# JOB DEMANDS AND RESOURCES AS ANTECEDENTS OF EMPLOYEE SATISFACTION, LOYALTY, AND PERFORMANCE: CASE WITH THE CONSTRUCTION INDUSTRY IN CHIANG RAI, THAILAND

## WARUT SRISUWAN

## MASTER OF BUSINESS ADMINISTRATION

## IN

## ENTREPRENEURIAL MANAGEMENT

## SCHOOL OF MANAGEMENT

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| **Independent Study Title** | An Examination of Job Resources and Demands as Antecedent of Employee Satisfaction, Loyalty, and Job Performance for the Construction Businesses in Chiang Rai, Thailand |
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# ABSTRACT

Construction industry contributes around 62 billion Baht of revenues or more to the growth of the Thailand's GDP (National Economic & Social Development Board of Thailand, 2015). As construction industry is still extensively labor-intensive in Thailand (Makulsawatudom & Emsley, 2001), it is important to study how the labor workforce perceive the job and personal resources they have that are capable to help them deliver quality works and construction on-time. As the nature and pattern of the interrelationship between the different job and personal resources and job demands are still lacking the research works as evidenced in the extant literature, this research thus sets forth the objective to prioritize on this understanding, by exploiting the advantages of mixed method, namely interviewing the supervisors at the construction sites for themes which then become the thematic bases for literature reviews.

As no available data are found in the areas of job characteristics for workers at the construction industry in Thailand, many of the limitations of the research would only be revealed at post-data analysis levels, which then become the entry points for

further research. In addition, the patterns and nature of relationship between the different job and personal resources and job demand, made possible through exploratory factor analysis and multivariate regression analysis, would then become the bases for further hypotheses validation efforts, in an attempt to bridge their continuing relationships to establish job satisfaction, worker loyalty and perceived performances.

Data obtained reflect the perceptions of the workers currently working at the three construction sites in Chiang Rai, of small, medium and large scale, in which the nature of the scales chosen reflects the nature of the construction industry in Thailand (cf. Mc Kenzie, Betts, & Jensen, 2011). Besides, by the use of interviews in helping the researcher to identify the themes of concerns prior to questionnaire survey design, the statistical evidences show higher relative strength of R-squared, and thus, according to Cohen (1992), it is sufficiently robust to use lower sample size provided there is a robust theoretical framework that matches the application context of sampling population.

Numerous aspects of implication to both theories and construction companies are discussed. For instance, this research provides the statistical evidences to chart a route of procedures for systematic studies and uses of operational definitions to the various variables or constructs involved in this research. In other words, this research helps one to see that both antecedents and consequences to a construct, such as worker loyalty, actually share the similar domains of characteristics. For instance, judging from the nature of the predictors, namely colleague relationship and job satisfaction, which is feeling in the former and evaluative in the latter, thus, worker loyalty is a psychological inclination that contains "feeling" (Boroff & Lewin, 1997) as well as evaluative consequences including attachment (Leck & Saunders, 1992) and commitment to the organization (Sverke & Goslinga, 2003).

Lastly, this research also touches upon numerous suggestions for further research, for instance, if the sample size can be significantly improved, such as to systematically incorporate cases of works that involve high-high, high-low, low-high, and low-low aspects of job demand and job resources, perhaps by the use of interviews based case studies, the research could systematically identify factors that are antecedents to job satisfaction and employee loyalty.

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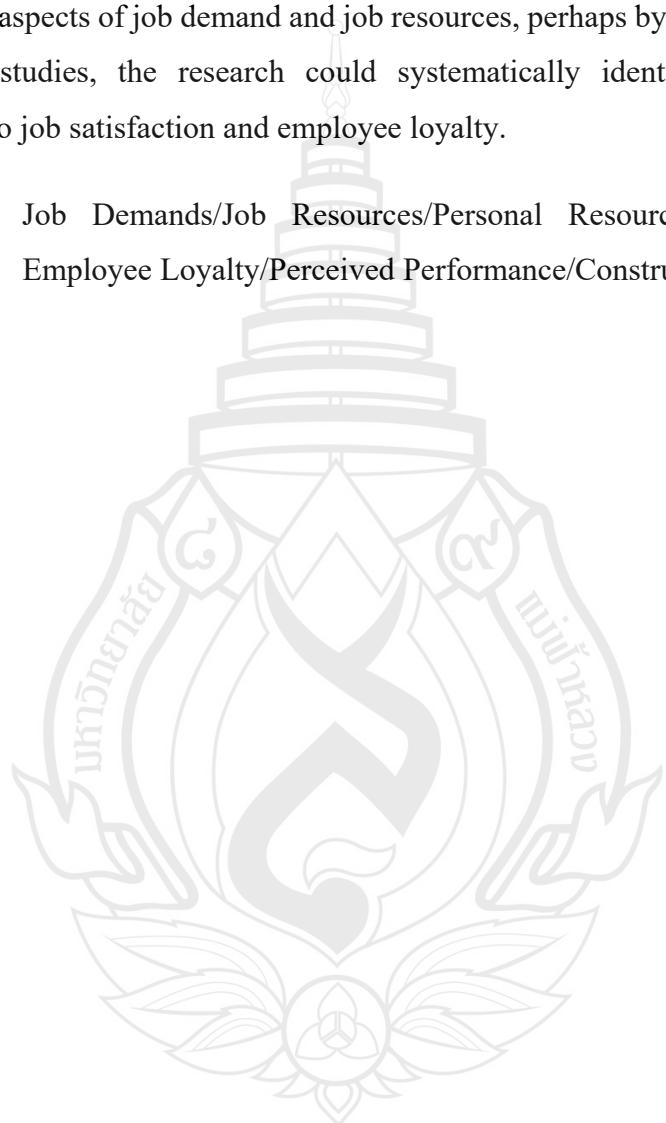
# CHAPTER 1

# INTRODUCTION

## 1.1 Background

The National Statistics Office of Thailand (2015a) recently published the workforce data in Thailand, which indicates that there are around 38.32 million workforces currently being employed, with about 1% of this figure stays unemployed and as seasonally inactive labor force. Among the employed workforces, about 65.8 per cent are recruited in non-agricultural sectors (25.19 million), with a rate of increase at about 0.626 percent per year. As this research focuses on the context of construction industry, it has a workforce of 2.12 million as of September, 2015 (National Statistics Office of Thailand, 2015a). The construction workforce has been doubled from around 1.27 million of the then 33 million available workers in 2001, of which 80-90 per cent of the workforce in the construction industry was males (Makulsawatudom & Emsley, 2001).

In Northern parts of Thailand, there are in total 9.478 million workforces as of data compiled in the second quarter of 2015, in which 48.27 percent are male, and in which labor force consists of only 68 percent of the total workforce, at 6,448. When breaking down the statistics in terms of occupation, the majority of the workforces are considered as skilled agricultural forest and fishery workers at 2.4496 million, service workers and sell goods at 1.1437 million, craft and associate professionals at 0.8279 million, plant and machine controllers and assemblers at 0.3557 million, elementary occupation at 0.7875 million, technicians and associate professional at 0.1728 million, professionals at 0.2748 million, and the rest as clerks, general workers not classifiable

by occupation (National Statistics Office Thailand, 2015b). Thus, construction workers are not particularly categorized by the National Statistics Office Thailand (2015a,b) but judging from the occupation categories and the interviews with the owners that involve with construction projects in Chiang Rai, Thailand, the majority of the labor workforces can be categorized as workers not classifiable by occupation (National Statistics Office Thailand, 2015b), but also include electrical service technicians, electrician, line mechanics, plumbers, gasfitter and drain layers, and cadastral (land title) surveyors. Thus, construction industry depicts very fragmented workforce diversity, which may also involve diversified ranges of construction activities such as relating to commercial building (the so-called vertical infrastructure), roads and network services (so-called horizontal infrastructure), and residential building involving house repairs and new builds.

Construction industry contributes around 62 billion Baht of revenues or more to the growth of the Thailand's GDP, in which the growth rate of GDP now stands at around 2-3 percent in year 2015, as shown in Figure 1.1. As Thailand is an export-oriented emerging economy, the majority of the GDP contribution comes from production, contributing to 34 percent of the GDP while the services (i.e. wholesale and retail, 13 percent; transport, storage and communication at 7 percent, hotels and restaurants at 5 percent, public administration, defense and social security at 4.5 percent) at 44 percent, and agricultural industry at 13 percent of GDP. Construction industry is considered as a key driving force in the production sector, and has shown an expanded rate of 7.7 percent to 17.8 percent (Trading Economics, 2015).

THAILAND GDP ANNUAL GROWTH RATE
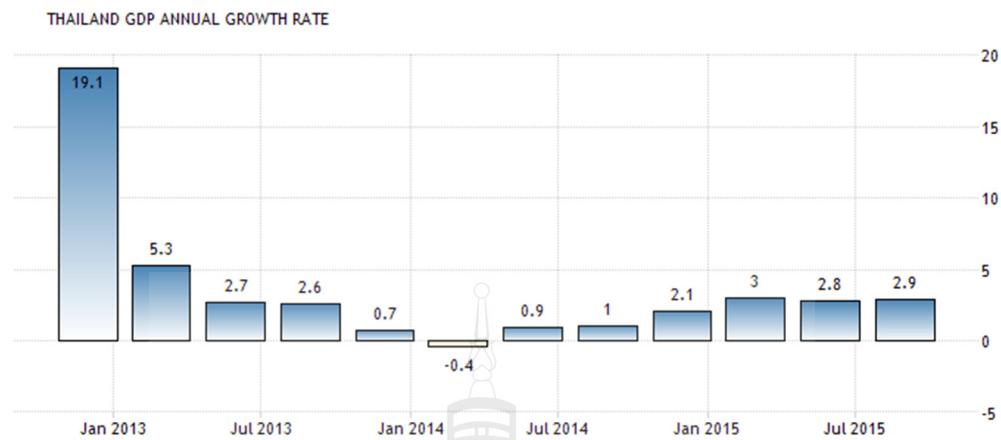
**Source**  National Economic and Social Development Board of Thailand (2015).

**Figure 1.1**  Thailand's GDP Growth Rate

Monetary value wise, construction industry has one of the highest capital investments (Teerajetgul, Chareonngam, & Wethyavivorn, 2009). Because of the central role played by construction industry in national industry expansion, many countries have formulated long-term plans to improve and systematically develop the construction industry, for instance, the Construction 21 Steering Committee (1999) in Singapore, and the Australian Procurement and Construction Council (1997) in Australia, that relate to the use and qualities of raw materials, location of facility and the nature of terrain and ground conditions, the immediate physical environment, methods of construction on-site, and life-cycle economics issues and the extent of energy utilization in the construction industry.

As construction industry is still extensively labor-intensive in Thailand (Makulsawatudom & Emsley, 2001; Makulsawatudom, Emsley, & Sinthwanarong, 2004), it is important to study how workers or the labor workforces perceive their job characteristics, in terms of job resources and demands, and how these job characteristics influence their loyalty and perceived job performance. Nevertheless, a recent search of the extant publications by the use of "Science Direct" indicates no relevancy of job characteristics, or job demands or job resources, relating to construction industry.

The search was conducted by the key words combining "construction industry" and either "job demand and resource" or "job characteristics" or "job satisfaction," which returned respectively 25,528 articles, 31,150 articles, and 8,684 articles. The majority of the publications that relate to construction industry involves operational topics of safety risk issues, accidents and injuries (Choi, 2015; Gurcanli, Billir, & Sevim, 2015; Pinto, 2014; Raheem & Issa, 2016; Zhang, Teizer, Pradhananga & Eastman, 2015), occupational stress (Bowen, Edwards, Lingard, & Cattell, 2014), occupational safety and health issues (Sousa, Almeida, & Dias, 2015).

The closer publications related to job resources and demands or job characteristics that relate directly to construction context are very minimum and in general, broad-based in nature, including multi-skilled resource utilization (Arashpour, Wakefield, Blismas, & Minas, 2015), human resource-planning (Pournader, Tabassi, & Baloh, 2015), work integrated learning (Mazhar & Arain, 2015).

In short, research effort that aims to understand how the labor workforce perceives the nature of the job demands and resources, their states of job satisfaction, loyalty to the employer, and perceived performance becomes important, and this research thus establishes its research objective along this direction, as point of entry for further contribution to the body of knowledge relating to the fields and disciplines of human resources and organization development, in particular dealing with construction industry. As no research publications that relate the nature of job demands and resources in construction industry can easily be located, although they can be inferred such as by reviewing other relevant publications (relating to factors that affect productivity in the construction industry in Thailand, Makulsawatudom & Emsley, 2001), this research exploits mixed research method. Specifically, this research identifies themes and patterns of themes, through interviewing supervisors on-site the construction activities, to help identify survey questionnaires and to suggest areas for literature review. The literature review provides also the base for theme confirmation and patterns of themes suggestion in terms of proposed conceptual model. Although there are limitations in this approach, such as by not interviewing the views of the project managers relating to the job characteristics of labor workforce, this research would miss other relevant and more strategic issues. Nevertheless, judging at the

exploratory nature and objective level of this research, it is justifiable to explore the views of the labor workforces, including the on-site supervisors.

## 1.2 Justification

According to Timetric Construction Reports (2015), the Thai construction industry has continued to show significant growth, which is also further bolstered by the introduction of Real Estate Investment Trust (REIT) in January 2013 and the governmental supports for infrastructural development. With the gland committed concept and goal of deepening and broadening the economic integration espoused for the Vision 2020 for AEC (2015), construction businesses would be further boosted. The AEC concept (AEC, 2015) is positioned to foster free flow of open investment as a single window of competitiveness to embrace the future competition of the global businesses.

Chiang Rai, Thailand is chosen as the provincial site for this research as Chiang Rai can significantly influence the economics and industrial developments of the Greater Mekong Subregion (GMS). GMS is consisted of countries from Thailand, Cambodia, the People's Republic of China (PRC, specifically Yunnan Province and Guangxi Zhuang Autonomous Region), Lao People's Democratic Republic (Lao PDR), Myanmar, Thailand, and Viet Nam. In addition, Chiang Rai occupies a central, strategic position as important gateway to support the integrative and inclusive strategies and vision of the ASEAN Economic Community (AEC). The continuing trend of growth of rest-estate and construction industry in Chiang Rai has shown a steady increase of land prices in Chiang Rai (Ministry of Finance, 2015), even in the midst of numerous natural disaster in terms of major earthquake located in Mae Lao, Chiang Rai in 2014 (Fredrickson, 2014). In addition, the continuing positive trend of construction activities and projects in Chiang Rai is evidenced by large-scale establishment of super warehouse stores invested by the major construction materials companies such as Thai Watsadu from the Central chain, Home Pro from Land and House chain, Global House, and CP Construction. In addition, numerous national leading real-estate companies, for instance, Land and House and Sansiri, have started

to invest on the construction projects, i.e. evidenced by the condominium projects, Q-House, by Land and House, the Siwalee Village from Land and House, and the d-Condo from Sansiri, in Chiang Rai. These construction projects are usually outsourced to the local construction companies in Chiang Rai.

Construction projects are diversified in nature, including the difficulty and challenge imposed by the heights as well as the detailed structure, interior and exterior designs, and system work such as electricity, water supply, air-conditioning, elevator, drainage and fire extinguishing system, that also touches on building construction, public infrastructure and facilities (i.e. airports and highways), in numerous forms of business models such as build operate and transfer (BOT), build transfer and operate (BTO), build own and operate (BOO), and acquire operate and transfer (AOT) (Ch. Karnchang, 2014). In such a huge diversified scopes and depth of work activities, company like Ch. Karnchang, whose backlog construction contracts stood at Baht 110 billion for 4 years, at the time of the Annual Report (Ch. Karnchang, 2014), stressed the roles of professional competency development, leadership and management, quality, safety, occupational health and environment, and corporate governance and code of business ethics (Ch. Karnchang, 2014).

To be more specific, this research focuses on the job characteristics, job satisfaction and perceived performance of the construction workers. Research on construction workers as its unit of research analysis is important as workers are the main enabler for the completion of the construction projects. In addition, workers are often subjected to unsafe and stressful working environment, especially at the construction work sites. While Liu (2015) studied the usefulness of design such as the procedural sequence in laying bricks and other infrastructural design issue, this research makes an attempt to study the general job design perspectives. The implication is that by concentrating on well-designed jobs, the construction workers can be motivated to provide quality works and this would lead to some preliminary, explorative insights to help improve the quality of work life for the construction workers as well as to systematically promote the construction industry in Chiang Rai, being strategically situated in both Emerald and Golden Triangles. According to Nicharee (2012), Golden Triangle is a region occupying about 150,000 km$^2$ bordering Thailand, Myanmar and

Laos, whereas the Emerald Triangle is in the northeastern region of Thailand connecting Laos and Vietnam.

The rationale background, theoretically, is that there are already robust empirical evidences that stress on the positive relationship between HRM (Human Resource Management) practices and organizational performance to help the construction companies to achieve their goals Pournader et al., 2015 focused on training and quality assessment of the HRM practices in the construction project contexts. As different countries and even the different regions of a country would have different contextual phenomenon, it is import job design perceptions of the construction workers in Chiang Rai are studied. Job design is stressed because, as it was argued and empirically supported in Hackman and Oldham, (1976, 1980), changing the work itself was more practical than changing organizational cultures or employees. This is particularly suitable for temporary workers who move on from construction projects to projects.

The topic is chosen because of the importance of the roles of interplay between job resources and job demands played in influencing employee satisfaction, which further explains how employees are loyal and perform. These variables are also considered as few of the main aspects of HRM (Human Resource Management) that are the precondition for increasing performances and responsive customer services (Sageer, Rafat, & Agarwal, 2012). In a way, the framework would resemble an antecedent and consequence structure of employee satisfaction. The use of job resources and demands would be suitable determinants to be studied for their ability to explain the variances of employee satisfaction and its consequential loyalty and performance states, because they contain the cognitive, emotional and physical characteristics that are also described in employee loyalty and commitment constructs (cf. Kahn, 1990; Bakker, 2014). This research also contributes to the practicality of the role of working environment created by the interplaying roles of job resources and job demands, and also theoretically in that environment is not only the physical, spatial or relational, but also mentally as well. Thus, this allows the Job Demand-Resources (JD-R) model to be theoretically and practically connected to the theory of environmental psychology (cf. Fechner, 1966) which unifies the resource mediated demand environment in influencing employee satisfaction and loyalty. In other words, JD-R

creates an environment that can facilitate employee satisfaction for loyalty and performance.

