5. My leader demonstrates beliefs that are consistent with action.	1	2	3	4	5

Definition: The organization creed statement, statement of purpose, statement of general principles, statement of corporate intent or vision statement, often interchangeably, and mostly used in the strategic planning process of an organizations.

Dimension: Mission & Goal Setting	SD	D	N	A	SA
1. Individual are rewarded based on the accomplishment of goal.	1	2	3	4	5
2. I am guided on how to set an effective goals.	1	2	3	4	5
3. All my goals are specific, measureable, attainable, realistic and timely.	1	2	3	4	5
4. I am given the necessary tools and support to accomplish my goal.	1	2	3	4	5
5. We have received briefing on company goal during my probation period.	1	2	3	4	5

Definition: Justice is the fairness in the process that resolve dispute and allocate resources which affects how decision are made and policies are established.

Dimension: Justice	SD	D	N	A	SA
1. The procedures use to determine work schedules in my workplace are fair.	1	2	3	4	5
2. The pay given by my workplace is fair.	1	2	3	4	5
3. The work scope given by my workplace is fair.	1	2	3	4	5
4. The health benefit given by my workplace is fair.	1	2	3	4	5

5. The process of grievances by my workplace is fair.	1	2	3	4	5

Definition: Safety and Health refers to the laws, rules, and principles that are intended to keep people safe from injury or disease at work and in public places.

Dimension: Safety& Health	SD	D	N	A	SA
1. Do you think that your workplace provides sufficient fire safety drills annually?	1	2	3	4	5
2. Do you agree that your working premises are given adequate fire alarms and fire extinguishers?	1	2	3	4	5
3. Do you agree that there is suitable and sufficient first aid equipment in your workplace?	1	2	3	4	5
4. Do you feel that there is enough prevention for workplace accidents?	1	2	3	4	5
5. Do you agree that you are given sufficient medical and insurance benefits?	1	2	3	4	5

Definition: Valuable positive outcomes of work for individuals or compensation employees received from organization.

Dimension: Reward and Recognition	SD	D	N	A	SA
1. I am satisfied with my base salary.	1	2	3	4	5
2. I am satisfied with how my raise are determined.	1	2	3	4	5

3. Those who do well stand a fair chance of being promoted.	1	2	3	4	5
4. I receive appropriate recognition for my contribution.	1	2	3	4	5
5. I understand the type of behavior leading to recognition.	1	2	3	4	5
6. Overall, I am satisfied with praise and recognition for good job.	1	2	3	4	5

APPENDIX 3.0

PILOT TEST

Work Engagement

WE Pilot

The CORR Procedure

5 Variables:	Work Engagement 1 Work Engagement 2 Work Engagement 3 Work Engagement 4 Work Engagement 5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Work Engagement 1	30	3.96667	0.49013	119.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 2	30	3.36667	0.55605	101.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 3	30	3.76667	0.50401	113.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 4	30	3.60000	0.72397	108.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 5	30	3.70000	0.70221	111.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.746951
Standardized	0.752313

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Work Engagement 1	0.605134	0.678805	0.596767	0.678988	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 2	0.506832	0.704673	0.468399	0.726028	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

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WE Pilot

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Work Engagement 3	0.378826	0.745009	0.375798	0.757987	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 4	0.434515	0.742138	0.442558	0.735109	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 5	0.693534	0.623329	0.727817	0.627553	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 30
Prob > |r| under H0: Rho=0

	Work Engagement 1	Work Engagement 2	Work Engagement 3	Work Engagement 4	Work Engagement 5
Work Engagement 1	1.00000	0.29944	0.38620	0.44702	0.57108
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.1079	0.0350	0.0133	0.0010
Work Engagement 2	0.29944	1.00000	0.06972	0.46255	0.55636
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.1079		0.7143	0.0101	0.0014

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WE Pilot

The CORR Procedure

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0					
	Work Engagement 1	Work Engagement 2	Work Engagement 3	Work Engagement 4	Work Engagement 5
Work Engagement 3	0.38620	0.06972	1.00000	0.11340	0.57484
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0350	0.7143		0.5507	0.0009
Work Engagement 4	0.44702	0.46255	0.11340	1.00000	0.29844
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0133	0.0101	0.5507		0.1092
Work Engagement 5	0.57108	0.55636	0.57484	0.29844	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0010	0.0014	0.0009	0.1092	

Empowerment

EM FULL

The CORR Procedure

5 Variables: Empowerment 1 Empowerment 2 Empowerment 3 Empowerment 4 Empowerment 5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Empowerment 1	30	3.33333	0.75810	100.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Empowerment 2	30	3.36667	0.66868	101.00000	2.00000	4.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Empowerment 3	30	3.80000	0.66436	114.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Empowerment 4	30	3.56667	0.56832	107.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Empowerment 5	30	3.60000	0.62146	108.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.341346
Standardized	0.352533