## 1.3 Research Objective

According to the independent study requirement at Purdue University (2015), there are two important characteristics in a dissertation, and there must be evidences of "original" and "substantial" contributions. As there is a dearth of knowledge and empirical evidences relating to the interrelated structure of relationship and nature of job demands and resources, states of job satisfaction, loyalty to the employer, and perceived performance from the views of the labor workforces in the construction industry, this research thus establishes its research objective along this direction, as point of entry for further contribution to the body of knowledge relating to the fields and disciplines of human resources and organization development, in particular dealing with construction industry.

To address this research objective, two research questions and three hypotheses are raised, as follows:

**1.3.1 Research Question 1 (RQ1):** What are the patterns of relationship between the different facets of job demands and resources available to the workers (both job and personal resources)?

**1.3.2 Hypothesis 1 (H1):** Job resources and personal resources can significantly explain the variance of job satisfaction.

**1.3.3 Hypothesis 2 (H2):** Both job satisfaction and its antecedent at job resources and personal resources levels, can significantly explain the variances of employee loyalty.

**1.3.4 Hypothesis 3 (H3):** Both employee loyalty and job satisfaction can significantly explain the variances of the perceived job performance.

Numerous demographics and job relevancy variables would be addressed to study their roles in the influence of the key variables of the conceptual model , namely gender, marital status, age groups, educational level, nationality, working position, ability (willingness) to work with hazardous risk, working experience, full-part or part-time status, congenital disorder, daily income level, and distance from home of the workers.

Note that a primary purpose of conducting empirical research is to test hypotheses about the associations among constructs. These hypotheses will be subjected to statistical analysis based on the survey data collected. According to Maruyama and Ryan (2014), the process of falsifying the theory or hypotheses is characteristics of a good theory. By falsification, it means the researcher sets up an empirical test and, if the findings turned out a given way, the researcher would conclude that the hypotheses had been disproven (Maruyama & Ryan, 2014).

## 1.4 Definition

To conduct research that will help determine whether the stated hypothesis can be evidentially supported, it is important researcher provides clear definitions to help guide the measurement of the theoretical constructs of interest. Also, according to the dissertation guidelines issued by Purdue University (2015), terminologies that prevail in the independent study writing which could cause confusion and reliability issues must be clearly defined. In addition, it was stated that "When defining the terminology for a concept, be careful to decide precisely how the idea translates into an implementation," and thus definitions are important bridging instrument in between data and knowledge. In this research, there are numerous constructs that are involved, for instance, job demands, job resources, job satisfaction, employee loyalty, and perceived performance.

### 1.4.1 Construction

The construction in this research is addressed to real-estate construction which includes activities in three main categories, namely residential (i.e. single-family dwelling, condominiums, and multi-family apartments), non-residential (i.e. consisting

of retail and office buildings, industrial plants, and institutional buildings such as schools constructions), and public works (i.e. building of streets, sewer systems, highways, bridges, and public projects other than buildings), and thus the rate of industry growth in a nation is closely tied to movements of employment and GDP of a nation (McKenzie, Betts, & Jensen, 2011). The GDP scenarios and the nature of contribution from the construction industry in Thailand are discussed in the Background section of this independent study.

In general, the construction industry is comprised of many small, independent builders and a few hundred large, corporate companies, which implies that in some less-populated areas homebuilding is a local operation (McKenzie, Betts, & Jensen, 2011).

**1.4.2 Construction Workers**

Construction workers "build, repair, maintain, renovate, modify and demolish houses, office buildings, temples, factors, hospitals, roads, bridges, tunnels, stadiums, docks, airports, and more," and "typically are hired from project and may spend only a few weeks or months at any project" (ILocis, 2015).

**1.4.3 Job Resources and Job Demands**

Job resources and the nature of demand for the job tend to give more attention to the reasons why the job is considered appropriate to the employee. As construction workers "build, repair, maintain, renovate, modify and demolish houses, office buildings, temples, factors, hospitals, roads, bridges, tunnels, stadiums, docks, airports, and more," (ILocis, 2015), workers may perceive, for instance, as pride-in-the-job level of personal resource, and also would need the supports of teams (colleagues) and the organization (role of organization). In terms of job demands, these diversities of job environment may demand varies aspects of physical strengths, emotion and workloads. Specifically, the operational definitions of the constructs are stated as follows:

In the measurement direction of this research, job resources refer to the relational, supervision, policy-level, compensation and personal-level (i.e. pride in the job and willingness in doing the job, as psychological resources) of resources available to the workers. In short, job resources, according to Bakker and Demerouti (2007, pp. 312), refer to "those physical, psychological, social, or organizational aspects of the job that are either/or functional in achieving work goals, reduce job demands and the

associated physiological and psychological costs, and stimulate personal growth, learning, and development."

As there are multi-variegated nature and scopes of jobs available (Loon & Casimir, 2008), the nature of job demand would also be of variety; for instance, Fry and Kolb (1979) identify affective, perceptive, symbolic and behavioral types of demands in jobs to signify, respectively, the interpersonal, intellectual, technical skills based and the physical efforts needed in tasks. Through interviews with the supervisors on site of construction activities, job demand is referred to as workload, work pressure, and the physical and mental, or emotional demands of the jobs which thus reflect the nature of the set of activities or tasks involved.

### 1.4.4 Employee Loyalty

Employee loyalty has behavioral, attitudinal or affective components (cf. Oliver, 1999) which manifests as a preparation or readiness for response, as fundamental work engagement and psychological contract (Naus, van Iterson, & Roe, 2007), job commitment and emotional investment of the employees, to help the company which the employees work to improve longevity and performances (Bakker & Schaufeli, 2008).

This research, employee loyalty is measured by the perceptions of the construction workers relating to their preferences of attachment to the construction company for future construction work project, as the best organization to work for, and the attitude of proudness to tell others about the organization, i.e. as a great construction company to work for, and shows the willingness to put in extra effort to deliver the construction project on time.

### 1.4.5 Job Satisfaction

Job satisfaction refers to the employee's attitude towards the job and the organization, which focuses on the global attitude towards the job and the organization, i.e. satisfaction on overall issues, towards company policy, and relating to relationships with colleagues and supervisors, wages, ethics of the company, job security, happiness in the work, and working environment that is safety, friendly, supportive.

### 1.4.6 Perceived Performance

Perceived performance refers to the perceptions of the workers over, for instance, the job-related performances, i.e. on-time delivery of construction project, the maintainability of zero accidents, and the quality of the construction works matching the specified standards. In other words, perceived performance can be used to reflect the effectiveness with which workers perform their activities that contribute to the construction company (Borman & Motowidlo, 1997). In addition, the perceived performance can also be used as proxy to measure the effectiveness of operational strategies and organizational policies in the workplaces in the midst of new demands and rapid changes (Ashford & Taylor, 1990).

## 1.5 Overview of Research Design and Methodology

Based on the research objective stated, an inductive-deductive research approach (Tan, 2015) is used. The design phase is sequential in nature, with deductive survey following an inductive interview. Interviews, focusing on the on-site supervisors, are used to identify the themes and patterns of themes. The themes and patterns of themes then become the key words from which literature review is reviewed to provide the necessary theoretical context and validity-supporting arguments for the research as well as guides for survey instrument design.

The data of this research were collected from the construction workers in Chiang Rai province. There are three places of construction sites that the data were collected which are small, medium, and large construction companies. A total of 270 workers participated in the survey. First company, the smallest construction company contains about 20 construction workers, the second company contains about 50 construction workers and the last which is the biggest company in Chiang Rai, contains more than a hundred construction workers. All 270 participants are involved in the questionnaire of completion for the statistical analysis. The three chosen construction companies represent the diversity of construction workers that cover the different kinds of job demand scenarios and possible resources given.

The data collected would be subjected data analysis by the using of SPSS version 20, which include bivarate analysis that studies the differences between sample groups, measures of association, and also multivariate statistical analysis, i.e. multivariate procedures and exploratory factor analysis. Factor analysis is a generic name given to a class of techniques whose purpose often consists of data reduction and summarization. Used in this way, the objective is to represent a set of observed variables in terms of smaller number of hypothetical, underlying, and unknown dimensions called factors (Smith & Albaum, 2005).

## 1.6 Ethical Procedure

The social sciences differ from some other physical sciences in that research deals with people (Maruyama & Ryan, 2014), which may be affected cognitively or emotionally, for the immediate or long-term terms, in a variety of scopes, i.e. careers, social communities, and life (Tan, 2015). Thus, research that involves the study of people and their perceptions are often subjected to strict ethical protocols and procedures. Fundamental ethical protocols which this research follows includes respecting the rights of the workers, maintaining confidentiality (i.e. not sharing the information given out by the respondents to any parties) and autonomy (i.e. absolutely not identifying characteristics of the data recorded so that it would be impossible for even the researcher to determine who contributed a given piece of data) of all the participants in the research participation, from interviews to questionnaire-based surveys, and seeking the informed consent from the workers who are freely and voluntarily choosing to participate in the research. Thus, no coercion of any sorts is allowed in the research process.

Apart from the deontological guidelines, i.e. in autonomy and willingness in the participation, as discussed above, the researcher acknowledges to the participants on the utility aspects of their participations (cf. Tan, 2015). In other words, the research is able to provide the benefits to inform the industries of construction the theoretical finding of the research to help them provide better facilitation and design suitable human resource policies to deliver the well-beings of the workers and the employees in

general. In addition, this research also maintains the justice principle which means all the workers at the site are participated, and thus the researchers would not purposely seek representative samples and avoid choosing certain groups of participants.

## 1.7 Limitation

There are other resources that are not incorporated due to aspects not revealed when discussed with the on-site supervisors in the possible nature and relevancy of job demands, job resources, job satisfaction, employee loyalty and perceived performance. Nevertheless, judging at the exploratory nature and objective level of this research, it is justifiable to explore the views of the labor workforces, including the on-site supervisors. The future research should consider the view of the project manager which could help to expand the understanding of the research phenomena examined in this research further. For instance, job resources and demands could be synthesized from among the views of the project managers that influence the productivity of the construction industry, which Makulsawatudom and Emsley (2001) identify as follows: lack of material, incomplete drawing, inspection delay, incompetent supervisors, instruction time, lack of tools and equipment, poor communication, poor site conditions, rework, and other factors such as cash flow problems and project co-ordination. Clearly, many of these are factors of resources which could influence the state of job satisfaction and thus loyalty. Nevertheless, from the statistical perspective, the inclusion of more relevant factors would only help improve the R-squared and thus would not in any way render this research lower in standard, as research quality is based on validity, reliability and generalizability (Smith & Albaum, 2005).

## 1.8 Outline of the Research

This research follows the five chapter model suggested by Perry (2000). Chapter one introduces the core research issues and sets the scene by outlining the research objective and the hypotheses that guide the research. Specifically, Chapter one justifies the research, provides the industry and theoretical background for the research.

Additionally, it provides information to the definitions utilized and limitations of this research.

The second chapter reviews the related literature which shows a diverse range of constructs or variables involved. Constructs or variables are the building blocks for theoretical conceptual model and capture the essential concepts to help enlighten the understanding of the research phenomena studied.

Chapter three presents the research design and methodology. This research uses mixed method at the questionnaire development stage. Chapter three also outlines the criteria for participant selection along with introducing the rationality for inductive and deductive approach of the research design. Questionnaire design is discussed which includes the outcomes of the exploratory factor analysis and reliability examination.

The fourth chapter analyzes the data collected and results are presented in both descriptive and inferential dimensions. The final chapter reports the conclusion and implications to be drawn from the data analyses.

## 1.9 Summary

In this chapter has laid the foundations of the research. It has clearly outlined the research objective and the hypotheses and demographics oriented research question needed to clarify the research phenomena. Both theoretical and practical background and justification provide the contexts of this research. On these foundations, the research proceeds in the following chapters with a detailed description of the research conducted.

# CHAPTER 2

# LITERATURE REVIEW

## 2.1 Introduction

The purpose of this chapter is to chart the body of knowledge about the interrelationship structure among job demands, job resources, job satisfaction, employee loyalty and perceived performance, from the views of the labor workforce in a regional construction industry, located in Chiang Rai, Thailand. While there is wide literature coverage of the construction industry, the research to date has not addressed job resources and demand and their relevancy and impact to job satisfaction, employee loyalty and perceived performance for the construction industry. Majority of the published works in the construction industry context involve operational topics of safety risk issues, accidents and injuries (Choi, 2015; Gurcanli, Billir, & Sevim, 2015; Pinto, 2014; Raheem & Issa, 2016; Zhang, Teizer, Pradhananga, & Eastman, 2015), occupational stress (Bowen, Edwards, Lingard, & Cattell, 2014), and occupational safety and health issues (Sousa, Almeida, & Dias, 2015).

The themes of job resources and job demands and how they are interrelated to other variables, i.e. job satisfaction and perceived performance, are the result of the interviews targeting at obtaining the views of the on-site supervisors, and thus, the literature review of this chapter is based on these themes. Finally, hypotheses and research question are raised from the literature which guide the remainder of this research.

## 2.2 Job Resources and Job Demands

Job demands (JD) and resources (R) are known as the JD-R Model (Bakker & Demerouti, 2014; Hackman & Oldham, 1975), which are important predictors to work performance. JD-R model is also known popularly as the Job Characteristics Model (JCM) first originated in Hackman and Oldham (1976), and its popularity and usefulness in the HRM and HRD fields are impressive, with citations over 4,500 times as of March 2014 (cf. Hernaus & Mikulic, 2014). To fill the possible limitation of the JCM, this research considers the job-related aspects such as the physical, emotional and mental demand environments, and requirements and contexts as suggested by Hernaus and Mikulic (2014).

Fundamentally, JD-R model is an attempt to describe some of the important psychological conditions or needs that employee would like to see them being met, which, as inferred from Kahn (1990), could include the meaningfulness of JD-R, psychological safety and availability of the belief that the employees have the adequate physical and mental resources to engage the self at work. These characteristics provide the fundamental guiding principles for the operationalization of the JD-R constructs in this research. The three characteristics are rich in nature, being the result of reliable thematic analysis of the qualitative interviews-based research conducted by Kahn (1990).

Specifically, two dimensions of job resources are discussed in Bakker and Demerouti (2008), namely job resources in general and the personal resources of the employees. The former identifies those aspects of the jobs performed by the employees that would allow them to gain control and achieve job goals, i.e. feedback (Hallberg & Schaufeli, 2006). The latter describes the self-efficacy and the participatory allowances given to make decision so as to exert control over the task environment.

These two dimensional concepts would be exploited in this research so that construct validity could be ensured.

On the job resource domain, this research would include supervisor relationship with the employees, colleague relationship, autonomy, wages and the role of the

company played in the areas of policy, regulation, compatibility and ethics. For autonomy, it is referred to as the discretionary degree of freedom given to the employees in job-related decision making (Hackman & Oldham, 1975). At the personal resource level, this research adapts the contents that include, for instance, pride in the job and the participatory decision-making resources made available in the jobs and task environments.

Relational resources attributable from the colleagues would need further explanation. As shown in Bartel (2001), these relationships can help to deepen and affirm the meaningfulness of the works as well. Other researchers, for instance, Rosso, Dekas, and Wrzesniewski (2010), assert that work relationship among colleagues foster and nurture the feelings of belongingness which leads to loyalty (cf. Dutton, 2003; Dutton & Heaphy, 2003; Dutton, Worline, Frost, & Lilius, 2006) by the fundamental association in a preferred identity. This hypothetical inference would also be examined in this research by the use of quantitative-based survey in a case organization representative of the construction businesses in Chiang Rai, Thailand.

The role relational resources (i.e. colleague relationship) played in influencing job satisfaction and state of loyalty, and the proximal job performance, also allows the research to bridge the uses of "Social Exchange Theory" (SET, Blau, 1964). Fundamentally, SET stresses on social reciprocation among the colleagues as conductive working conditions, such as for information sharing (Kankanhalli, Tan, & Kwok-Kee, 2005), in order to improve overall work performance (Lee & Kim, 1999).

On the job demand situation, it can be represented for instance by a number of environmental variables:

1. Job challenge which is referred to high workload or job responsibility needed mental ability (Cavanaugh, Boswell, Roehling, & Boudreau, 2000). Depending upon the personal resources and other job-related resources made possible by the organization, job challenge could be stimulatingly motivating as it provides the channels for personal growth and accomplishment (Lazarus & Folkman, 1984), and challenges the employees to be more critical in approach for solutions (LePine, Podsakoff, & LePin, 2005).

2. Job pressure which influences the employee's level of effort, i.e. the relational resources needed to perform (Wood, 1989).

3. Variety of the job that promotes meaningfulness (Kahn, 1990), including variety of skills (Hakanen, Bakker, & Schaufeli, 2006).

4. Meaningfulness perceived by the employees is an important characteristics of the job demand as it stimulates the employees' sense of physical, cognitive, or emotional energies (Kahn, 1990), to deal with the physical demand, as well as the emotional and mental demands of the jobs. The physical demand and emotional, mental demands of the jobs, together with workload and work pressure, are stressed in this research.

## 2.3 Job Satisfaction

When an employee is satisfied, he or she manifests the fulfillment resulted from the match with his or her needs, wants or desires (Morse, 1997), as well as likeness of the assigned job (Spector, 1997).

A two-day online survey, between April 16 and May 15, 2012, by Right Management, which is a subsidiary of the giant staffing firm Manpower Group (Forbes, 2012), on 411 workers in the U.S. and Canada, shows that only 19 per cent of them are satisfied with their jobs, 16% on the somewhat satisfactory scale, and 21% somewhat unsatisfied, and 44% are unsatisfied. This makes the study of employee satisfaction extremely important, in particular, for an emerging state like Chiang Rai, located in the Northern part of Thailand, is trying to establish its competitive advantage and the competent ability to be independent in developing its infrastructural industries.

An attempt on the literature review can easily reveal that:

1. Culture of organization (Bhatti & Qureshi, 2007).

2. Leadership that raises the work performance (Drucker, 1985).

3. Spirituality in the workplace that provides hope and positive motivation to the employees (Fry, Vitucci, & Cedillo, 2005).

Job design has been shown empirical to increase the level of job satisfaction (Hackman & Lawler, 1971), which also has motivational stimulation purpose (Humphrey, Nahrgang, & Morgeson, 2007).

Expectation levels of employees are also shown to influence the level of employee satisfaction (Sageer, Rafat, & Agarwal, 2012).

In particular, the expectation scopes and levels of the employees in terms of their perceived job resources, which are also considered useful in handling the perceived job demand situations, are considered in this research. Satisfaction states of the employees are also explained to affect, for instance, the affective bondage to the organization, manifested as employee loyalty (Cranny, Smith, & Stone, 1992). When employees are satisfied, organization becomes effective (Abid, Sarwar, Imran, Jabbar, & Hannan, 2013).

## 2.4 Employee Loyalty

This research could be seen as an empirical work by the exploitation of a representative case organization in Chiang Rai, Thailand, in construction project businesses, to study the validity of an employee loyalty model, which depicts an approach rooted in the interplaying roles of job resources and job demands, and employee satisfaction.

Employee loyalty and employee commitment to the organization are often used interchangeably by certain stream of researchers (cf. Brown, McHardy, McNabb, &Taylor, 2011) In addition, many times, the definitions on these terms include employee engagement which makes the definitional boundaries unclear (Hallberg & Schaufeli, 2006). Nevertheless, employee loyalty can often be considered as a broader umbrella term, or as overall psychological attachment or commitment the employees have towards the organization (Wan, 2013).

When employees or workers are loyal, the extant research results show that they can stimulate numerous benefits, such as from the employee level, or at group level, or at the organizational, or business level. At the individual employee level, a loyal worker or employee can allow the organization:

2.4.1 To exploit the inherent positive traits of the employees, such as in terms of conscientiousness and other proactive personality traits (Macey & Schneider, 2008).

2.4.2 To get the employees to involve actively in works and be empowered to deliver crucial roles (Macey & Schneider, 2008).

2.4.3 To engage the employees to participate on extra-role and duties (Macey & Schneider, 2008).

2.4.4 To have emotional attachment to the organization (Meyer & Allen, 1991).

2.4.5 To arouse higher level of employee participation (Ooi, Safa, & Arumugam, 2006).

2.4.6 To improve job performance (Meyer, Allen, & Smith, 1993).

2.4.7 To increase sales (Stairs & Galpin, 2010).

The extant research also discusses numerous factors that are considered as important drivers for employee loyalty. Nevertheless, the inclusion for coverage in the research study would depend on the context and the applications. For instance, this research would focus on the job resources and demands perspectives at the individual employee, interactive and relational level, and at the company level such as in terms of policies, regulations, compatibility issues and ethics.

Nevertheless, as a literature review, this section would try to list out as many of the important drivers as possible, which could also be potentials for further research, for instance: if employees are made aware of organizational goals, it stimulates their involvement and loyalty (Goris, Vaught, & Pettit, 2000).

When employees are positioned with the appropriate job demand situations, manifested in terms of autonomy, task variety, task significance and feedback, employees become engaged and performing better (Christian, et al., 2011).

## 2.5 Perceived Performance

Study of performance is a complicated issue, as this construct is multidimensional in nature, and depending upon the purpose of the research and its contextual variances, different operational procedures are needed. Performances could be measured at the proximal outcome domain i.e. task performance, or intermediate performance outcome levels i.e. customer service, or distal or organizational level, i.e. financial performance of the organization (cf. Sparrow, 2013). This research stresses

on both the proximal and intermediate performance outcome domain contributable by the employees on the works, i.e. on-time delivery of the construction project, and accident rates.

Employee performance is an important assessment criterion of a so-called effective HR (Human Resource) strategy (Sparrow & Balain, 2010). In numerous researches (cf. Kinicki & Kreitner, 2007; Koys, 2001; Tziner, 2006), employee performance can be significantly predicted by employee's job satisfaction.

## 2.6 Theoretical Model

This research attempts to study the structure of the antecedents to job satisfaction and its consequence described by employee loyalty and the perceived proximal and the intermediate performance outcomes. As work is the fundamental unit of activities for business success (Hernaus & Mikulic, 2014), job demands and job resources (JD-R) of work, would be employed as the antecedent determinants.

Specifically, the literature review can be summarized in the following theoretical conceptual model, which is consisted of three hypotheses raised and two research questions in order to provide a holistic picture to study the interplaying roles of job resources, personal resources and job demands in influencing job satisfaction and employee loyalty, and the perceived job performance created by the employees.
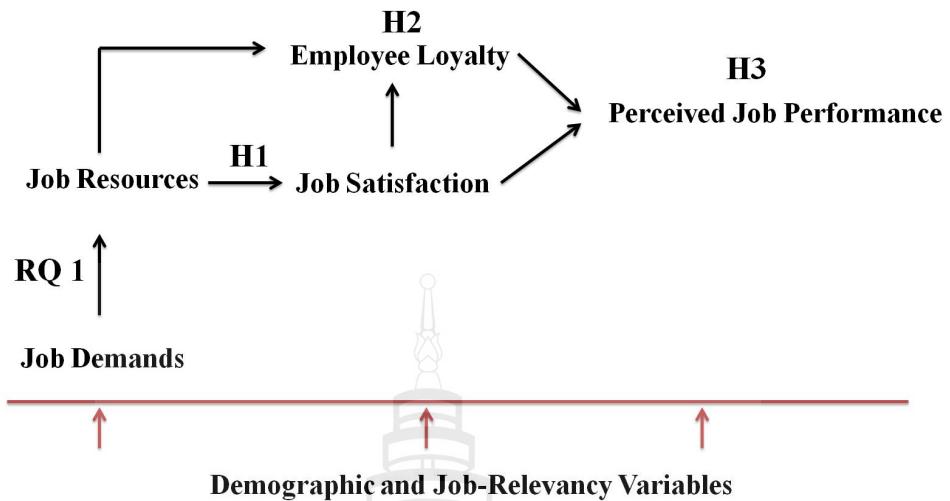
**Figure 2.1** Theoretical Conceptual Model

**2.6.1 Research Question 1 (RQ1):** What are the patterns of relationship between the different facets of job demands and resources available to the workers (both job and personal resources)?

**2.6.2 Hypothesis 1 (H1):** Job resources and personal resources can significantly explain the variance of job satisfaction.

**2.6.3 Hypothesis 2 (H2):** Both job satisfaction and its antecedent at job resources and personal resources levels, can significantly explain the variances of employee loyalty.

**2.6.4 Hypothesis 3 (H3):** Both employee loyalty and job satisfaction can significantly explain the variances of the perceived job performance.

Numerous demographics and job relevancy variables would be addressed to study their roles in the influence of the key variables of the conceptual model , namely gender, marital status, age groups, educational level, nationality, working position, ability (willingness) to work with hazardous risk, working experience, full-part or part-time status, congenital disorder, daily income level, and distance from home of the workers.

# CHAPTER 3

# RESEARCH METHOD

## 3.1 Introduction

This chapter discusses the research design and methods and justifies how they were selected. This research adopted a mixed method but the interviews based induction is used to help develop survey instrument. As job resources and demands or job characteristics that relate directly to construction context are very minimum and in general, and predominantly broad-based nature of task characteristics can be located in the extant literature, i.e., multi-skilled resource utilization (Arashpour, Wakefield, Blismas, & Minas, 2015), human resource-planning (Pournader, Tabassi, & Baloh, 2015), work integrated learning (Mazhar & Arain, 2015), interviews are appropriate approach to use to identify themes and patterns of themes to guide literature review.

## 3.2 Research Design

To decide on a research design procedure, first, epistemological issues must be made understandable and epistemological position be decided. According to Toohey (1952), epistemology is derived from the two Greek words "episteme" knowledge and "logos" science, which together means the science of knowledge, or the science of the certitude of human knowledge. By "certitude," Toohey (1952) stresses that researchers would need to be conscious in how researchers come to the conclusion on the truth of the phenomena investigated. In other words, epistemology is the theory of knowledge and justification for truth.

To position epistemology, researcher needs to respond to two critical questions, namely: "How do I know what I know?" and "How do I know that what I know is true" (Biggs & Tang, 2011). To address these questions, Biggs and Tang (2011) present two approaches, namely the deductive logic or inductive logic. The former involves taking a theory and testing it empirically to verify or refute it, and the latter involves accumulating evidence in support of a proposition, i.e., by arguing from specific instances to produce a generalized formula. This research exploits both approaches, but first challenging using inductive approach to shed light towards the possible themes that could include employee's job satisfaction and the state of loyalty, and then literature is reviewed to help provide a structure organization to the themes. Having established in the theoretical structure, questionnaire-based instruments are then developed so that research can collect data through maintaining a distanced epistemological relationship with the researched. This provides reliability measure to the research while the grounded themes and the structure of the themes provide the foundations for content validity, construct validity and internal validity.

Without epistemological consideration, there is no possible scientific reflection (Browaeys, 2004), and this holds true for also human resource development and management discipline. This research undertakes an inductive-deductive approach. Induction in the sense that themes are grounded from the empirical interviews-based data, and deduction, on the other hand, exploits using existing theories and published knowledge to inform the hypothetical knowledge needed to address the research objective. In this way, the researcher relies on functioning knowledge, from the empirical data ground as well as the existent bodies of knowledge, to provide the solid foundation of declarative or theoretical knowledge.

## 3.3 Sampling

The construction in this research is addressed to real-estate construction which includes activities in three main categories, namely residential (i.e. single-family dwelling, condominiums, and multi-family apartments), non-residential (i.e. consisting of retail and office buildings, industrial plants, and institutional buildings such as

schools constructions), and public works (i.e. building of streets, sewer systems, highways, bridges, and public projects other than buildings), and thus the rate of industry growth in a nation is closely tied to movements of employment and GDP of a nation (McKenzie, Betts, & Jensen, 2011). The GDP scenarios and the nature of contribution from the construction industry in Thailand are discussed in the Background section of this independent study.

In general, the construction industry is comprised of many small, independent builders and a few hundred large, corporate companies, which implies that in some less-populated areas homebuilding is a local operation (McKenzie, Betts, & Jensen, 2011).

The data of this research were collected from the construction workers in Chiang Rai province. There are three places of construction sites that the data were collected which are small, medium, and large construction companies. First company, the smallest construction company contains about 20 construction workers, the second company contains about 50 construction workers and the last which is the biggest company in Chiang Rai, contains more than a hundred construction workers. Out of the 150 survey, only ninety-seven are participants involved in the questionnaire of completion for the statistical analysis. The three chosen construction companies represent the diversity of construction workers that cover the different kinds of job demand scenarios and possible resources given.

Note that there are other resources that are not incorporated due to aspects not revealed when discussed with the on-site supervisors in the possible nature and relevancy of job demands, job resources, job satisfaction, employee loyalty and perceived performance. Nevertheless, judging at the exploratory nature and objective level of this research, it is justifiable to explore the views of the labor workforces, including the on-site supervisors. The future research should consider the view of the project manager which could help to expand the understanding of the research phenomena examined in this research further. For instance, job resources and demands could be synthesized from among the views of the project managers that influence the productivity of the construction industry, which Makulsawatudom and Emsley (2001) identify as follows: lack of material, incomplete drawing, inspection delay, incompetent supervisors, instruction time, lack of tools and equipment, poor communication, poor site conditions, rework, and other factors such as cash flow problems and project

co-ordination. Clearly, many of these are factors of resources which could influence the state of job satisfaction and thus loyalty. Nevertheless, from the statistical perspective, the inclusion of more relevant factors would only help improve the R-squared and thus would not in any way render this research lower in standard, as research quality is based on validity, reliability and generalizability (Smith & Albaum, 2005).

## 3.4 Ethics in Data Collection and Research

The ethical measures of this research are guided by the deontological principle of ethics i.e. non-forceful and anonymous participations of the employees. Deontological approach to ethics in research design and its execution is said to be stressed on the way the research is conducted – rather than on the outcomes i.e. who are benefited for the research (Brinkmann & Kvale, 2015). Strict conformance to the ethics protocols and getting the participants to be aware of the ethical issues and the preventive measures of the research ensure rapports with the participants. The ability to build rapport and to put the participants at ease provide the necessary content validity and reliability, which means it allows the participants to share scopes and depths of the phenomena under investigation (DeVault, 1990).

## 3.5 Survey Instrument Design

To design the measurement instrument to observe and study job resource-demand constructs, the definition advocated in Hackman and Oldham (1975) is referred to. Nevertheless, because fundamentally these constructs share the similar domains of characteristics that stimulate and motivate employees to commit and to perform, the growth, relatedness and existence domains of motivation of the ERG theory from Aldefer (1972), as well as Herzberg's (1966) two-factor in terms of motivators (that embrace the self-actualization and egoistic needs as advocated by Maslow, 1954, or growth aspect of Aldefer, 1972) and hygiene factors (relatedness of ERG theory or social needs of Maslow, 1972; and existence of ERG theory or safety and physical needs of Maslow, 1972), are also taking references. Thus, for content validity, these

motivational domains would be exploited in the development of the questionnaire items, and also partly they were informed by the interview-based data scripts and the thematic analysis of the data.

Job demands also incorporate many of the motivational driven concepts such as in terms of goal-setting motivation theory, but nevertheless, the themes and the contents share the similar findings from the thematic analytics of the qualitative interviews. Thus, tdhis also provides the necessary triangulation for validity and reliability purpose.

For goal, Rubin (2002) introduces SMART acronym to present the goal characteristics needed to help employees perform. In other words, job demands would also reflect the nature of the job and its goal-based challenges. Other research works from Locke and Latham (1990; 2002) are also addressed for use of the questionnaire instrument development. Job resources such as feedback which should be carefully designed in order to provide the employees on their progress in reaching their goals are studied by, for instance, taking references from Stajkovic and Luthans (2003), Williams, Miller, and Steelman (1999), and Zhou (1998). The use of supervisory feedback as positive reinforcement in job resources has been shown to provide positive impact on employee such as in terms of the job outcomes and performances expected (Austin, Kessler, Riccobone, & Bailey, 1996). The overall questionnaire items are shown in the Table 3.1.

**Table 3.1** Exploratory Factor Analysis and Reliability Analysis

| Construct | Questionnaire Items | References | Cronbach's Alpha |
|---|---|---|---|
| Job Demands: | | 1. Walt (2008) | **Total:** |
| | | 2. From interviews | **α = 0.856** |
| 1. Workload | 1. Too much workload at the work place | | **α = 0.722** |
| 2. Work Pressure | 2. Appropriate working hours | | |
| | 3. Too much overtime working hours | | |

**Table 3.1** (continued)

| Construct | Questionnaire Items | References | Cronbach's Alpha |
|---|---|---|---|
| | 4. Carrying too much of responsibilities | | |
| | 5. The work always needs to contact with difficult people | | |
| | 6. Needs to pay attention to many things at the same time | | |
| | 7. Work is always under the time pressure | | |
| | 8. Working in many tasks at the same time | | |
| | 9. Too much hazard risk of working | | |
| Physical Demands | 1. Working too much in an unusual posture | | **α = 0.671** |
| | 2. Moving or shifting too much for large and heavy construction materials | | |
| 1. Emotional 2. Mental Demands | 1. The construction job puts worker in emotionally upsetting situations | | **α = 0.826** |
| | 2. Work suffering due to the worker needs to take care of family | | |
| | 3. This job keeps worker from doing best for the family | | |
| Job Resources: | | 1. (Bakker, Emmerik, & Riet, 2008) | **Total: α = 0.966** |
| Supervisor Relationship | 1. There is a good interpersonal relationship with supervisor | 2. From interviews | **α = 0.801** |
| | 2. There is a difficulty for contacting to the supervisor | | |

**Table 3.1** (continued)

| Construct | Questionnaire Items | References | Cronbach's Alpha |
|-----------|---------------------|------------|------------------|
| | 3. Can count on supervisor when come across difficulties in work | | |
| | 4. Supervisor trains and guides the workers practicably | | |
| | 5. Supervisor oversees the workers appropriately | | |
| | 6. Supervisor understands and knows the workers' need | | |
| | 7. The suggestion is listened by supervisor | | |
| | 8. There is a good feedback from the supervisor | | |
| Colleague Relationship | 1. There is a good relationship with colleagues | | **α = 0.933** |
| | 2. Can count on colleagues when come across difficulties in work | | |
| | 3. There is a harmonious relationship among the colleagues | | |
| | 4. There is an encouragement comes from colleagues | | |
| | 5. Teamwork helps to achieve targeted work | | |
| | 6. Team working speed up the work | | |
| | 7. Brainstorming with colleagues helps solve the problems better than individual | | |

**Table 3.1** (continued)

| Construct | Questionnaire Items | References | Cronbach's Alpha |
|---|---|---|---|
| Autonomy | 1. There is a possibility of independent thought and action 2. Having freedom in doing the work activities | | **α = 0.724** |
| Role of Company 1. Policy 2. Regulation/ Compatibility 3. Ethics | 1. Construction materials and tools in the company are always ready, meaning well prepared for the current job 2. There are the fairness of regulations in the company 3. There is a good atmospheric environment at the workplace 4. There are good workplace safety rules 5. There are the good welfare conditions 6. Compatibility with company such as in terms of values and policy 7. Good working equality practices at the workplace 8. The company shows best interest of employees in mind 9. The company listens to what we have to say 10. The company disciplines workers who violate ethical standards 11. The company discusses business ethics or values with employees | | **α = 0.911** |

**Table 3.1**  (continued)

| Construct | Questionnaire Items | References | Cronbach's Alpha |
|---|---|---|---|
| Wages | 1. There is fairness of wage payment<br>2. There is adequacy of wages<br>3. Get paid enough for the work performed<br>4. Wages payments are always on-time<br>5. Can live comfortably on my wage | | **α = 0.859** |
| Personal Resources:<br><br>1. Pride in the Job<br>2. Willingness in Doing Job | 1. Interesting in construction work<br>2. Can use my expertise at the construction<br>3. Always well-prepared to work for the next day<br>4. There is a recognition from the job<br>5. Job is challenging<br>6. Job security and stability<br>7. Good opportunities for personal skills development<br>8. Good opportunity to be "promoted" | 1. (Bakker, Demerouti, De Boer, & Schaufeli, 2003)<br>2. (Bakker, Emmerik, & Riet, 2008)<br>3. From interviews | **Total:**<br>**α = 0.929**<br><br>**α = 0.912** |
| Decision Making of Workers/ Self-Determination | 1. There is a participation in deciding about the nature of the worker's work<br>2. There is a participation in deciding about when a piece of work must be completed | | **α = 0.788** |