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
Empowerment 1	0.050000	0.406667	0.052336	0.399926	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Empowerment 2	0.090728	0.356597	0.087999	0.372275	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

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EM FULL

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Empowerment 3	0.389900	0.081463	0.390823	0.103420	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Empowerment 4	0.128237	0.321861	0.128803	0.339650	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Empowerment 5	0.216861	0.251914	0.234034	0.250481	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 30
Prob > |r| under H0: Rho=0

	Empowerment 1	Empowerment 2	Empowerment 3	Empowerment 4	Empowerment 5
Empowerment 1	1.00000	-0.04535	0.13693	0.10671	-0.07319
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.8119	0.4706	0.5746	0.7007
Empowerment 2	-0.04535	1.00000	0.24839	-0.11191	0.11617
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.8119		0.1857	0.5560	0.5410

Generated by the SAS System ('Local', W32_7PRO) on March 06, 2016 at 7:23:23 PM

Sunday, March 06, 2016 7:23 PM 3

EM FULL

The CORR Procedure

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0					
	Empowerment 1	Empowerment 2	Empowerment 3	Empowerment 4	Empowerment 5
Empowerment 3	0.13693	0.24839	1.00000	0.12786	0.30067
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.4706	0.1857		0.5007	0.1064
Empowerment 4	0.10671	-0.11191	0.12786	1.00000	0.17574
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.5746	0.5560	0.5007		0.3529
Empowerment 5	-0.07319	0.11617	0.30067	0.17574	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.7007	0.5410	0.1064	0.3529	

Generated by the SAS System ('Local', W32_7PRO) on March 06, 2016 at 7:23:23 PM

Authentic Leadership

Wednesday, February 24, 2016 11:32 PM 1

LS Pilot

The CORR Procedure

5 Variables: Leadership 1 Leadership 2 Leadership 3 Leadership 4 Leadership 5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Leadership 1	30	3.80000	0.55086	114.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 2	30	3.66667	0.66089	110.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 3	30	3.80000	0.55086	114.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 4	30	3.53333	0.73030	106.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 5	30	3.60000	0.62146	108.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.731293
Standardized	0.738305

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
Leadership 1	0.614559	0.644731	0.615059	0.648044	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 2	0.378696	0.730245	0.368805	0.740827	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:32:37 PM

Wednesday, February 24, 2016 11:32 PM 2

LS Pilot

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Leadership 3	0.418109	0.711456	0.420448	0.722397	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 4	0.498748	0.686427	0.496917	0.694119	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 5	0.589790	0.646647	0.614395	0.648311	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0					
	Leadership 1	Leadership 2	Leadership 3	Leadership 4	Leadership 5
Leadership 1	1.00000	0.47358	0.31818	0.36001	0.56408
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.0082	0.0866	0.0507	0.0012
Leadership 2	0.47358	1.00000	0.00000	0.38104	0.25187
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0082		1.0000	0.0378	0.1794
Leadership 3	0.31818	0.00000	1.00000	0.36001	0.56408
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0866	1.0000		0.0507	0.0012
Leadership 4	0.36001	0.38104	0.36001	1.00000	0.33431
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0507	0.0378	0.0507		0.0710

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:32:37 PM

Wednesday, February 24, 2016 11:32 PM 3

LS Pilot

The CORR Procedure

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0					
	Leadership 1	Leadership 2	Leadership 3	Leadership 4	Leadership 5
Leadership 5	0.56408	0.25187	0.56408	0.33431	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0012	0.1794	0.0012	0.0710	

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Mission and Goal Setting

MS Pilot

The CORR Procedure

5 Variables: Mission1 Mission2 Mission3 Mission4 Mission5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Mission1	30	3.90000	0.54772	117.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission2	30	3.36667	0.55605	101.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission3	30	3.73333	0.52083	112.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission4	30	3.60000	0.72397	108.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission5	30	3.70000	0.70221	111.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.722052
Standardized	0.726782

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Mission1	0.498679	0.670482	0.484800	0.680804	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission2	0.473374	0.678977	0.445212	0.696086	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission3	0.452862	0.687436	0.453856	0.692778	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission4	0.397590	0.717909	0.406422	0.710736	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:33:05 PM

Wednesday, February 24, 2016 11:33 PM 2

MS Pilot

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Mission5	0.622090	0.611111	0.651435	0.612701	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 30
Prob > |r| under H0: Rho=0