**Table 3.1**  (continued)

| Construct | Questionnaire Items | References | Cronbach's Alpha |
|---|---|---|---|
| Job Satisfaction: | I am satisfied with … <br> 1. Overall <br> 2. Company policy <br> 3. Safety working environment <br> 4. Friendly working environment <br> 5. Supportive working environment – i.e. management listens and supports to the needs of workers <br> 6. Relationship with supervisors <br> 7. Relationship with colleagues <br> 8. Wages <br> 9. Ethics of the company <br> 10. Job security <br> 11. Happiness in the work | Developed by researcher, based on the interviews | **α = 0.944** |
| Perceived Performance: | 1. Always deliver the construction project on-time <br> 2. Always maintain zero accidents <br> 3. Quality of the construction work always matches the specified standards | Developed by researcher | **α = 0.746** |
| Loyalty: | 1. This company is always my first preference for future construction work project <br>  2. For me this company is the best of all possible construction companies for which to work <br> 3. I am proud to tell others about this company | Developed by researcher, based on interviews | **α = 0.911** |

**Table 3.1** (continued)

| Construct | Questionnaire Items | References | Cronbach's Alpha |
|---|---|---|---|
| | 4. I talk this construction company to my friends as a great construction company to work for | | |
| | 5. I am willing to put in extra effort to deliver the construction project on time | | |
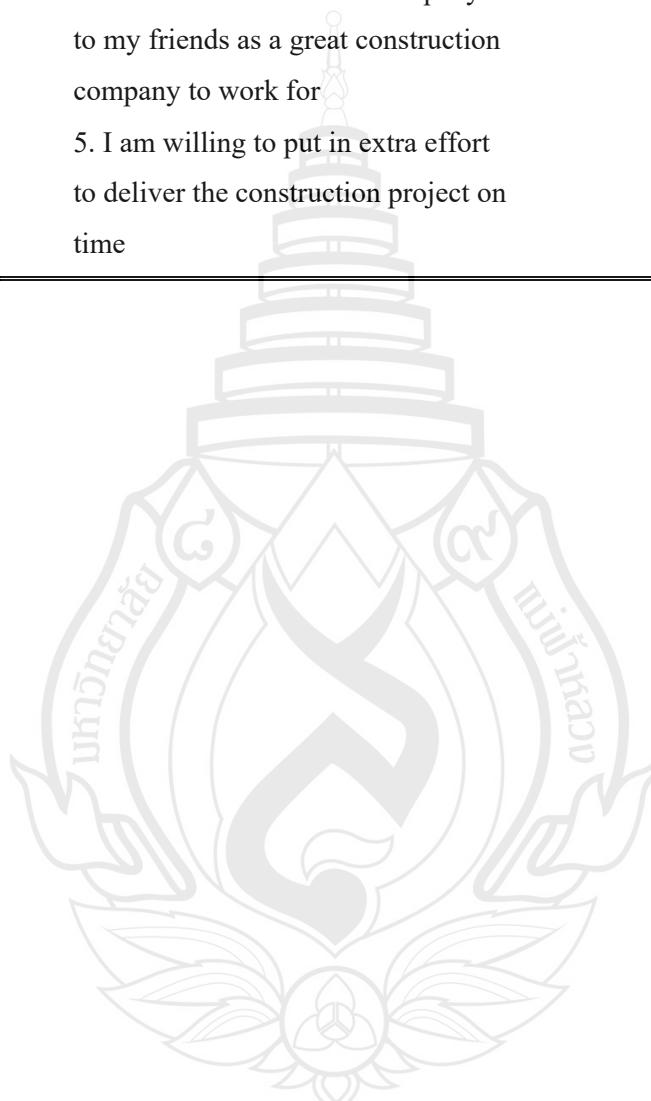
# CHAPTER 4

# RESULTS AND DISCUSSION

This section is laid in sequence order to address each of the hypotheses raised in the introductory literature review section, including the study of the significant roles played by the demographics and some of the job-relevancy variables in the variables discussed in this research. But, first, the demographic profiles of the participants of this survey are explained.

## 4.1 Demographic Profiles

Among the workers surveyed at the construction sites, 78.50% are male workers and the female workers at 21.50%, as shown in Figure 4.1.
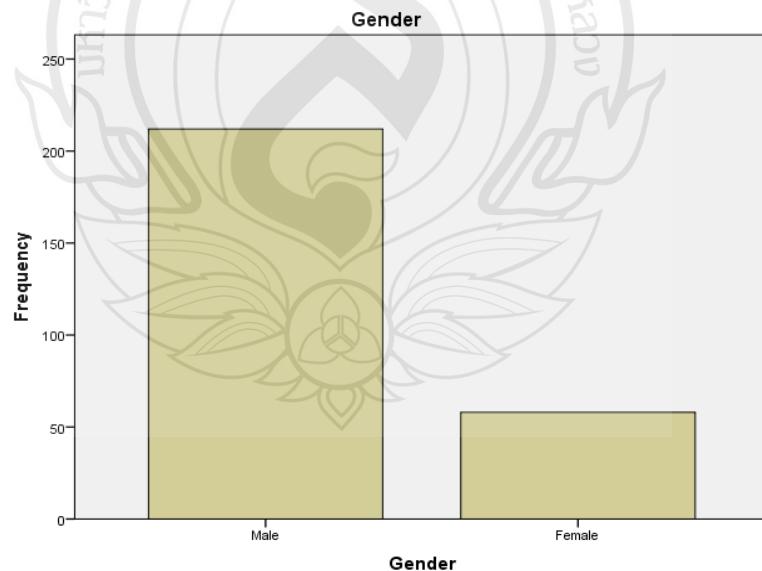


**Figure 4.1**  Gender Profile

Marital wise, as shown in Figure 4.2, the majority of the workers are married, at 59.60 percents, followed by single at 37.4 percents, with only 3% divorced.
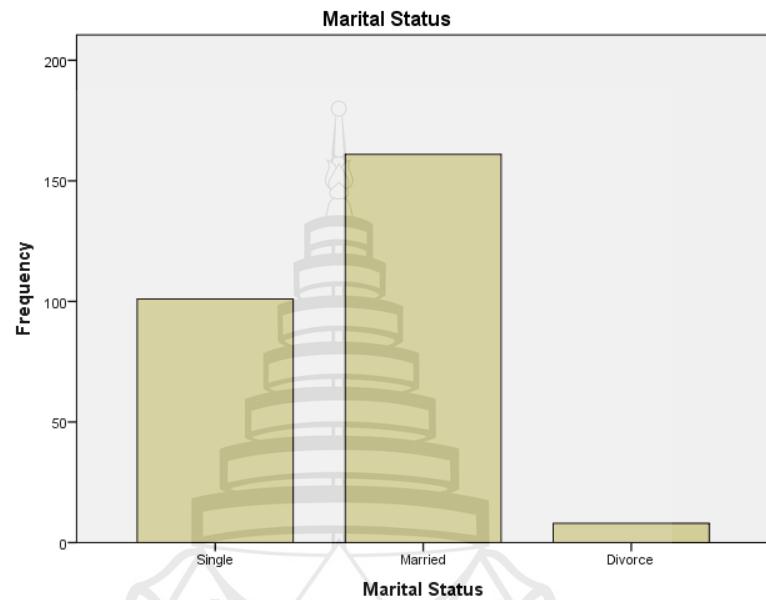


**Figure 4.2**  Marital Status of the Workers

In Figure 4.3, the age distributions of the workers who are surveyed are shown, represented by: the age ranges at 36-40 (22.60%), 31-35 (20.70%), 41-45 years old (18.10%), 26-30 and 46-50 (12.20%), 51-55 (5.90%), 21-25 (5.20%), ages under 20 (2.20%) and the ages between 56-60 years old at 0.70%.
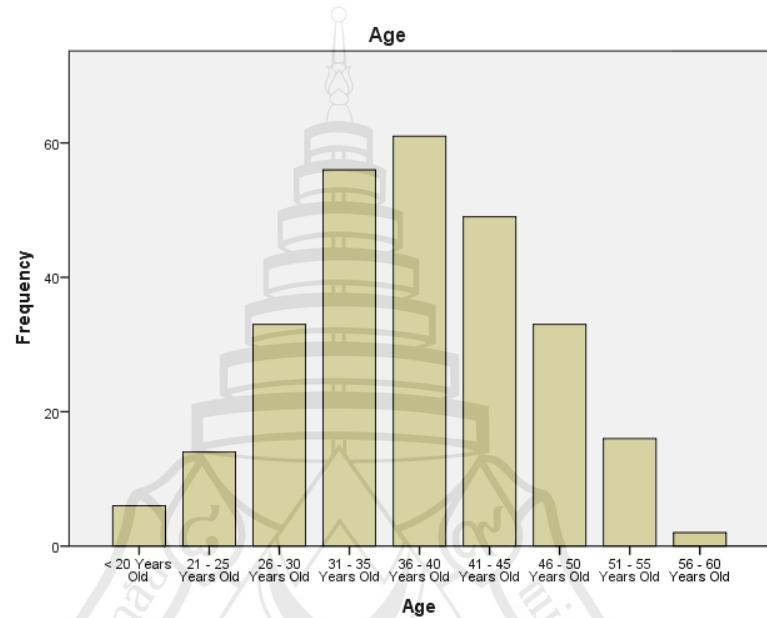


**Figure 4.3** Age of the Workers

Presented in Figure 4.4, the majority of the construction workers engaged at the construction worksites in the Chiang Rai Province of Thailand are Thai, standing at 94.40% and workers of Myanmar nationality have only 5.60%.
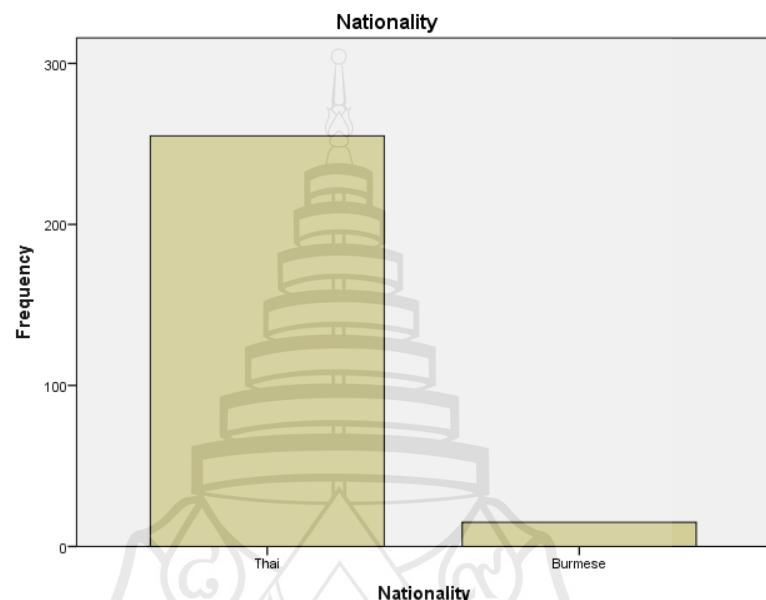


**Figure 4.4** Nationality

As shown in Figure 4.5, most of construction workers are graduated from primary school at 43.30%, followed by 34.10% of the construction workers who are graduated with high school diploma, and the least is the workers who are from the education of vocational college at 22.60%.
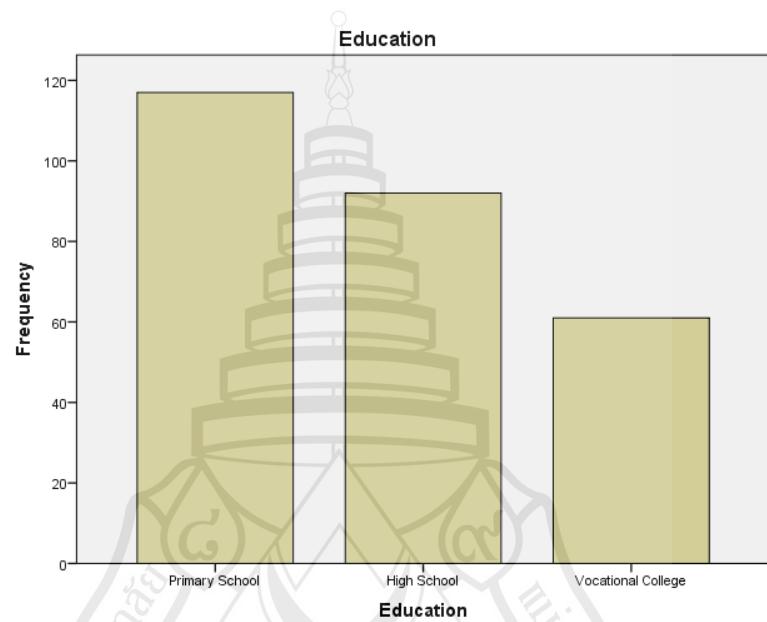


**Figure 4.5**  Education of the Workers

In Figure 4.6, it is known that majority of the workers surveyed are in the general work role, at 60%, followed by 14.10% of mason, 7% of carpenter, 6.70% of smith, 5.50% of the workers who do more than one position at the workplace, 4.40% of painter, 1.90% of electrician, and 0.40% of plumber and foreman.
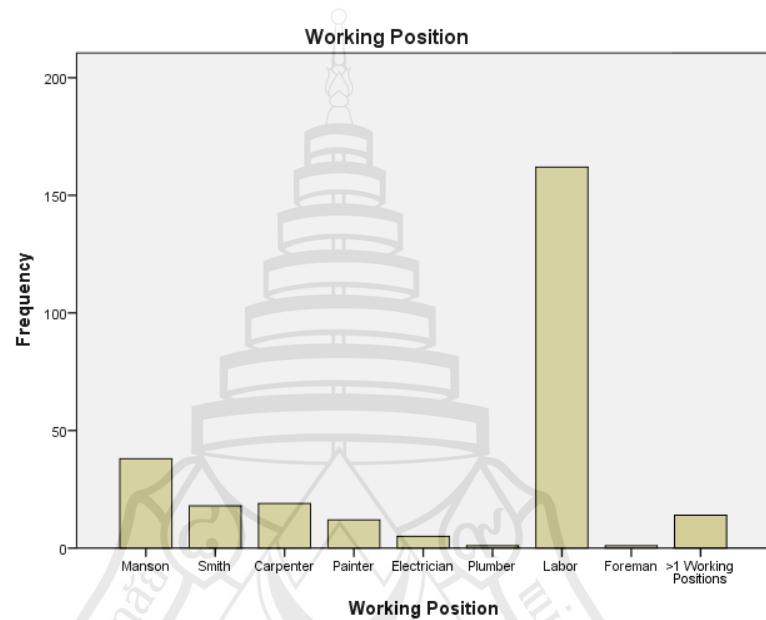


**Figure 4.6** Working Position for the Construction Worker at the Workplace

As presented in Figure 4.7, the majority of construction workers surveyed can work or deal with hazardous risks at the workplace by 70%, and only 30% of the workers who indicate that they cannot work with hazard risk.



**Figure 4.7** Workers' Ability (can Work with Hazard Risk)

Among the workers surveyed, as shown in Figure 4.8, those of more than 9 years at 17%, followed by 6-7 years (16.30%), 4-5 years (15.60%), 8-9 years (14.10%), 5-6 years (13.30%), 2-3 years (9.60%), 3-4 years (7.40%), 1-2 years (only 3.70%) and under 1 year (only 3%) of working experience respectively.



**Figure 4.8** Working Experience

Around half of the construction workers, as shown in Figure 4.9, are full-time workers (51.9%), and another half are part-time workers (48.1%).
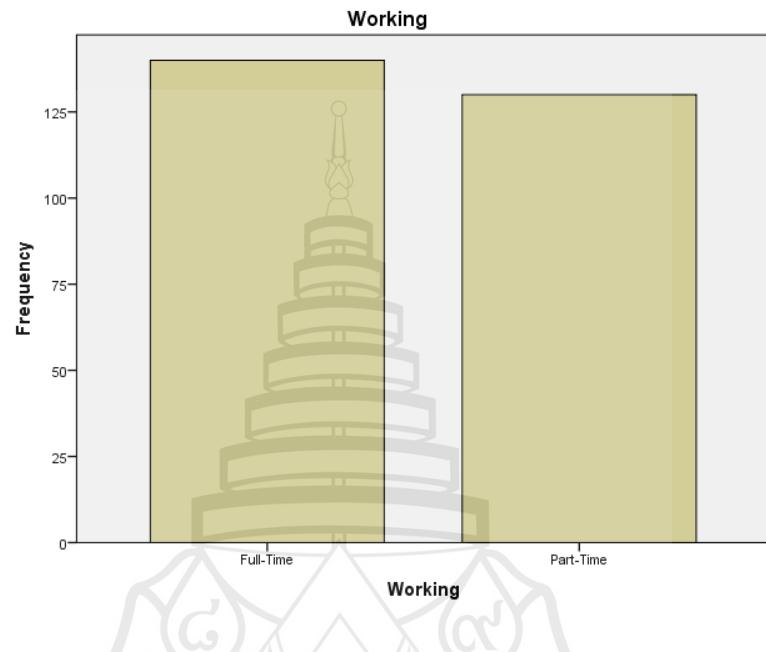