	Mission1	Mission2	Mission3	Mission4	Mission5
Mission1	1.00000	0.12454	0.38681	0.41741	0.45724
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.5120	0.0347	0.0217	0.0111
Mission2	0.12454	1.00000	0.23019	0.37689	0.55636
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.5120		0.2210	0.0401	0.0014
Mission3	0.38681	0.23019	1.00000	0.16461	0.52799
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0347	0.2210		0.3847	0.0027
Mission4	0.41741	0.37689	0.16461	1.00000	0.23062
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0217	0.0401	0.3847		0.2202
Mission5	0.45724	0.55636	0.52799	0.23062	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0111	0.0014	0.0027	0.2202	

Procedural Justice

Wednesday, February 24, 2016 11:33 PM 1

JT Pilot

The CORR Procedure

5 Variables: Justice 1 Justice 2 Justice 3 Justice 4 Justice 5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Justice 1	30	3.53333	0.73030	106.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 2	30	3.63333	0.61495	109.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 3	30	3.80000	0.61026	114.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 4	30	3.83333	0.53067	115.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 5	30	3.56667	0.56832	107.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.693277
Standardized	0.689571

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
Justice 1	0.605684	0.564629	0.607066	0.566070	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 2	0.352517	0.683482	0.334392	0.685548	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 3	0.441315	0.646622	0.450727	0.636859	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 4	0.386081	0.668569	0.377038	0.668084	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:33:27 PM

Wednesday, February 24, 2016 11:33 PM 2

JT Pilot

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Justice 5	0.469951	0.635945	0.463406	0.631351	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0					
	Justice 1	Justice 2	Justice 3	Justice 4	Justice 5
Justice 1	1.00000	0.45046	0.32497	0.41523	0.40987
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.0125	0.0797	0.0225	0.0245
Justice 2	0.45046	1.00000	0.16540	0.12328	0.22036
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0125		0.3824	0.5163	0.2420
Justice 3	0.32497	0.16540	1.00000	0.31944	0.43747
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0797	0.3824		0.0853	0.0156
Justice 4	0.41523	0.12328	0.31944	1.00000	0.20962
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0225	0.5163	0.0853		0.2662
Justice 5	0.40987	0.22036	0.43747	0.20962	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0245	0.2420	0.0156	0.2662	

Safety and Health

Wednesday, February 24, 2016 11:33 PM 1

SH Pilot

The CORR Procedure

5 Variables: Safety&Health 1 Safety&Health 2 Safety&Health 3 Safety&Health 4 Safety&Health 5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Safety&Health 1	30	3.43333	0.62606	103.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 2	30	3.63333	0.61495	109.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 3	30	3.83333	0.59209	115.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 4	30	3.86667	0.50742	116.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 5	30	3.53333	0.62881	106.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.633589
Standardized	0.629273

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
Safety&Health 1	0.503442	0.517312	0.495102	0.517478	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 2	0.326164	0.610714	0.316222	0.608083	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:33:48 PM

Wednesday, February 24, 2016 11:33 PM 2

SH Pilot

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Safety&Health 3	0.420452	0.563433	0.422891	0.555255	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 4	0.269880	0.630148	0.270797	0.629536	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 5	0.416033	0.565113	0.416537	0.558500	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 30
Prob > |r| under H0: Rho=0

	Safety&Health 1	Safety&Health 2	Safety&Health 3	Safety&Health 4	Safety&Health 5
Safety&Health 1	1.00000	0.42693	0.29458	0.18815	0.35621
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.0186	0.1141	0.3194	0.0534
Safety&Health 2	0.42693	1.00000	0.20519	0.05894	0.16646
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0186		0.2767	0.7570	0.3793

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:33:48 PM

Wednesday, February 24, 2016 11:33 PM 3

SH Pilot

The CORR Procedure

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0					
	Safety&Health 1	Safety&Health 2	Safety&Health 3	Safety&Health 4	Safety&Health 5
Safety&Health 3	0.29458	0.20519	1.00000	0.26781	0.33960
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.1141	0.2767		0.1525	0.0664
Safety&Health 4	0.18815	0.05894	0.26781	1.00000	0.23056
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.3194	0.7570	0.1525		0.2203
Safety&Health 5	0.35621	0.16646	0.33960	0.23056	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0534	0.3793	0.0664	0.2203	

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:33:48 PM

Reward and Recognition

Wednesday, February 24, 2016 11:34 PM 2

RR Pilot

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables Correlation with Total	Raw Variables Alpha	Standardized Variables Correlation with Total	Standardized Variables Alpha	Label
Reward&Recognition 1	0.391924	0.633589	0.399911	0.629273	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 2	0.480048	0.596072	0.481986	0.600132	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 3	0.211855	0.686262	0.226836	0.686714	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 4	0.417617	0.619246	0.423159	0.621146	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 5	0.364472	0.638170	0.352579	0.645514	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:34:11 PM

Wednesday, February 24, 2016 11:34 PM 3

RR Pilot

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Reward&Recognition 6	0.551501	0.569228	0.529224	0.582785	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 30
Prob > |r| under H0: Rho=0

	Reward&Recognition 1	Reward&Recognition 2	Reward&Recognition 3
Reward&Recognition 1	1.00000	0.22886	-0.10194
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.2238	0.5920
Reward&Recognition 2	0.22886	1.00000	0.42693
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.2238		0.0186
Reward&Recognition 3	-0.10194	0.42693	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.5920	0.0186	

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:34:11 PM

RR Pilot

The CORR Procedure

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0		
Reward&Recognition 4	Reward&Recognition 5	Reward&Recognition 6
0.22687	0.38826	0.52693
0.2280	0.0340	0.0028
0.29458	0.18815	0.35621
0.1141	0.3194	0.0534
0.20519	0.05894	0.16646
0.2767	0.7570	0.3793

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0			
	Reward&Recognition 1	Reward&Recognition 2	Reward&Recognition 3
Reward&Recognition 4	0.22687	0.29458	0.20519
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.2280	0.1141	0.2767

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:34:11 PM

RR Pilot

The CORR Procedure

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0		
Reward&Recognition 4	Reward&Recognition 5	Reward&Recognition 6
1.00000	0.26781	0.33960
	0.1525	0.0664

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0			
	Reward&Recognition 1	Reward&Recognition 2	Reward&Recognition 3
	0.38826	0.18815	0.05894
Reward&Recognition 5			
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0340	0.3194	0.7570
	0.52693	0.35621	0.16646
Reward&Recognition 6			
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0028	0.0534	0.3793

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:34:11 PM

RR Pilot

The CORR Procedure

Pearson Correlation Coefficients, N = 30 Prob > |r| under H0: Rho=0		
Reward&Recognition 4	Reward&Recognition 5	Reward&Recognition 6
0.26781	1.00000	0.23056
0.1525		0.2203
0.33960	0.23056	1.00000
0.0664	0.2203	

Wednesday, February 24, 2016 11:34 PM 1

RR Pilot

The CORR Procedure

6 Variables:	Reward&Recognition 1 Reward&Recognition 2 Reward&Recognition 3 Reward&Recognition 4 Reward&Recognition 5 Reward&Recognition 6

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Reward&Recognition 1	30	3.60000	0.77013	108.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 2	30	3.43333	0.62606	103.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 3	30	3.63333	0.61495	109.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 4	30	3.83333	0.59209	115.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 5	30	3.86667	0.50742	116.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 6	30	3.53333	0.62881	106.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.667615
Standardized	0.670853

Generated by the SAS System ('Local', W32_7PRO) on February 24, 2016 at 11:34:11 PM

APPENDIX 4.0

FULL STUDY RELIABILITY TEST

Work Engagement

WE FULL

The CORR Procedure

5 Variables:	Work Engagement 1 Work Engagement 2 Work Engagement 3 Work Engagement 4 Work Engagement 5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Work Engagement 1	209	4.10048	0.56709	857.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 2	209	3.81818	0.63960	798.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 3	209	3.92823	0.60417	821.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 4	209	3.90909	0.63273	817.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 5	209	4.06699	0.62428	850.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.738446
Standardized	0.740523

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Work Engagement 1	0.562532	0.671958	0.565320	0.671463	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 2	0.452625	0.711886	0.446608	0.716172	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

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WE FULL

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Work Engagement 3	0.466828	0.705428	0.472402	0.706703	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 4	0.443011	0.715199	0.441253	0.718121	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Work Engagement 5	0.588789	0.658206	0.594192	0.660148	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 209
Prob > |r| under H0: Rho=0

	Work Engagement 1	Work Engagement 2	Work Engagement 3	Work Engagement 4	Work Engagement 5
Work Engagement 1	1.00000	0.22292	0.47019	0.37395	0.53769
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.0012	<.0001	<.0001	<.0001
Work Engagement 2	0.22292	1.00000	0.25222	0.45791	0.37983
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0012		0.0002	<.0001	<.0001

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WE FULL

The CORR Procedure

Pearson Correlation Coefficients, N = 209
Prob > |r| under H0: Rho=0

	Work Engagement 1	Work Engagement 2	Work Engagement 3	Work Engagement 4	Work Engagement 5
Work Engagement 3	0.47019	0.25222	1.00000	0.18407	0.47169
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	0.0002		0.0076	<.0001
Work Engagement 4	0.37395	0.45791	0.18407	1.00000	0.28326
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	<.0001	0.0076		<.0001
Work Engagement 5	0.53769	0.37983	0.47169	0.28326	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	<.0001	<.0001	<.0001	