**Figure 4.9** Working as Full-time and Part-time job

As shown in Figure 4.10, most of the construction workers have not had any the congenital disorder at 76.70%. Few of the workers face with the problem of fibromyalgia or muscle strain at 10.70% and 5.60% face with the arthralgia or arthritis which might be the effect from the workload or work pressure and physical demands. Another congenital disorder workers face is gastritis (3.30%) including respiratory diseases which few of workers have, at 1.10%. Having more than one congenital disorder is at 0.70% while the workers who have hypertension as the congenital disorder are only at 0.40%.
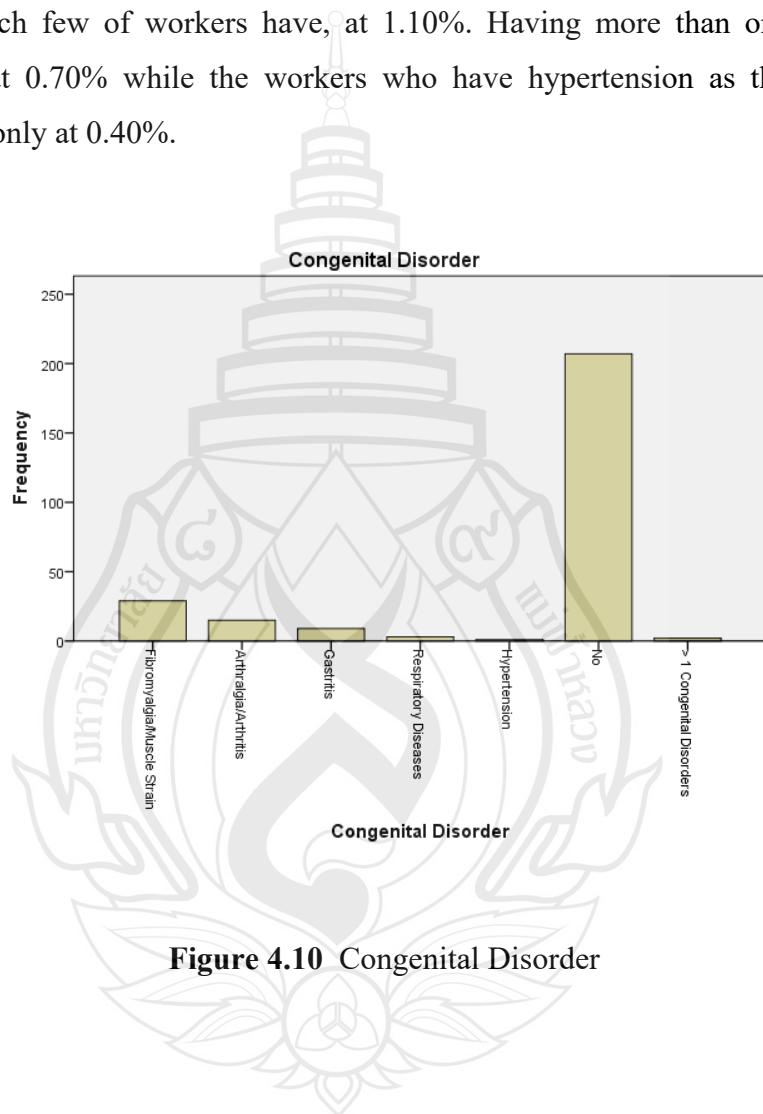


**Figure 4.10** Congenital Disorder

At this juncture, Chiang Rai Province has a basic or common daily income for general work at 300 Baht. In Figure 4.11, the majority of the workers surveyed have daily income in between 300 and 350 Baht (60.40%), followed by 351-400 Baht (22.20%), 401-450 Baht (12.60%), 451-500 Baht (3.70%), 501-550 Baht (0.70%), and 651-700 Baht (only 0.40%). The level of daily incomes of the workers is determined by the specific skills or/and working position of the workers in the organization.
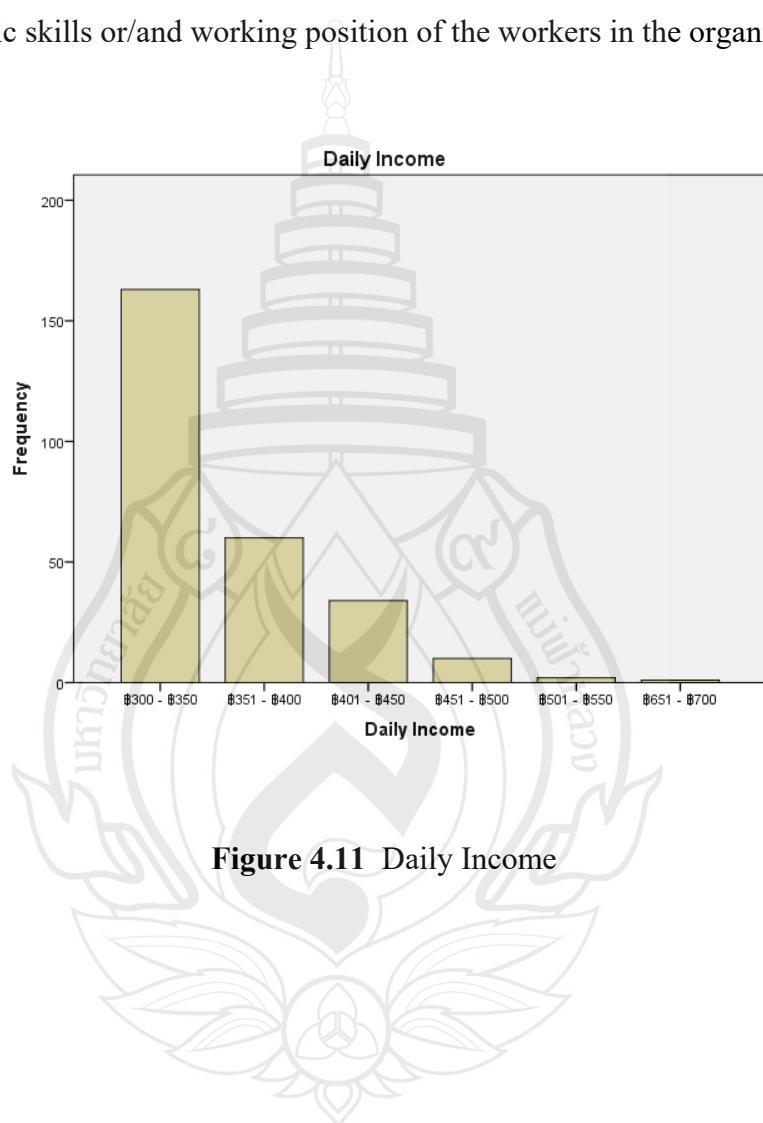


**Figure 4.11** Daily Income

As indicated in Figure 4.12, most of the workers live in the distance of 6-10 Km. (35.60%) from the living place to the workplace or construction site which the workers work for. The distance of 6-10 Km. is neither too near nor far for the construction workers which the workers can go to work at the construction site by the motorcycle. The Following is at 11-15 Km. (25.20%), less than 5 Km. (16.70%), 16-20 Km. (9.60%), 21-25 Km. (7%), and more than 26 Km. (5.90%).
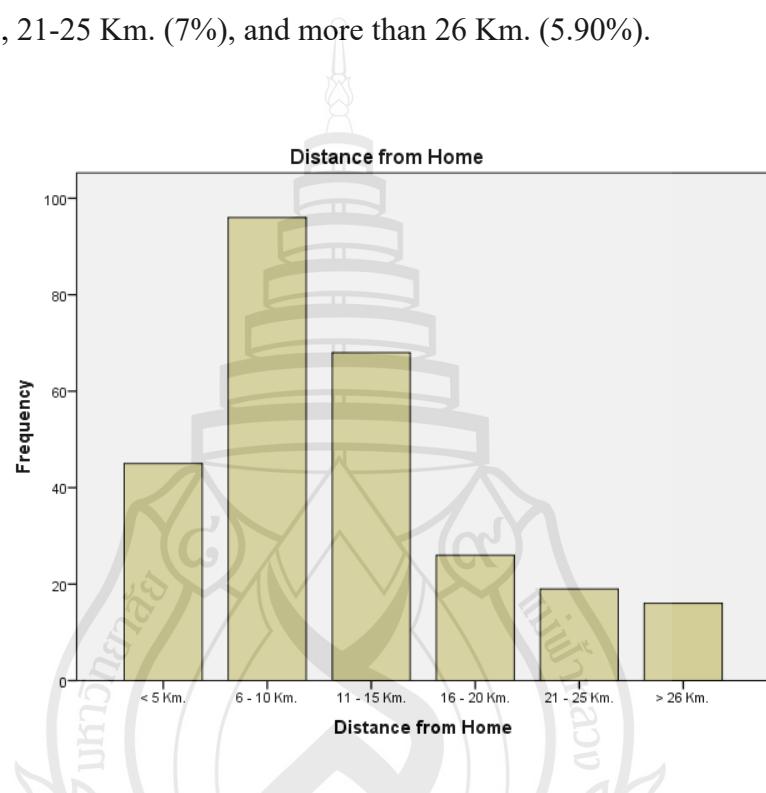
**Figure 4.12** Distance from Home

## 4.2 Concluding Research Question 1

Research question 1 is attempted to address to identify the pattern of relationship between job demand and job nature.

To address this question, factor analysis is first used, which helps to identify the representative variables from among the questionnaire items that load to form distinctive factors, already being presented in Chapter Three. Two types of resources are identified, namely personal resources and job resources, and both can collectively represent the resources available to each of the workers, represented by 0.472JR (Job Resource) + 0.547 PR (Personal Resource), as shown in Figure 4.13.
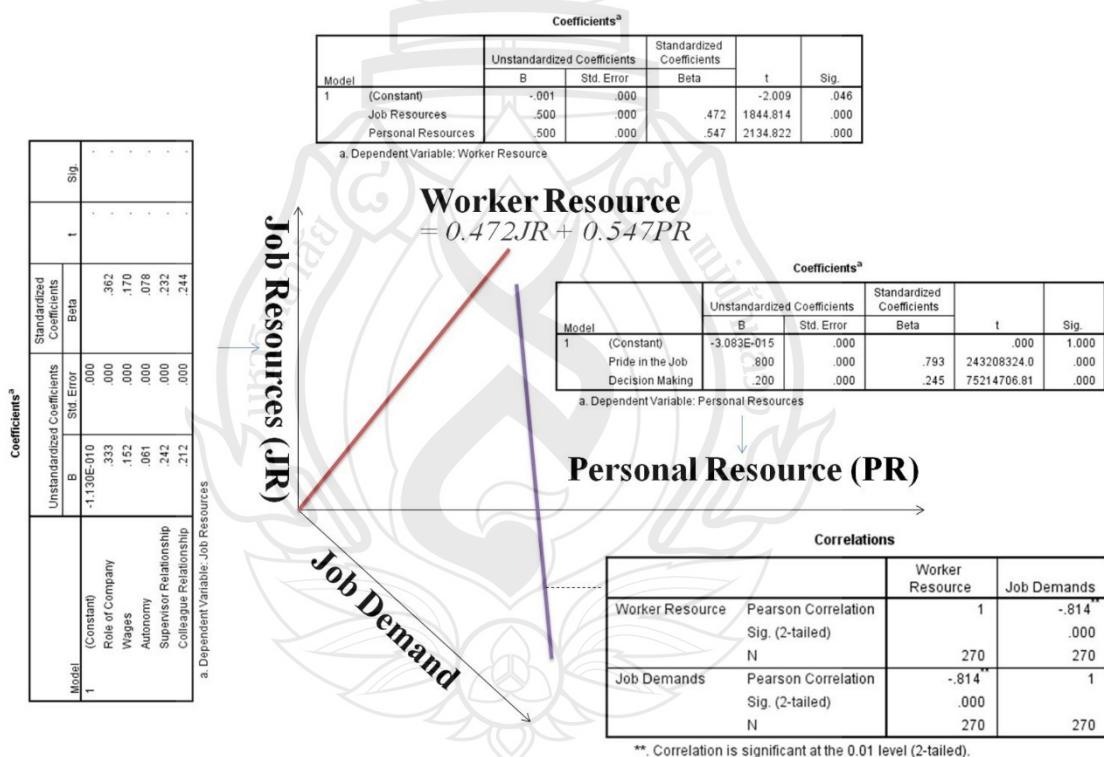


**Figure 4.13** The Inverse Relationship between Job Demand and Worker Resource

Specifically, personal resource is represented by 0.793 of price in the job, i.e. interesting in construction work, can use the expertise at the construction, always well-prepared to work for the next day, there is a recognition from the job, job is challenging,

job security and stability, good opportunities for personal skills development, and good opportunity to be promoted, and 0.245 of decision making opportunity of workers, i.e. there is a participation in deciding about the nature of the worker's work and there is a participation in deciding about when a piece of work must be completed.

For construction work sites, the majority of the personal resources, as shown in Table 4.1, are intrinsically psychological in nature, driven by perceived opportunities and the confidence of personal skills that can be exploited and be matched with the relevancy of job requirements. The discretionary weight is low, at 0.245 as compared to pride of the job which is at 0.793, in characterizing the nature of personal resources.

**Table 4.1** Personal Resource Elements

**Coefficients[a]**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| 1 (Constant) | -3.997E-15 | .000 | | .000 | 1.000 |
| Pride in the Job | .800 | .000 | .793 | 253055901.460 | .000 |
| Decision Making | .200 | .000 | .245 | 78260172.683 | .000 |

**Note.** a. Dependent Variable: Personal Resources

In terms of factorized elements of job resource, there are a total of five elements, with the key variables being the role of company, at Beta weight of 0.362, and relationships with colleagues and supervisors, at Beta of 0.244 and 0.232, respectively. The other minor elements of job resource are wages, at Beta of 0.170, and autonomy, of the least role, at Beta of 0.078. The results of the Beta weights are shown in Table 4.2.

The role of company captures the perceptions of the workers towards the supports and invested actions of the organization in terms of HR and strategic policies,

regulations, ethical principles and equipments, such as, "the construction materials and tools of the construction company are always ready, meaning well-prepared for the current job," "there are fairness of regulations in the company," "there is a good atmospheric environment at the workplace," "there are good workplace safety rules," "there are good welfare conditions," "compatibility with company such as in terms of values and policy," "good working equality practices at the workplace," "the company shows best interest of employees in mind," "the company listens to what the employees have to say," "the company disciplines workers who violate ethical standards," and "the company discusses business ethics or values with employees." In the domain of job resources that deal with colleague relationships, perceptions are sought over, for instance, the supportability, harmonious relationship, encouragement, team working spirits and brainstorming advantages of the colleagues as job resources to accomplish the tasks at hand. Both the role of company and colleague relationships would have significant influence to influence the satisfaction state of the workers, as well as loyalty attitude and behaviors, to be discussed in the sequel. For other elements of job resources, it is recommended to refer back to the summary of the questionnaire items in Chapter Three.

**Table 4.2** Job Resource Elements

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -1.130E-10 | .000 | | . | . |
| | Role of Company | .333 | .000 | .362 | . | . |
| | Wages | .152 | .000 | .170 | . | . |
| | Autonomy | .061 | .000 | .078 | . | . |
| | Supervisor Relationship | .242 | .000 | .232 | . | . |

**Table 4.2**  (continued)

**Coefficients<sup>a</sup>**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Colleague Relationship | .212 | .000 | .244 | . | . |

**Note.**  a. Dependent Variable: Job Resources

Basically, question 1 is reflected by the inverse relationship patterns between the different facets of worker resources (both personal and job resources) and the three nature of the job demands, as shown in detail of the result of correlations analysis matrix in Table 4.3, or schematically in Figure 4.1.

**Table 4.3**  Correlations between Different Facets of Demands and Resources in Work

**Correlations**

| | | Workload/ Work Pressure |
|---|---|---|
| Workload/ Work Pressure | Pearson Correlation | 1 |
| | Sig. (2-tailed) | |
| | N | 270 |
| Physical Demands | Pearson Correlation | .582** |
| | Sig. (2-tailed) | .000 |
| | N | 270 |
| Emotional/ Mental Demands | Pearson Correlation | .728** |
| | Sig. (2-tailed) | .000 |
| | N | 270 |

**Table 4.3**  (continued)

**Correlations**

|  |  | Workload/ Work Pressure |
|---|---|---|
| Role of Company | Pearson Correlation | -.678** |
|  | Sig. (2-tailed) | .000 |
|  | N | 270 |
| Wages | Pearson Correlation | -.691** |
|  | Sig. (2-tailed) | .000 |
|  | N | 270 |
| Autonomy | Pearson Correlation | -.612** |
|  | Sig. (2-tailed) | .000 |
|  | N | 270 |
| Supervisor Relationship | Pearson Correlation | -.720** |
|  | Sig. (2-tailed) | .000 |
|  | N | 270 |
| Colleague Relationship | Pearson Correlation | -.768** |
|  | Sig. (2-tailed) | .000 |
|  | N | 270 |
| Pride in the Job | Pearson Correlation | -.724** |
|  | Sig. (2-tailed) | .000 |
|  | N | 270 |
| Decision Making | Pearson Correlation | -.629** |
|  | Sig. (2-tailed) | .000 |
|  | N | 270 |

**Note.**  ** Correlation is significant at the 0.01 level (2-tailed).

Two illustrative plots of two different variables are presented in Figures 4.14 and 4.15. Figure 4.14 shows the inverse relationship between Workload/Work Pressure (Job Demand) and Job Resources, represented by correlation coefficient of -0.765** (significant at 0.01 level, 2-tailed) and Figure 4.15 shows the inverse relationship between Workload/Work Pressure (Job Demand) and Personal Resources, represented by correlation coefficient at -0.728** (significant at 0.01 level, 2-tailed).
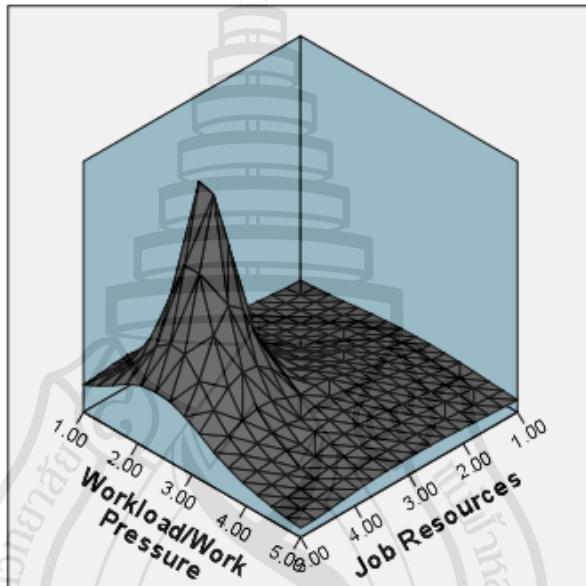


**Figure 4.14**   The Inverse Relationship between Workload / Work Pressure (Job Demand) and Job Resources
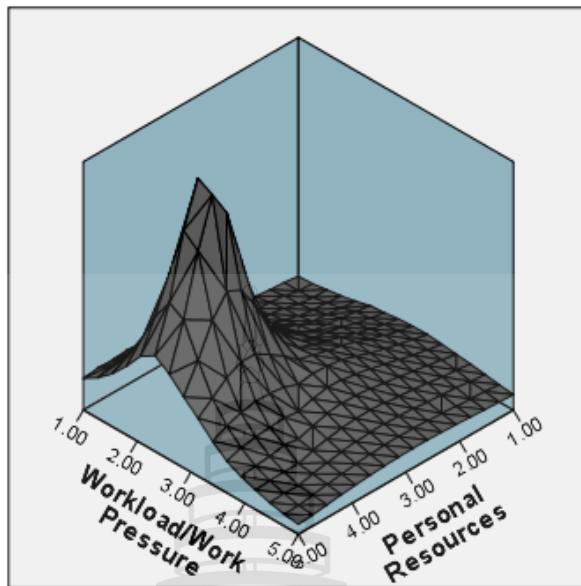
**Figure 4.15** The Inverse Relationship between Workload / Work Pressure (Job Demand) and Personal Resources

From the descriptive data, from the measurement five Likert scales "1" representing "strongly disagree" to "5" which represents "strongly agree," Table 4.4 shows that worker loyalty is in general high, at mean 4.0859, with standard deviation of 0.86124. In addition, the workers also agree that they have the supports of job resources, at mean of 3.8687 and standard deviation at 0.70762. Nevertheless, the descriptive data reveal that the construction companies that the respondents are associated with would need to focus to improve the personal resources of the workers especially in areas of pride in job, at mean of 3.8005, with standard deviation of 0.81192.