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Authentic Leadership

Wednesday, February 17, 2016 2:34 PM 1

LS FULL

The CORR Procedure

5 Variables: Leadership 1 Leadership 2 Leadership 3 Leadership 4 Leadership 5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Leadership 1	209	4.15311	0.58466	868.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 2	209	4.05263	0.59816	847.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 3	209	3.91388	0.58198	818.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 4	209	3.96651	0.58328	829.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 5	209	3.88038	0.59650	811.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.632931
Standardized	0.632918

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables		Label
	Correlation with Total	Alpha	Correlation with Total	Alpha	
Leadership 1	0.405916	0.569684	0.405553	0.569757	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 2	0.386047	0.579523	0.386861	0.579067	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

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Wednesday, February 17, 2016 2:34 PM 2

LS FULL

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Leadership 3	0.401293	0.572031	0.400465	0.572302	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 4	0.341441	0.601058	0.340756	0.601579	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Leadership 5	0.394126	0.575447	0.395067	0.574993	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 209
Prob > |r| under H0: Rho=0

	Leadership 1	Leadership 2	Leadership 3	Leadership 4	Leadership 5
Leadership 1	1.00000	0.26554	0.26501	0.22658	0.31469
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.0001	0.0001	0.0010	<.0001
Leadership 2	0.26554	1.00000	0.28930	0.29445	0.17942
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0001		<.0001	<.0001	0.0093
Leadership 3	0.26501	0.28930	1.00000	0.17558	0.33025
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0001	<.0001		0.0110	<.0001
Leadership 4	0.22658	0.29445	0.17558	1.00000	0.22334
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0010	<.0001	0.0110		0.0012

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Wednesday, February 17, 2016 2:34 PM 3

LS FULL

The CORR Procedure

Pearson Correlation Coefficients, N = 209 Prob > |r| under H0: Rho=0					
	Leadership 1	Leadership 2	Leadership 3	Leadership 4	Leadership 5
Leadership 5	0.31469	0.17942	0.33025	0.22334	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	0.0093	<.0001	0.0012	

Mission and Goal Setting

Wednesday, February 17, 2016 2:35 PM 1

MS FULL

The CORR Procedure

5 Variables: Mission1 Mission2 Mission3 Mission4 Mission5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Mission1	209	4.07656	0.59958	852.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission2	209	3.91388	0.72208	818.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission3	209	4.02392	0.71009	841.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission4	209	3.95694	0.70237	827.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission5	209	3.98086	0.66479	832.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.755297
Standardized	0.755362

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables Correlation with Total	Raw Variables Alpha	Standardized Variables Correlation with Total	Standardized Variables Alpha	Label
Mission1	0.452629	0.734916	0.450793	0.736750	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission2	0.565629	0.695076	0.566117	0.695489	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission3	0.486499	0.724967	0.489832	0.723068	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Mission4	0.509759	0.716150	0.511629	0.715303	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Generated by the SAS System ('Local', W32_7PRO) on February 17, 2016 at 2:35:25 PM

Wednesday, February 17, 2016 2:35 PM 2

MS FULL

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Mission5	0.599968	0.683622	0.592224	0.685790	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 209
Prob > |r| under H0: Rho=0

	Mission1	Mission2	Mission3	Mission4	Mission5
Mission1	1.00000	0.37065	0.34573	0.35035	0.28111
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		<.0001	<.0001	<.0001	<.0001
Mission2	0.37065	1.00000	0.36034	0.42871	0.47729
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001		<.0001	<.0001	<.0001
Mission3	0.34573	0.36034	1.00000	0.26234	0.47965
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	<.0001		0.0001	<.0001
Mission4	0.35035	0.42871	0.26234	1.00000	0.46157
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	<.0001	0.0001		<.0001
Mission5	0.28111	0.47729	0.47965	0.46157	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	<.0001	<.0001	<.0001	

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Procedural Justice

Wednesday, February 17, 2016 2:35 PM 1

JT FULL

The CORR Procedure

5 Variables:	Justice 1 Justice 2 Justice 3 Justice 4 Justice 5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Justice 1	209	3.59809	0.80336	752.00000	1.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 2	209	3.68900	0.72319	771.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 3	209	3.88995	0.67393	813.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 4	209	3.78469	0.57726	791.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 5	209	3.79904	0.67781	794.00000	3.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.619548
Standardized	0.629508

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables Correlation with Total	Raw Variables Alpha	Standardized Variables Correlation with Total	Standardized Variables Alpha	Label
Justice 1	0.296239	0.614132	0.305435	0.613566	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 2	0.225202	0.640952	0.229204	0.648955	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 3	0.518455	0.490809	0.526218	0.501095	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Justice 4	0.341881	0.582367	0.333046	0.600324	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

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Wednesday, February 17, 2016 2:35 PM 2

JT FULL

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable					
	Raw Variables		Standardized Variables		
Deleted Variable	Correlation with Total	Alpha	Correlation with Total	Alpha	Label
Justice 5	0.537157	0.480084	0.544853	0.490895	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 209 Prob > |r| under H0: Rho=0					
	Justice 1	Justice 2	Justice 3	Justice 4	Justice 5
Justice 1	1.00000	0.13137	0.17543	0.32049	0.20413
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.0580	0.0111	<.0001	0.0030
Justice 2	0.13137	1.00000	0.15632	0.19583	0.15632
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0580		0.0238	0.0045	0.0238
Justice 3	0.17543	0.15632	1.00000	0.18596	0.81440
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0111	0.0238		0.0070	<.0001
Justice 4	0.32049	0.19583	0.18596	1.00000	0.19607
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	0.0045	0.0070		0.0044
Justice 5	0.20413	0.15632	0.81440	0.19607	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0030	0.0238	<.0001	0.0044	

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Safety and Health

Wednesday, February 17, 2016 2:36 PM 1

SH FULL

The CORR Procedure

5 Variables: Safety&Health 1 Safety&Health 2 Safety&Health 3 Safety&Health 4 Safety&Health 5

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum	Label
Safety&Health 1	209	3.90909	0.68385	817.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 2	209	4.02871	0.68580	842.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 3	209	3.88995	0.59835	813.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 4	209	3.90431	0.67967	816.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 5	209	3.77990	0.72016	790.00000	2.00000	5.00000	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.713953
Standardized	0.714771

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Safety&Health 1	0.497406	0.655425	0.496221	0.657340	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 2	0.430250	0.682926	0.429441	0.684151	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Generated by the SAS System ('Local', W32_7PRO) on February 17, 2016 at 2:36:11 PM

Wednesday, February 17, 2016 2:36 PM 2

SH FULL

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Safety&Health 3	0.472666	0.667513	0.470581	0.667753	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 4	0.446621	0.676188	0.445555	0.677774	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Safety&Health 5	0.515172	0.647618	0.519773	0.647642	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 209
Prob > |r| under H0: Rho=0

	Safety&Health 1	Safety&Health 2	Safety&Health 3	Safety&Health 4	Safety&Health 5
Safety&Health 1	1.00000	0.32338	0.33967	0.32253	0.40823
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		<.0001	<.0001	<.0001	<.0001
Safety&Health 2	0.32338	1.00000	0.26549	0.35661	0.28542
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001		0.0001	<.0001	<.0001

Generated by the SAS System ('Local', W32_7PRO) on February 17, 2016 at 2:36:11 PM

Wednesday, February 17, 2016 2:36 PM 3

SH FULL

The CORR Procedure

Pearson Correlation Coefficients, N = 209 Prob > |r| under H0: Rho=0					
	Safety&Health 1	Safety&Health 2	Safety&Health 3	Safety&Health 4	Safety&Health 5
Safety&Health 3	0.33967	0.26549	1.00000	0.28135	0.44559
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	0.0001		<.0001	<.0001
Safety&Health 4	0.32253	0.35661	0.28135	1.00000	0.31036
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	<.0001	<.0001		<.0001
Safety&Health 5	0.40823	0.28542	0.44559	0.31036	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	<.0001	<.0001	<.0001	

Generated by the SAS System ('Local', W32_7PRO) on February 17, 2016 at 2:36:11 PM

Reward and Recognition

Wednesday, February 17, 2016 2:36 PM 1

RR FULL

The CORR Procedure

Pearson Correlation Coefficients, N = 209 Prob > |r| under H0: Rho=0					
	Safety&Health 1	Safety&Health 2	Safety&Health 3	Safety&Health 4	Safety&Health 5
Safety&Health 3	0.33967	0.26549	1.00000	0.28135	0.44559
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	0.0001		<.0001	<.0001
Safety&Health 4	0.32253	0.35661	0.28135	1.00000	0.31036
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	<.0001	<.0001		<.0001
Safety&Health 5	0.40823	0.28542	0.44559	0.31036	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	<.0001	<.0001	<.0001	

Generated by the SAS System ('Local', W32_7PRO) on February 17, 2016 at 2:36:11 PM