Job demands are measured which is to explain higher value to represent higher work load, or towards time pressure, hazardous risks of working, or requiring, for instance, moving or shifting too much for large and heavy construction materials. The inverse patterns of relationship between job and personal resources (at mean of 3.8687 and 3.7919, respectively) and job demands (at mean of 2.5902) indicate a general higher resources and lower demand job situations at the construction sites in Chiang Rai. Thus, the limitation of this research is that it is not able to reveal the other scenarios which

involve high job demand and high resources situations, which are typical cases for high work engagement (Bakker & Demerouti, 2007).

**Table 4.4** Descriptive Statistics of the Key Variables

**Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Worker Resources | 270 | 1.82 | 4.80 | 3.8297 | .74929 |
| Job Demands | 270 | 1.14 | 4.50 | 2.5902 | .59781 |
| Job Resources | 270 | 1.94 | 4.79 | 3.8687 | .70762 |
| Personal Resources | 270 | 1.50 | 4.90 | 3.7919 | .81915 |
| Job Satisfaction | 270 | 1.45 | 4.91 | 3.8114 | .83372 |
| Perceived Performance | 270 | 1.67 | 5.00 | 3.8395 | .74047 |
| Loyalty | 270 | 1.60 | 5.00 | 4.0859 | .86124 |
| Valid N (listwise) | 270 |  |  |  |  |

**Table 4.5** Descriptive Statistics of the Factorized Elements of Job and Personal Resources, and Job Demand

**Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Colleague Relationship | 270 | 1.71 | 5.00 | 4.2820 | .81387 |
| Wages | 270 | 1.60 | 5.00 | 3.9067 | .79189 |
| Autonomy | 270 | 1.00 | 5.00 | 3.8704 | .90837 |
| Pride in the Job | 270 | 1.50 | 5.00 | 3.8005 | .81192 |
| Supervisor Relationship | 270 | 2.00 | 5.00 | 3.7949 | .67690 |
| Decision Making | 270 | 1.00 | 5.00 | 3.7574 | 1.00438 |

**Table 4.5** (continued)

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Role of Company | 270 | 1.64 | 4.91 | 3.6418 | .76870 |
| Physical Demands | 270 | 1.00 | 5.00 | 3.2537 | .77573 |
| Workload/ Work Pressure | 270 | 1.22 | 4.33 | 2.6008 | .56879 |
| Emotional/ Mental Demands | 270 | 1.00 | 4.67 | 2.1160 | .90372 |
| Valid N (listwise) | 270 | | | | |

The descriptive outcomes in Tables 4.4 and 4.5 as well as the collective conclusion as presented in Figure 1 implies to the construction organization as follows: The managers should make efforts to identify the matching of JD-R (nature of Job Demands and Resources) and to try to rectify the job stresses induced by mismatching of JD-R and the inherent weaknesses of the current JD-R patterns.

Furthermore, from Table 4.6, is shown that there is also work of cross-interaction between the personal-level and job-level resources, which, for instance, implies that workers can be simulated to perceive positive attitudes towards the works and their ability to contribute and apply their competencies in the work settings, which they also perceive can lead them to promotion, by the supporting roles of the various aspects of job resources. In other words, the provision of physical (i.e. equipments and the necessary facilities), psychological (i.e. induced by good atmospheric environment in the workplace and that the organization listens provides channels of listens to the voices of the workers), social (i.e. productive supervisory relationship) and organizational (i.e. the company provides good welfare) resources can help to stimulate the intrinsic working of the personal resources, to drive productivity, satisfaction and loyalty.

**Table 4.6** Positive Correlations between Job Resources and Personal Resources

**Correlations**

|  |  | Job Resources |
| --- | --- | --- |
| Job Resources | Pearson Correlation | 1 |
|  | Sig. (2-tailed) |  |
|  | N | 270 |
| Personal Resources | Pearson Correlation | .926** |
|  | Sig. (2-tailed) | .000 |
|  | N | 270 |

**Note.** ** Correlation is significant at the 0.01 level (2-tailed).

## 4.3 Concluding Hypothesis 1

Hypothesis 1 (H1): Job resources and personal resources can significantly explain the variance of job satisfaction. H1 is supported at a very significant 90.9 percents of the variance, predicted by job resources represented by the role of the company, at Beta of 0.229, autonomy at Beta of 0.071, and supervisory relationship, at Beta of 0.105, and colleague relationship at Beta of 0.238, and personal resources represented by pride in job, at Beta of 0.176, and decision making authority of the workers at Beta of 0.098. The result of the multivariate regression analysis is shown in Table 4.7.

**Table 4.7** Multivariate Regression Analysis for Job Satisfaction Predicted by Job
Resources and Personal Resources Aspect

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .953[a] | .909 | .906 | .25629 |

**Note.**  a. Predictors: (Constant), Decision Making, Physical Demands, Autonomy,
Emotional/Mental Demands, Supervisor Relationship, Workload/
Work Pressure, Wages, Role of Company, Pride in the Job,
Colleague Relationship

b. Dependent Variable: Job Satisfaction

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 169.967 | 10 | 16.997 | 258.759 | .000[b] |
| | Residual | 17.013 | 259 | .066 | | |
| | Total | 186.979 | 269 | | | |

**Note.**  a. Dependent Variable: Job Satisfaction

b. Predictors: (Constant), Decision Making, Physical Demands, Autonomy,
Emotional/Mental Demands, Supervisor Relationship, Workload/
Work Pressure, Wages, Role of Company, Pride in the Job,
Colleague Relationship

**Table 4.7**  (continued)

| | Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | **B** | **Std. Error** | **Beta** | | |
| 1 | (Constant) | .148 | .277 | | .533 | .594 |
| | Workload/ Work Pressure | .025 | .048 | .017 | .516 | .606 |
| | Physical Demands | -.047 | .026 | -.044 | -1.777 | .077 |
| | Emotional/ Mental Demands | -.065 | .030 | -.070 | -2.190 | .029 |
| | Role of Company | .248 | .050 | .229 | 4.969 | .000 |
| | Wages | .053 | .044 | .050 | 1.204 | .230 |
| | Autonomy | .065 | .028 | .071 | 2.349 | .020 |
| | Supervisor Relationship | .129 | .047 | .105 | 2.775 | .006 |
| | Colleague Relationship | .244 | .052 | .238 | 4.737 | .000 |
| | Pride in the Job | .180 | .051 | .176 | 3.504 | .001 |
| | Decision Making | .082 | .028 | .098 | 2.963 | .003 |

Coefficients[a]

**Note.**  a. Dependent Variable: Job Satisfaction

Specifically, in this hypothesis, it can be known that workers provide the aspects of their assessments on job satisfaction in various aspects, for instance, towards company policy, wages, ethical principles of the company, job security, happiness in the work, and a working environment which stresses on safety, friendliness, and the supportive spirits of the management and the relational attractiveness of the working

environments. The significant predictors to job satisfaction, as indicated in Table 4.7, are notably the role of the company, supervisory and colleague relationships, and the other two aspects of personal resources, namely pride in the job and decision making.

Thus, the construction companies would need to particularly stress upon improving the standards of the roles provided, i.e., the readiness of the construction materials and tools to support the works of the workers, the fairness of regulations in the company, the good atmospheric environment at the workplace, the safety rules of the workplace, good welfare conditions, compatibility with the construction company in terms of values and policies, good working equality practices at the workplace, and the evidences the company listen to what the workers have to say. The organization should also not ignore the personal resources in an attempt to provide the necessary matching and alignment between the personal characteristics and the job characteristics. The personal resources, represented by pride in the job and decision making opportunities for jobs that may need emerging adjustments at the construction sites, would need to be the focal radar of the organization as the combined standard coefficient weights of the personal resources (Beta 0.176 + Beta 0.098) are higher than the role played by the role-of-the organization resources (Beta of 0.229), as indicated in Table 4.7.

In addition, at the current states, as presented in Table 4.8, the construction companies have performed below the agreeable expectation (below "4" scale) of the workers in most of the aspects of the predictors to job satisfaction, except colleague relationship, at a mean of 4.282.

**Table 4.8** Descriptive Profile of the Significant Predictors of Job Satisfaction

**Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Colleague Relationship | 270 | 1.71 | 5.00 | 4.2820 | .81387 |
| Autonomy | 270 | 1.00 | 5.00 | 3.8704 | .90837 |
| Pride in the Job | 270 | 1.50 | 5.00 | 3.8005 | .81192 |

**Table 4.8** (continued)

**Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Supervisor Relationship | 270 | 2.00 | 5.00 | 3.7949 | .67690 |
| Decision Making | 270 | 1.00 | 5.00 | 3.7574 | 1.00438 |
| Role of Company | 270 | 1.64 | 4.91 | 3.6418 | .76870 |
| Emotional/ Mental Demands | 270 | 1.00 | 4.67 | 2.1160 | .90372 |
| Valid N (listwise) | 270 |  |  |  |  |

## 4.4 Concluding Hypothesis 2

Hypothesis 2 (H2): Both job satisfaction and its antecedent at job resources and personal resources levels, can significantly explain the variances of employee loyalty. H2 is supported as reflected by the predictors shown in Table 4.9, which indicates the significant roles of both job and personal resources, represented by colleague relationship at Beta of 0.273 and pride in job at Beta of 0.217, respectively, and also job satisfaction, at Beta of 0.260. These predictors are able to explain 85.6 percents of the variance of loyalty of the workers to the company.

**Table 4.9** Multivariate Regression Analysis for Employee Loyalty Predicted by Job
Resources and Personal Resources

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .925[a] | .856 | .850 | .33366 |

**Note.** a. Predictors: (Constant), Decision Making, Physical Demands, Autonomy,
Emotional/Mental Demands, Supervisor Relationship, Workload/
Work Pressure, Wages, Role of Company, Pride in the Job,
Colleague Relationship, Job Satisfaction

b. Dependent Variable: Employee Loyalty

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 170.803 | 11 | 15.528 | 139.473 | .000[b] |
| | Residual | 28.723 | 258 | .111 | | |
| | Total | 199.527 | 269 | | | |

**Note.** a. Dependent Variable: Employee Loyalty

b. Predictors: (Constant), Decision Making, Physical Demands, Autonomy,
Emotional/Mental Demands, Supervisor Relationship, Workload/
Work Pressure, Wages, Role of Company, Pride in the Job,
Colleague Relationship, Job Satisfaction

**Table 4.9**  (continued)

**Coefficients[a]**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| 1 (Constant) | .164 | .361 | | .453 | .651 |
| Job Satisfaction | .269 | .081 | .260 | 3.320 | .001 |
| Workload/ Work Pressure | -.053 | .063 | -.035 | -.842 | .400 |
| Physical Demands | .003 | .034 | .003 | .092 | .927 |
| Emotional/ Mental Demands | .015 | .039 | .016 | .383 | .702 |
| Role of Company | -.007 | .068 | -.007 | -.108 | .914 |
| Wages | .077 | .057 | .071 | 1.351 | .178 |
| Autonomy | .053 | .037 | .056 | 1.461 | .145 |
| Supervisor Relationship | .051 | .061 | .040 | .825 | .410 |
| Colleague Relationship | .289 | .070 | .273 | 4.132 | .000 |
| Pride in the Job | .230 | .069 | .217 | 3.361 | .001 |
| Decision Making | .055 | .036 | .065 | 1.521 | .130 |

**Note.**  a. Dependent Variable: Employee Loyalty

Specifically, the visual evidences of how colleague relationship (with BETA of 0.273) in explaining the variance of worker loyalty, are presented in Figure 4.16 and of how job satisfaction (with BETA of 0.260) in explaining the variance of worker loyalty, are shown in Figure 4.17. Thus, it is important the construction companies attempt to foster a good harmonious working relationship, significantly of the workers and their colleagues, from which they can obtain the necessary encouragement in stressful or job-demanding environment and the necessary teamwork and intellectual sources for

brainstorming to help them speed up the work, and better to achieve targeted works at the construction sites. In addition, the construction companies should also put their attention on the key drivers to job satisfaction i.e. pride in the job, decision-making space and the role of company aspect of job resources, and the state of job satisfaction itself to develop and maintain worker loyalty.



**Figure 4.16**  Colleague Relationship Predicting Worker Loyalty
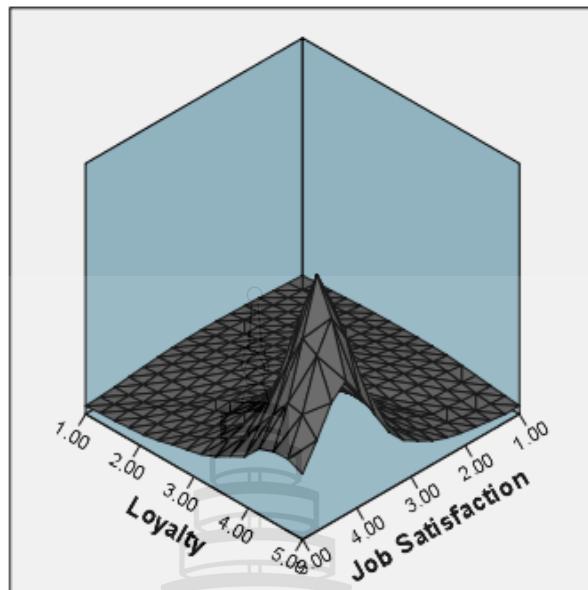
**Figure 4.17** Job Satisfaction Predicting Worker Loyalty

The descriptive profile of the predictors, in the descending order of significant role indicated by Beta coefficients, are presented in Table 4.10, which shows that colleague relationship is the key job resource, at a mean of 4.2820, followed by job satisfaction, at mean of 3.8114, and pride-in-the-job aspect of personal resource, at mean of 3.8005.

**Table 4.10** The Descriptive Profile of Significant Predictors to Worker Loyalty

**Descriptive Statistics**

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Colleague Relationship | 270 | 1.71 | 5.00 | 4.2820 | .81387 |
| Job Satisfaction | 270 | 1.45 | 4.91 | 3.8114 | .83372 |
| Pride in the Job | 270 | 1.50 | 5.00 | 3.8005 | .81192 |
| Valid N (listwise) | 270 |  |  |  |  |

Judging from the nature of the predictors, namely colleague relationship and job satisfaction, which is feeling in the former and evaluative in the latter, thus, worker loyalty is a psychological inclination that contains "feeling" (Boroff & Lewin, 1997) as well as evaluative consequences including attachment (Leck & Saunders, 1992) and commitment to the organization (Sverke & Goslinga, 2003). The evaluative characteristics of worker loyalty are reflected, for instance, in the measurement of this research by the perceptions of the workers over, "this company is always my first preference for future construction work project," and "for me this company is the best of all possible construction companies for which to work." In addition, worker loyalty also connotes the perceptions of workers towards, for instance, "I am willing to put in extra effort to deliver the construction project on time," which illuminates the commitment and organizational citizenship participation of the workers towards the organization (Diefendorff, Brown, Kamin, & Lord, 2002). This also implies in the further research effort to include other aspects of the consequences to worker loyalty beyond perceived performances of the workers, by including, for instance, organizational citizenship behaviors (Diefendorf et al. 2002).

## 4.5 Concluding Hypothesis 3

Hypothesis 3 (H3): Both employee loyalty and job satisfaction can significantly explain the variances of the perceived job performance. H3 is supported.

The multivariate regression analysis presented in Table 4.11 describes that both job satisfaction (with BETA 0.465) and employee loyalty (with BETA 0.368) can explain 65.9 per cent of the variance (R Square) of perceived performance, significance to F-value of 257.619. Thus, to influence job-related performance, for instance, in on-time delivery of construction project, the zero accidents on the job site and the quality of the construction work in matching the specified standards, the construction companies would need to ensure the creation of a favorable psychological state of feeling and commitment to the employees, represented by their loyalty and job satisfaction.

**Table 4.11** Multivariate Regression Analysis for Perceived Performance of the Construction Workers Arising from Job Satisfaction and Employee Loyalty

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .812[a] | .659 | .656 | .43422 |

**Note.** a. Predictors: (Constant), Job Satisfaction, Loyalty

b. Dependent Variable: Perceived Performance

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 97.147 | 2 | 48.574 | 257.619 | .000[b] |
| | Residual | 50.342 | 267 | .189 | | |
| | Total | 147.490 | 269 | | | |

**Note.** a. Dependent Variable: Perceived Performance

b. Predictors: (Constant), Job Satisfaction, Loyalty

**Table 4.11**  (continued)

<table>
<thead>
<tr><th colspan="6" align="center">Coefficients[a]</th></tr>
<tr><th rowspan="2">Model</th><th colspan="2">Unstandardized Coefficients</th><th>Standardized Coefficients</th><th rowspan="2">t</th><th rowspan="2">Sig.</th></tr>
<tr><th>B</th><th>Std. Error</th><th>Beta</th></tr>
</thead>
<tbody>
<tr><td>1   (Constant)</td><td>.973</td><td>.130</td><td></td><td>7.504</td><td>.000</td></tr>
<tr><td>Job Satisfaction</td><td>.413</td><td>.072</td><td>.465</td><td>5.725</td><td>.000</td></tr>
<tr><td>Loyalty</td><td>.316</td><td>.070</td><td>.368</td><td>4.524</td><td>.000</td></tr>
</tbody>
</table>

**Note.**   a. Dependent Variable: Perceived Performance

## 4.6 Concluding Demographic Variables

In this section, the t-test or ANOVA test would be used. T-test an effective statistics means to compare mean scores of the constructs between two groups, and ideally, the variance of the scores should be equal or homogeneous across the two populations, say, male and female workers, that correspond to the samples that are compared in the study. Nevertheless, the independent samples t tests is fairly robust to violations of some of these assumptions, and the results indicated in t and sig. would thus not be significant differences. In view of this and for the constraints of the spaces in presentation, the presented tables reflect only the case in which equal variances are not assumed. On the other hand, ANOVA stands for the one-way between-subjects analysis of variance which is used to compare means of the constructs across two or more groups.  The assumptions for one-way ANOVA are similar to those described for the independent samples t test. The scores on the quantitative dependent variable should be quantitative and, at least approximately, internal/ratio level of measurement. The scores should be approximately normally distributed in the entire sample and within each group, with no extreme outliers. The variance of scores should be approximately

equal across groups. Observations should be independent of each other, both within groups and between groups (Warner, 2013).

Numerous demographics and job relevancy variables would be discussed in this section, namely gender, marital status, age groups, educational level, nationality, working position, ability (willingness) to work with hazardous risk, working experience, full-part or part-time status, congenital disorder, daily income level, and distance from home of the workers.

### 4.6.1 Gender

In general, the t-test results on gender indicate that the female workers perceive higher level of job resources than their male counterparts, which those of particularly significant differences, as presented in Table 4.12, are those that relate to supervisory relationship and the supportive role of the company, for instance, in making readiness of construction materials and tools for the current job, including the fairness of regulations, good atmospheric environment at the workplace, safety rules and good welfare conditions, compatibility of values and policy between theirs and the organization, and equality practices at the workplace.

**Table 4.12** T-Test Results on Gender

| Group Statistics | | | | | | |
|---|---|---|---|---|---|---|
| | **Gender** | **N** | **Mean** | **Std. Deviation** | **t** | **Sig.** |
| Job Demands | Male | 212 | 2.5933 | .60227 | .166 | .868 |
| | Female | 58 | 2.5788 | .58623 | | |
| *Job Resources* | *Male* | *212* | *3.8235* | *.73797* | *-2.362* | *0.020* |
| | *Female* | *58* | *4.0340* | *.55833* | | |
| Personal Resources | Male | 212 | 3.7627 | .85030 | -0.1258 | 0.211 |
| | Female | 58 | 3.8983 | .68965 | | |
| Workload/ Work Pressure | Male | 212 | 2.6017 | .56622 | 0.046 | 0.963 |
| | Female | 58 | 2.5977 | .58307 | | |

**Table 4.12** (continued)

**Group Statistics**

| | Gender | N | Mean | Std. Deviation | t | Sig. |
|---|---|---|---|---|---|---|
| Physical Demands | Male | 212 | 3.2547 | .77504 | 0.041 | 0.968 |
| | Female | 58 | 3.2500 | .78500 | | |
| Emotional/ Mental Demands | Male | 212 | 2.1274 | .92592 | 0.420 | 0.676 |
| | Female | 58 | 2.0747 | .82373 | | |
| *Role of Company* | *Male* | *212* | *3.5845* | *.80479* | *-2.839* | *0.005* |
| | *Female* | *58* | *3.8511* | *.57815* | | |
| Wages | Male | 212 | 3.8679 | .83337 | -1.848 | 0.067 |
| | Female | 58 | 4.0483 | .60211 | | |
| Autonomy | Male | 212 | 3.8467 | .93704 | -0.898 | 0.371 |
| | Female | 58 | 3.9569 | .79629 | | |
| *Supervisor Relationship* | *Male* | *212* | *3.7465* | *.69110* | *-2.468* | *0.015* |
| | *Female* | *58* | *3.9720* | *.59468* | | |
| Colleague Relationship | Male | 212 | 4.2487 | .84663 | -1.467 | 0.145 |
| | Female | 58 | 4.4039 | .67333 | | |
| Pride in the Job | Male | 212 | 3.7742 | .84135 | -1.137 | 0.258 |
| | Female | 58 | 3.8966 | .69188 | | |
| Decision Making | Male | 212 | 3.7170 | 1.03955 | -1.414 | 0.160 |
| | Female | 58 | 3.9052 | .85562 | | |
| Job Satisfaction | Male | 212 | 3.7676 | .86810 | -1.909 | 0.059 |
| | Female | 58 | 3.9718 | .67628 | | |
| Perceived Performance | Male | 212 | 3.8050 | .74340 | -1.491 | 0.139 |
| | Female | 58 | 3.9655 | .72195 | | |

**Table 4.12**  (continued)

**Group Statistics**

|  | Gender | N | Mean | Std. Deviation | t | Sig. |
|---|---|---|---|---|---|---|
| Loyalty | Male | 212 | 4.0509 | .89742 | -1.463 | 0.146 |
|  | Female | 58 | 4.2138 | .70573 |  |  |

### 4.6.2 Marital Status

The result of the t-test shows that marital status, whether single or married, plays no significant role in influencing the perceptions and attitudes, or behaviors and performances of the jobs of the workers.

**Table 4.13**  T-Test on Marital Status

**Group Statistics**

|  | Marital Status | N | Mean | Std. Deviation | t | Sig. |
|---|---|---|---|---|---|---|
| Job Demands | Single | 101 | 2.6457 | .56242 | 1.170 | 0.243 |
|  | Married | 161 | 2.5581 | .63060 |  |  |
| Job Resources | Single | 101 | 3.8713 | .70762 | 0.173 | 0.863 |
|  | Married | 161 | 3.8556 | .72156 |  |  |
| Personal Resources | Single | 101 | 3.7743 | .84518 | -0.179 | 0.858 |
|  | Married | 161 | 3.7932 | .81364 |  |  |
| Workload/ Work Pressure | Single | 101 | 2.6590 | .54348 | 1.360 | 0.175 |
|  | Married | 161 | 2.5618 | .59333 |  |  |
| Physical Demands | Single | 101 | 3.3614 | .68234 | 1.720 | 0.087 |
|  | Married | 161 | 3.1988 | .83531 |  |  |

**Table 4.13**  (continued)

**Group Statistics**

| | Marital Status | N | Mean | Std. Deviation | t | Sig. |
|---|---|---|---|---|---|---|
| Emotional/ | Single | 101 | 2.1287 | .86019 | 0.076 | 0.939 |
| Mental Demands | Married | 161 | 2.1201 | .94469 | | |
| Role of Company | Single | 101 | 3.6715 | .77789 | 0.621 | 0.535 |
| | Married | 161 | 3.6104 | .76941 | | |
| Wages | Single | 101 | 3.9089 | .76813 | 0.170 | 0.865 |
| | Married | 161 | 3.8919 | .81609 | | |
| Autonomy | Single | 101 | 3.8614 | .88634 | -0.044 | 0.965 |
| | Married | 161 | 3.8665 | .92493 | | |
| Supervisor | Single | 101 | 3.7884 | .65996 | -0.05 | 0.960 |
| Relationship | Married | 161 | 3.7927 | .70297 | | |
| Colleague | Single | 101 | 4.2560 | .81724 | -0.268 | 0.789 |
| Relationship | Married | 161 | 4.2839 | .83054 | | |
| Pride in the Job | Single | 101 | 3.8007 | .83407 | 0.099 | 0.921 |
| | Married | 161 | 3.7904 | .80823 | | |
| Decision Making | Single | 101 | 3.6683 | 1.06601 | -1.038 | 0.301 |
| | Married | 161 | 3.8043 | .97656 | | |
| Job Satisfaction | Single | 101 | 3.8272 | .83513 | 0.360 | 0.719 |
| | Married | 161 | 3.7888 | .84395 | | |
| Perceived | Single | 101 | 3.8449 | .80078 | 0.235 | 0.814 |
| Performance | Married | 161 | 3.8219 | .71203 | | |

**Table 4.13**  (continued)

**Group Statistics**

|  | Marital Status | N | Mean | Std. Deviation | t | Sig. |
|---|---|---|---|---|---|---|
| Loyalty | Single | 101 | 4.0832 | .84060 | 0.102 | 0.919 |
|  | Married | 161 | 4.0720 | .88277 |  |  |

### 4.6.3 Ages of Workers

The interpretation of the significant differences across the different age groups is not straightforward. Although the ANOVA test results, as shown in Table 4.14, indicate significant differences for most of the variables involved, but in general, the trend is that the workers of "41-45 years old" group perceive they receive better supports of job resources, which also indicates higher levels of job satisfaction, loyalty and perceived performances, at a response scale over "4" ("Agreeable"), in five Likert Scale, from "1" ("Strongly disagree") to "5" ("Strongly agree").

**Table 4.14**  ANOVA on Age of Workers

|  |  | N | Mean | Std. Deviation | Std. Error | F | Sig. |
|---|---|---|---|---|---|---|---|
| Job | < 20 | 6 | 2.2143 | .12778 | .05216 |  |  |
| Demands | 21 - 25 | 14 | 2.5918 | .42251 | .11292 |  |  |
|  | 26 - 30 | 33 | 2.6299 | .67609 | .11769 |  |  |
|  | 31 - 35 | 56 | 2.7666 | .71785 | .09593 |  |  |
|  | 36 - 40 | 61 | 2.6944 | .56094 | .07182 | 2.872 | 0.04 |
|  | 41 - 45 | 49 | 2.4169 | .34668 | .04953 |  |  |
|  | 46 - 50 | 33 | 2.3485 | .67261 | .11709 |  |  |
|  | 51 - 55 | 16 | 2.5714 | .47809 | .11952 |  |  |
|  | 56 - 60 | 2 | 3.3214 | .65660 | .46429 |  |  |
|  | Total | 270 | 2.5902 | .59781 | .03638 |  |  |

**Table 4.14**  (continued)

| | | N | Mean | Std. Deviation | Std. Error | F | Sig. |
|---|---|---|---|---|---|---|---|
| Job | < 20 | 6 | 3.9848 | .32736 | .13364 | | |
| Resources | 21 - 25 | 14 | 3.9762 | .52192 | .13949 | | |
| | 26 - 30 | 33 | 3.9247 | .72181 | .12565 | | |
| | 31 - 35 | 56 | 3.6082 | .88381 | .11810 | | |
| | 36 - 40 | 61 | 3.7834 | .73993 | .09474 | 2.573 | 0.01 |
| | 41 - 45 | 49 | 4.1305 | .41041 | .05863 | | |
| | 46 - 50 | 33 | 3.9541 | .67041 | .11670 | | |
| | 51 - 55 | 16 | 3.9811 | .54353 | .13588 | | |
| | 56 - 60 | 2 | 3.0152 | 1.17851 | .83333 | | |
| | Total | 270 | 3.8687 | .70762 | .04306 | | |
| | | | | | | | |
| Personal | < 20 | 6 | 3.8000 | .45166 | .18439 | | |
| Resources | 21 - 25 | 14 | 3.6929 | .71410 | .19085 | | |
| | 26 - 30 | 33 | 3.8424 | .87786 | .15282 | | |
| | 31 - 35 | 56 | 3.5750 | 1.05041 | .14037 | | |
| | 36 - 40 | 61 | 3.8016 | .90636 | .11605 | 1.499 | 0.125 |
| | 41 - 45 | 49 | 4.0776 | .40787 | .05827 | | |
| | 46 - 50 | 33 | 3.7333 | .67485 | .11748 | | |
| | 51 - 55 | 16 | 3.8437 | .60108 | .15027 | | |
| | 56 - 60 | 2 | 2.9500 | 1.34350 | .95000 | | |
| | Total | 270 | 3.7919 | .81915 | .04985 | | |
| | | | | | | | |
| Workload/ | < 20 | 6 | 2.3148 | .12989 | .05303 | | |
| Work | 21 - 25 | 14 | 2.6825 | .49663 | .13273 | | |
| Pressure | 26 - 30 | 33 | 2.6768 | .60563 | .10543 | | |
| | 31 - 35 | 56 | 2.7401 | .67512 | .09022 | | |
| | 36 - 40 | 61 | 2.6612 | .52877 | .06770 | 2.210 | 0.027 |
| | 41 - 45 | 49 | 2.4308 | .35183 | .05026 | | |
| | 46 - 50 | 33 | 2.3973 | .67759 | .11795 | | |
| | 51 - 55 | 16 | 2.6319 | .48299 | .12075 | | |
| | 56 - 60 | 2 | 3.1667 | .70711 | .50000 | | |
| | Total | 270 | 2.6008 | .56879 | .03462 | | |

**Table 4.14**  (continued)

| | | N | Mean | Std. Deviation | Std. Error | F | Sig. |
|---|---|---|---|---|---|---|---|
| Physical | < 20 | 6 | 2.8333 | .68313 | .27889 | | |
| Demands | 21 - 25 | 14 | 3.1786 | .46439 | .12411 | | |
| | 26 - 30 | 33 | 3.1818 | .91701 | .15963 | | |
| | 31 - 35 | 56 | 3.4732 | .74113 | .09904 | | |
| | 36 - 40 | 61 | 3.3770 | .73403 | .09398 | 2.158 | 0.031 |
| | 41 - 45 | 49 | 3.2551 | .65449 | .09350 | | |
| | 46 - 50 | 33 | 2.9242 | .92805 | .16155 | | |
| | 51 - 55 | 16 | 3.0000 | .73030 | .18257 | | |
| | 56 - 60 | 2 | 3.7500 | 1.06066 | .75000 | | |
| | Total | 270 | 3.2537 | .77573 | .04721 | | |
| | | | | | | | |
| Emotional/ | < 20 | 6 | 1.5000 | .34960 | .14272 | | |
| Mental | 21 - 25 | 14 | 1.9286 | .61573 | .16456 | | |
| Demands | 26 - 30 | 33 | 2.1212 | .98184 | .17092 | | |
| | 31 - 35 | 56 | 2.3750 | 1.05613 | .14113 | | |
| | 36 - 40 | 61 | 2.3388 | .92994 | .11907 | 3.396 | 0.001 |
| | 41 - 45 | 49 | 1.8163 | .63487 | .09070 | | |
| | 46 - 50 | 33 | 1.8182 | .85021 | .14800 | | |
| | 51 - 55 | 16 | 2.1042 | .67461 | .16865 | | |
| | 56 - 60 | 2 | 3.5000 | .23570 | .16667 | | |
| | Total | 270 | 2.1160 | .90372 | .05500 | | |
| | | | | | | | |
| Role of | < 20 | 6 | 3.5606 | .69809 | .28499 | | |
| Company | 21 - 25 | 14 | 3.7143 | .68017 | .18178 | | |
| | 26 - 30 | 33 | 3.7466 | .77864 | .13554 | | |
| | 31 - 35 | 56 | 3.3847 | .91601 | .12241 | | |
| | 36 - 40 | 61 | 3.5678 | .78531 | .10055 | 2.151 | 0.032 |
| | 41 - 45 | 49 | 3.8980 | .48767 | .06967 | | |
| | 46 - 50 | 33 | 3.6997 | .80529 | .14018 | | |
| | 51 - 55 | 16 | 3.7841 | .58529 | .14632 | | |
| | 56 - 60 | 2 | 2.7273 | .89995 | .63636 | | |
| | Total | 270 | 3.6418 | .76870 | .04678 | | |

**Table 4.14**  (continued)

| | | N | Mean | Std. Deviation | Std. Error | F | Sig. |
|---|---|---|---|---|---|---|---|
| Wages | < 20 | 6 | 3.9667 | .63770 | .26034 | | |
| | 21 - 25 | 14 | 4.0429 | .53882 | .14401 | | |
| | 26 - 30 | 33 | 3.9333 | .83016 | .14451 | | |
| | 31 - 35 | 56 | 3.6321 | .93402 | .12481 | | |
| | 36 - 40 | 61 | 3.8426 | .83834 | .10734 | 1.929 | 0.056 |
| | 41 - 45 | 49 | 4.1469 | .59969 | .08567 | | |
| | 46 - 50 | 33 | 4.0606 | .71674 | .12477 | | |
| | 51 - 55 | 16 | 3.9500 | .60882 | .15221 | | |
| | 56 - 60 | 2 | 3.2000 | 1.41421 | 1.0000 | | |
| | Total | 270 | 3.9067 | .79189 | .04819 | | |
| Autonomy | < 20 | 6 | 4.3333 | .81650 | .33333 | | |
| | 21 - 25 | 14 | 3.8929 | .81284 | .21724 | | |
| | 26 - 30 | 33 | 3.9091 | .80482 | .14010 | | |
| | 31 - 35 | 56 | 3.6607 | 1.10826 | .14810 | | |
| | 36 - 40 | 61 | 3.8115 | .93614 | .11986 | 1.270 | 0.259 |
| | 41 - 45 | 49 | 4.1020 | .55883 | .07983 | | |
| | 46 - 50 | 33 | 3.8636 | 1.04786 | .18241 | | |
| | 51 - 55 | 16 | 3.9688 | .82601 | .20650 | | |
| | 56 - 60 | 2 | 3.0000 | .70711 | .50000 | | |
| | Total | 270 | 3.8704 | .90837 | .05528 | | |
| Supervisor Relationship | < 20 | 6 | 4.0000 | .41079 | .16771 | | |
| | 21 - 25 | 14 | 3.9286 | .59589 | .15926 | | |
| | 26 - 30 | 33 | 3.8144 | .71132 | .12383 | | |
| | 31 - 35 | 56 | 3.5692 | .79947 | .10683 | | |
| | 36 - 40 | 61 | 3.7008 | .66312 | .08490 | 2.522 | 0.012 |
| | 41 - 45 | 49 | 4.0485 | .41834 | .05976 | | |
| | 46 - 50 | 33 | 3.8750 | .72011 | .12535 | | |
| | 51 - 55 | 16 | 3.8750 | .59337 | .14834 | | |
| | 56 - 60 | 2 | 2.9375 | .97227 | .68750 | | |
| | Total | 270 | 3.7949 | .67690 | .04119 | | |