Wednesday, February 17, 2016 2:36 PM 2

RR FULL

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables Correlation with Total	Raw Variables Alpha	Standardized Variables Correlation with Total	Standardized Variables Alpha	Label
Reward&Recognition 1	0.617938	0.544802	0.622092	0.547239	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 2	0.358492	0.644743	0.356949	0.643879	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 3	0.552013	0.574924	0.550448	0.574674	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 4	0.064956	0.739361	0.065726	0.735418	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data
Reward&Recognition 5	0.567017	0.571040	0.560542	0.570869	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Generated by the SAS System ('Local', W32_7PRO) on February 17, 2016 at 2:36:30 PM

Wednesday, February 17, 2016 2:36 PM 3

RR FULL

The CORR Procedure

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables: Correlation with Total	Raw Variables: Alpha	Standardized Variables: Correlation with Total	Standardized Variables: Alpha	Label
Reward&Recognition 6	0.307557	0.658812	0.306549	0.660773	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Pearson Correlation Coefficients, N = 209
Prob > |r| under H0: Rho=0

	Reward&Recognition 1	Reward&Recognition 2	Reward&Recognition 3
Reward&Recognition 1	1.00000	0.21200	0.62956
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data		0.0021	<.0001
Reward&Recognition 2	0.21200	1.00000	0.26446
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.0021		0.0001
Reward&Recognition 3	0.62956	0.26446	1.00000
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	0.0001	

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Wednesday, February 17, 2016 2:36 PM 4

RR FULL

The CORR Procedure

Pearson Correlation Coefficients, N = 209 Prob > |r| under H0: Rho=0		
Reward&Recognition 4	Reward&Recognition 5	Reward&Recognition 6
0.01784	0.71366	0.28214
0.7977	<.0001	<.0001
0.27238	0.23837	0.15900
<.0001	0.0005	0.0215
-0.09507	0.65346	0.22214
0.1709	<.0001	0.0012

Pearson Correlation Coefficients, N = 209 Prob > |r| under H0: Rho=0			
	Reward&Recognition 1	Reward&Recognition 2	Reward&Recognition 3
Reward&Recognition 4	0.01784	0.27238	-0.09507
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	0.7977	<.0001	0.1709

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Wednesday, February 17, 2016 2:36 PM 5

RR FULL

The CORR Procedure

Pearson Correlation Coefficients, N = 209 Prob > |r| under H0: Rho=0		
Reward&Recognition 4	Reward&Recognition 5	Reward&Recognition 6
1.00000	-0.10310	0.13702
	0.1374	0.0479

Pearson Correlation Coefficients, N = 209 Prob > |r| under H0: Rho=0			
	Reward&Recognition 1	Reward&Recognition 2	Reward&Recognition 3
	0.71366	0.23837	0.65346
Reward&Recognition 5 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	0.0005	<.0001
	0.28214	0.15900	0.22214
Reward&Recognition 6 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	<.0001	0.0215	0.0012

Wednesday, February 17, 2016 2:36 PM 6

RR FULL

The CORR Procedure

Pearson Correlation Coefficients, N = 209
Prob > |r| under H0: Rho=0

Reward&Recognition 4	Reward&Recognition 5	Reward&Recognition 6
-0.10310	1.00000	0.19808
0.1374		0.0040
0.13702	0.19808	1.00000
0.0479	0.0040	

APPENDIX 5.0

Pearson Correlation Analysis

Correlation Analysis

The CORR Procedure

6 Variables: WE LS MS JT SH RR

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
WE	209	3.96459	0.42932	828.60000	3.00000	4.80000
LS	209	3.99330	0.37488	834.60000	2.60000	5.00000
MS	209	3.99043	0.48428	834.00000	3.00000	4.80000
JT	209	3.75215	0.43766	784.20000	2.80000	4.60000
SH	209	3.90239	0.46081	815.60000	2.40000	5.00000
RR	209	3.94498	0.41542	824.50000	3.00000	4.66667

Cronbach Coefficient Alpha

Variables	Alpha
Raw	0.844498
Standardized	0.840915

Cronbach Coefficient Alpha with Deleted Variable

Deleted Variable	Raw Variables		Standardized Variables	
	Correlation with Total	Alpha	Correlation with Total	Alpha
WE	0.825754	0.778652	0.818726	0.773624
LS	0.311351	0.869681	0.313137	0.871362
MS	0.672873	0.809442	0.670323	0.804508
JT	0.558487	0.831632	0.553306	0.827546
SH	0.664457	0.810877	0.663404	0.805902
RR	0.730482	0.798998	0.726075	0.793128

Pearson Correlation Coefficients, N = 209
Prob > |r| under H0: Rho=0

	WE	LS	MS	JT	SH	RR
WE	1.00000	0.30919	0.69393	0.54464	0.71440	0.70338
		<.0001	<.0001	<.0001	<.0001	<.0001
LS	0.30919	1.00000	0.21786	0.19027	0.24445	0.31046
	<.0001		0.0015	0.0058	0.0004	<.0001
MS	0.69393	0.21786	1.00000	0.47327	0.47751	0.64819
	<.0001	0.0015		<.0001	<.0001	<.0001
JT	0.54464	0.19027	0.47327	1.00000	0.47447	0.44556
	<.0001	0.0058	<.0001		<.0001	<.0001
SH	0.71440	0.24445	0.47751	0.47447	1.00000	0.57791
	<.0001	0.0004	<.0001	<.0001		<.0001
RR	0.70338	0.31046	0.64819	0.44556	0.57791	1.00000
	<.0001	<.0001	<.0001	<.0001	<.0001	

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APPENDIX 6.0

MULTIPLE REGRESSION ANALYSIS

Linear Regression Results

The REG Procedure
Model: Linear_Regression_Model
Dependent Variable: WE 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data

Number of Observations Read	230
Number of Observations Used	209
Number of Observations with Missing Values	21

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	5	27.37540	5.47508	101.38	<.0001
Error	203	10.96259	0.05400		
Corrected Total	208	38.33799			

Root MSE	0.23239	R-Square	0.7141
Dependent Mean	3.96459	Adj R-Sq	0.7070
Coeff Var	5.86151		

Parameter Estimates

Variable	Label	DF	Parameter Estimate	Standard Error	t Value	Pr > |t|
Intercept	Intercept	1	-0.06832	0.21659	-0.32	0.7527
LS	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	1	0.07053	0.04541	1.55	0.1219
MS	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	1	0.27185	0.04558	5.96	<.0001
JT	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	1	0.11108	0.04434	2.51	0.0130
SH	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	1	0.34660	0.04517	7.67	<.0001
RR	1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree, 99=Missing Data	1	0.22741	0.05671	4.01	<.0001

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APPENDIX 7.0

Population Size

Sample size for a given population size

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	175	2000	322
55	48	320	181	2200	327
60	52	340	191	2400	331
65	56	360	196	2600	335
70	59	380	205	2800	338
75	63	400	210	3000	341
80	66	420	217	3500	346
85	70	440	226	4000	351
90	73	460	242	4500	354
95	76	480	248	5000	357
100	80	500	260	6000	361
110	86	550	265	7000	364
120	92	600	274	8000	367
130	97	650	278	9000	368
140	103	700	169	10000	370
150	108	750	186	15000	375
160	113	800	201	20000	377
170	118	850	214	30000	379
180	123	900	234	40000	380
190	127	950	254	50000	381
200	132	1000	269	75000	382
210	136	1100	285	1000000	384

Source: Sekaran,U. & Bougie, R. (2013).

APPENDIX 8.0

Permission Letter

UNIVERSITI TUNKU ABDUL RAHMAN
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3rd November 2015

To Whom It May Concern

Dear Sir/Madam,

Permission to Conduct Survey

This is to confirm that the following students are currently pursuing their *Bachelor of Business Administration (Hons)* program at the Faculty of Business and Finance, Universiti Tunku Abdul Rahman (UTAR) Perak Campus.

I would be most grateful if you could assist them by allowing them to conduct their research at your institution. All information collected will be kept confidential and used only for academic purposes.

The students are as follows:

Name of Student	Student ID
Teh Liang Jian	13ABB05512
Ng Choon Hong	12ABB00260
Lau Kuan Ngai	13ABB05697
Keah Chin Giap	13ABB04240
Lim Mei See	12ABB05316

I hereby certify this to be a true copy of the original which has been produced before me

NG KEN YUE
ASSISTANT MANAGER
FACULTY OF BUSINESS AND FINANCE
UNIVERSITI TUNKU ABDUL RAHMAN

If you need further verification, please do not hesitate to contact me.

Thank you.

Yours sincerely,

Mr Choong Yuen Onn
Head of Department,
Faculty of Business and Finance
Email: choongyo@utar.edu.my

Mr Fong Chee Yang
Supervisor,
Faculty of Business and Finance
Email: fongcy@utar.edu.my

Jalan Sungai Long, Bandar Sg. Long, Cheras, 43000 Kajang, Selangor Darul Ehsan, Malaysia.
Address: ~~9, Jalan Bersatu 13/4, 46200 Petaling Jaya, Selangor Darul Ehsan, Malaysia~~ Postal Address: P O Box 11384, 50744 Kuala Lumpur, Malaysia
Tel: (603) ~~7958 2628~~ Fax: (603) ~~7956 1923~~ Homepage: http://www.utar.edu.my