**Table 4.14** (continued)

| | | N | Mean | Std. Deviation | Std. Error | F | Sig. |
|---|---|---|---|---|---|---|---|
| Colleague Relationship | < 20 | 6 | 4.5476 | .33094 | .13511 | | |
| | 21 - 25 | 14 | 4.4184 | .48676 | .13009 | | |
| | 26 - 30 | 33 | 4.3290 | .81635 | .14211 | | |
| | 31 - 35 | 56 | 3.9719 | 1.01835 | .13608 | | |
| | 36 - 40 | 61 | 4.1663 | .88378 | .11316 | 2.727 | 0.007 |
| | 41 - 45 | 49 | 4.5860 | .45104 | .06443 | | |
| | 46 - 50 | 33 | 4.3939 | .71965 | .12527 | | |
| | 51 - 55 | 16 | 4.4375 | .62915 | .15729 | | |
| | 56 - 60 | 2 | 3.4286 | 1.81827 | 1.2857 | | |
| | Total | 270 | 4.2820 | .81387 | .04953 | | |
| Pride in the Job | < 20 | 6 | 3.8958 | .47048 | .19207 | | |
| | 21 - 25 | 14 | 3.7411 | .64574 | .17258 | | |
| | 26 - 30 | 33 | 3.8295 | .90723 | .15793 | | |
| | 31 - 35 | 56 | 3.6183 | 1.05325 | .14075 | | |
| | 36 - 40 | 61 | 3.7951 | .88654 | .11351 | 1.525 | 0.149 |
| | 41 - 45 | 49 | 4.0867 | .39380 | .05626 | | |
| | 46 - 50 | 33 | 3.7235 | .65532 | .11408 | | |
| | 51 - 55 | 16 | 3.8125 | .61407 | .15352 | | |
| | 56 - 60 | 2 | 2.8750 | 1.23744 | .87500 | | |
| | Total | 270 | 3.8005 | .81192 | .04941 | | |
| Decision Making | < 20 | 6 | 3.4167 | .49160 | .20069 | | |
| | 21 - 25 | 14 | 3.5000 | 1.07417 | .28708 | | |
| | 26 - 30 | 33 | 3.8939 | .96629 | .16821 | | |
| | 31 - 35 | 56 | 3.4018 | 1.10954 | .14827 | | |
| | 36 - 40 | 61 | 3.8279 | 1.07193 | .13725 | 1.882 | 0.063 |
| | 41 - 45 | 49 | 4.0408 | .79606 | .11372 | | |
| | 46 - 50 | 33 | 3.7727 | .93617 | .16297 | | |
| | 51 - 55 | 16 | 3.9688 | .90312 | .22578 | | |
| | 56 - 60 | 2 | 3.2500 | 1.76777 | 1.25000 | | |
| | Total | 270 | 3.7574 | 1.00438 | .06112 | | |

**Table 4.14** (continued)

| | | N | Mean | Std. Deviation | Std. Error | F | Sig. |
|---|---|---|---|---|---|---|---|
| Job | < 20 | 6 | 3.9242 | .42022 | .17155 | | |
| Satisfaction | 21 - 25 | 14 | 3.8831 | .63928 | .17086 | | |
| | 26 - 30 | 33 | 3.9229 | .78207 | .13614 | | |
| | 31 - 35 | 56 | 3.5000 | 1.09036 | .14571 | | |
| | 36 - 40 | 61 | 3.7139 | .86496 | .11075 | 2.676 | 0.008 |
| | 41 - 45 | 49 | 4.1113 | .45161 | .06452 | | |
| | 46 - 50 | 33 | 3.9311 | .74517 | .12972 | | |
| | 51 - 55 | 16 | 3.9148 | .71695 | .17924 | | |
| | 56 - 60 | 2 | 2.6818 | 1.22137 | .86364 | | |
| | Total | 270 | 3.8114 | .83372 | .05074 | | |
| | | | | | | | |
| Perceived | < 20 | 6 | 3.8889 | .45542 | .18592 | | |
| Performance | 21 - 25 | 14 | 3.7619 | .74454 | .19899 | | |
| | 26 - 30 | 33 | 3.8283 | .73655 | .12822 | | |
| | 31 - 35 | 56 | 3.5655 | .85969 | .11488 | | |
| | 36 - 40 | 61 | 3.8033 | .85716 | .10975 | 2.145 | 0.032 |
| | 41 - 45 | 49 | 4.1156 | .40569 | .05796 | | |
| | 46 - 50 | 33 | 3.9798 | .65585 | .11417 | | |
| | 56 - 60 | 2 | 2.6818 | 1.22137 | .86364 | | |
| | Total | 270 | 3.8114 | .83372 | .05074 | | |
| | | | | | | | |
| Loyalty | < 20 | 6 | 4.2333 | .51251 | .20923 | | |
| | 21 - 25 | 14 | 4.0857 | .72627 | .19410 | | |
| | 26 - 30 | 33 | 4.1152 | .87469 | .15226 | | |
| | 31 - 35 | 56 | 3.7786 | 1.07783 | .14403 | | |
| | 36 - 40 | 61 | 4.0426 | .90783 | .11624 | 2.519 | 0.012 |
| | 41 - 45 | 49 | 4.4653 | .44979 | .06426 | | |
| | 46 - 50 | 33 | 4.1394 | .76237 | .13271 | | |
| | 51 - 55 | 16 | 4.0500 | .77115 | .19279 | | |
| | 56 - 60 | 2 | 3.2000 | 1.41421 | 1.00000 | | |
| | Total | 270 | 4.0859 | .86124 | .05241 | | |

A rationale for why the workers of age group "41-45 years old" has the highest perceived job resources, and one of the lowest on perceived stressfulness in job demands, which also shows significantly higher level of attitude and behavior in terms of job satisfaction and loyalty to the organization, and thus perceived job performance, is, as shown in Figure 4.18, the highest working years of experience in the company, at an average of 8 years. The correlation analysis result presented in Table 4.15 provides the evidence, significant at 0.01 level (2-tailed), that workers of higher level of experience is an important variable which can indicate significantly higher perceived levels of supportability of the various aspects of job resources provided by the organization, as well as at personal level, and their perceived performance level in project delivery and the quality assurance aspect of the project, job satisfaction and loyalty. Workers of higher experience also perceive favorable in the various facets of job demands, in terms of work pressure, physical demands and emotional, or mental demands, presented by the negative correlation coefficient, at -0.325** (significant at 0.01 level, 2-tailed).



**Figure 4.18** Box Plot Comparing Years of Experiences across Age Groups

**Table 4.15** Role of Years of Experience through Correlation Analysis

|  | Working Experience |
| --- | --- |
| Job Demands | -0.325** |
| Job Resources | 0.359** |
| Personal Resources | 0.392** |
| Workload Pressure | -0.341** |
| Physical Demands | -0.164** |
| Emotional, Mental Demands | -0.265** |
| Role of Company | 0.320** |
| Wages | 0.338** |
| Autonomy | 0.278** |
| Supervisory Relationship | 0.293** |
| Colleague Relationship | 0.395** |
| Pride in Job | 0.382** |
| Decision Making | 0.365** |
| Job Satisfaction | 0.375** |
| Perceived Performance | 0.351** |
| Loyalty to Company | 0.381** |

**Note.** ** Significant at 0.01 level (2-tailed)

Based on the significant correlation strengths between the "years of working experience" variable of the workers and all the variables involved in this research, a more comprehensive multivariate regression analysis is performed by taking the demographics and the job-relevancy profiles of the workers into consideration. The result, presented in Table 4.16, shows very important finding, which indicates the significant roles of education, years of working experiences, full-time or part-time job position, and their accommodation location characterized by the "distance from home." Specifically, these demographics and job-relevancy predictors can explain 44.3 percents of the variance of perceived performance which the workers perceive they are

able to contribute and to deliver, i.e. the on-time project delivery, and quality of the construction works that match with the specified standards.

**Table 4.16** Multivariate Regression Analysis of Demographic and Some Job-Relevancy Variables on Perceived Performance

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .665[a] | .443 | .419 | .56445 |

**Note.** a. Predictors: (Constant), Distance from Home, Working Position, Marital Status, Gender, Nationality, Education, Age, Working, Ability (Willing) to Work with Hazard Risk, Daily Income, Working Experience

b. Dependent Variable: Perceived Performance

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. | Model |
|---|---|---|---|---|---|---|---|
| 1 | Regression | 65.290 | 11 | 5.935 | 18.629 | .000[b] |
| | Residual | 82.200 | 258 | .319 | | |
| | Total | 147.490 | 269 | | | |

**Note.** a. Dependent Variable: Perceived Performance

b. Predictors: (Constant), Distance from Home, Working Position, Marital Status, Gender, Nationality, Education, Age, Working, Ability (Willing) to Work with Hazard Risk, Daily Income, Working Experience

**Table 4.16** (continued)

**Coefficientsᵃ**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| 1   (Constant) | 3.848 | .325 | | 11.823 | .000 |
| Gender | .169 | .088 | .094 | 1.912 | .057 |
| Marital Status | .041 | .067 | .030 | .617 | .538 |
| Age | .004 | .026 | .009 | .149 | .882 |
| Nationality | .054 | .153 | .017 | .353 | .724 |
| Education | .214 | .049 | .228 | 4.379 | .000 |
| Working Position | -.019 | .015 | -.064 | -1.245 | .214 |
| Ability (Willing) to Work with Hazard Risk | -.079 | .083 | -.049 | -.945 | .346 |
| Working Experience | .059 | .020 | .175 | 2.974 | .003 |
| Working | -.279 | .075 | -.189 | -3.728 | .000 |
| Daily Income | .038 | .040 | .050 | .942 | .347 |
| Distance from Home | -.197 | .027 | -.364 | -7.316 | .000 |

**Note.**   a. Dependent Variable: Perceived Performance

In particular, the predicting direction towards higher level of perceived performance is in favor of workers of higher level of education (Beta = 0.228), having longer years of working experience (Beta = 0.175), and workers of full-time status (Beta = -0.189), and who live in shorter distance between home and the worksites (Beta = -0.364).

In the aspect of job satisfaction, which relates to the perceptions of the workers towards the company policy, and working environments characterized as safety, friendliness and supportive, and the relationships with supervisors and colleagues, and in areas of ethics, wages, and job security, and happiness of the work, the

result of the multivariate regression, shown in Table 4.17, indicate the significant role of:

1. Gender (Beta = 0.113)
2. Education (Beta = 0.225)
3. Years of Working Experience (Beta = 0.224)
4. Full-Time or Part-Time (Beta = - 0.208)
5. Distance from Home (Beta = -0.420)

Specifically, the multivariate regression result indicates that these demographics and job-relevancy predictors can explain up to 55.6 percents of the variance of job satisfaction, depicted by the trend that the female workers show higher level of job satisfaction, and workers of higher education and years of working experience also reflect higher level of job satisfaction. On the other hand, part-time workers perceive lower level of job satisfaction, and the workers who live further from the worksites are also less satisfied. These provide tremendous valuable information to the construction companies as the important backgrounds that have significant impact on job productivity, job satisfaction and the states of the employee loyalty to the company.

**Table 4.17** Multivariate Regression Analysis of Demographic and Some Job-Relevancy Variables on Job Satisfaction

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .745[a] | .556 | .537 | .56751 |

Note.  a. Predictors: (Constant), Distance from Home, Working Position, Marital
        Status, Gender, Nationality, Education, Age, Working, Ability (Willing)
        to Work with Hazard Risk, Daily Income, Working Experience
      b. Dependent Variable: Job Satisfaction

**Table 4.17**  (continued)

**ANOVA**[a]

| Model | Sum of Squares | df | Mean Square | F | Sig. | Model |
|---|---|---|---|---|---|---|
| 1 | Regression | 103.885 | 11 | 9.444 | 29.323 | .000[b] |
| | Residual | 83.094 | 258 | .322 | | |
| | Total | 186.979 | 269 | | | |

**Note.**  a. Dependent Variable: Job Satisfaction

b. Predictors: (Constant), Distance from Home, Working Position, Marital Status, Gender, Nationality, Education, Age, Working, Ability (Willing) to Work with Hazard Risk, Daily Income, Working Experience

**Coefficients**[a]

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| 1  (Constant) | 4.098 | .327 | | 12.523 | .000 |
| Gender | .229 | .089 | .113 | 2.576 | .011 |
| Marital Status | .055 | .067 | .035 | .821 | .412 |
| Age | -.045 | .026 | -.091 | -1.741 | .083 |
| Nationality | -.037 | .154 | -.010 | -.240 | .811 |
| Education | .238 | .049 | .225 | 4.836 | .000 |
| Working Position | -.014 | .015 | -.042 | -.903 | .367 |
| Ability (Willing) to Work with Hazard Risk | -.132 | .084 | -.072 | -1.569 | .118 |
| Working Experience | .084 | .020 | .224 | 4.246 | .000 |
| Working | -.347 | .075 | -.208 | -4.606 | .000 |

**Table 4.17**  (continued)

**Coefficients[a]**

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|
| | B | Std. Error | Beta | | |
| Daily Income | .078 | .040 | .092 | 1.953 | .052 |
| Distance from Home | -.256 | .027 | -.420 | -9.456 | .000 |

**Note.**  a. Dependent Variable: Job Satisfaction

Pertaining to loyalty of workers to the company, as identified in the result of the multivariate regression analysis in Table 4.18, the following demographics and job-relevancy variables play significant predicting ability to explain the variance of loyalty at 48.3 percents:

1. Gender (Beta = 0.098)
2. Education (Beta = 0.218)
3. Ability (Willingness) to Work with Hazardous Risk Areas (Beta = -0.106)
4. Years of Working Experience (Beta = 0.247)
5. Full-Time or Part-Time (Beta = -0.224)
6. Distance from Home (Beta = -0.316)

In short, the female workers show slightly higher level of loyalty to the company, and the positive trend which describes the higher level of loyalty is predicted by higher level of education of the workers and the longer years of working experience. On the other hand, the workers who show no ability or not willing to work with hazardous risk areas are less loyal, and those of part-time job status, including the accommodation further away from the worksite also show less loyal to the construction company.

**Table 4.18** Multivariate Regression Analysis of Demographic and Some Job-Relevancy Variables on Loyalty to the Company

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-----|----------|-------------------|----------------------------|
| 1 | .695[a] | .483 | .461 | .63220 |

**Note.** a. Predictors: (Constant), Distance from Home, Working Position, Marital Status, Gender, Nationality, Education, Age, Working, Ability (Willing) to Work with Hazard Risk, Daily Income, Working Experience

b. Dependent Variable: Employee Loyalty

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. | Model |
|-------|------------|----------------|-----|-------------|--------|--------|-------|
| 1 | Regression | 96.408 | 11 | 8.764 | 21.928 | .000[b] |
| | Residual | 103.118 | 258 | .400 | | | |
| | Total | 199.527 | 269 | | | | |

**Note.** a. Dependent Variable: Employee Loyalty

b. Predictors: (Constant), Distance from Home, Working Position, Marital Status, Gender, Nationality, Education, Age, Working, Ability (Willing) to Work with Hazard Risk, Daily Income, Working Experience

**Table 4.18**  (continued)

**Coefficients[a]**

| Model | | B | Std. Error | Beta | t | Sig. |
|---|---|---|---|---|---|---|
| | | **Unstandardized Coefficients** | | **Standardized Coefficients** | | |
| 1 | (Constant) | 4.108 | .365 | | 11.268 | .000 |
| | Gender | .204 | .099 | .098 | 2.068 | .040 |
| | Marital Status | .087 | .075 | .054 | 1.171 | .243 |
| | Age | -.042 | .029 | -.081 | -1.447 | .149 |
| | Nationality | .125 | .171 | .033 | .734 | .464 |
| | Education | .238 | .055 | .218 | 4.344 | .000 |
| | Working Position | -.014 | .017 | -.039 | -.792 | .429 |
| | Ability (Willing) to Work with Hazard Risk | -.199 | .093 | -.106 | -2.130 | .034 |
| | Working Experience | .096 | .022 | .247 | 4.353 | .000 |
| | Working | -.386 | .084 | -.224 | -4.602 | .000 |
| | Daily Income | .059 | .045 | .067 | 1.323 | .187 |
| | Distance from Home | -.199 | .030 | -.316 | -6.594 | .000 |

**Note.**  a. Dependent Variable: Employee Loyalty

In general, workers of higher daily income perceive higher levels at the job resources level, job satisfaction, perceived performance and loyalty, and also perceive lower stressful conditions on the jobs. The result of the ANOVA test is shown in Table 4.19, and the correlation analysis provides the general trend of correlation.

**Table 4.19** ANOVA Test Results for Daily Income

| | | N | Mean | Std. Deviation | Std. Error | ANOVA Test Result | |
|---|---|---|---|---|---|---|---|
| | | | | | | F | Sig. |
| Job Demands | ฿300-350 | 163 | 2.7191 | .67396 | .05279 | | |
| | ฿351-400 | 60 | 2.4119 | .30086 | .03884 | | |
| | ฿401-450 | 34 | 2.3971 | .38694 | .06636 | | |
| | ฿451-500 | 10 | 2.2071 | .71939 | .22749 | 4.481 | 0.001 |
| | ฿501-550 | 2 | 2.7857 | .30305 | .21429 | | |
| | ฿651-700 | 1 | 2.2857 | . | . | | |
| | Total | 270 | 2.5902 | .59781 | .03638 | | |
| Job Resources | ฿300-350 | 163 | 3.6914 | .81109 | .06353 | | |
| | ฿351-400 | 60 | 4.1884 | .20884 | .02696 | | |
| | ฿401-450 | 34 | 4.1560 | .44537 | .07638 | | |
| | ฿451-500 | 10 | 4.0788 | .47875 | .15139 | 7.511 | 0.000 |
| | ฿501-550 | 2 | 2.8030 | .40712 | .28788 | | |
| | ฿651-700 | 1 | 3.8485 | . | . | | |
| | Total | 270 | 3.8687 | .70762 | .04306 | | |
| Personal Resources | ฿300-350 | 163 | 3.5748 | .91431 | .07161 | | |
| | ฿351-400 | 60 | 4.1483 | .36892 | .04763 | | |
| | ฿401-450 | 34 | 4.2000 | .52455 | .08996 | | |
| | ฿451-500 | 10 | 4.0200 | .54324 | .17179 | 8.484 | 0.000 |
| | ฿501-550 | 2 | 2.5000 | .56569 | .40000 | | |
| | ฿651-700 | 1 | 4.2000 | . | . | | |
| | Total | 270 | 3.7919 | .81915 | .04985 | | |
| Workload/ Work Pressure | ฿300-350 | 163 | 2.7205 | .61930 | .04851 | | |
| | ฿351-400 | 60 | 2.4037 | .32149 | .04150 | | |
| | ฿401-450 | 34 | 2.4542 | .41427 | .07105 | 4.902 | 0.000 |
| | ฿451-500 | 10 | 2.2667 | .78777 | .24911 | | |
| | ฿501-550 | 2 | 3.1667 | .39284 | .27778 | | |

**Table 4.19**  (continued)

| | | N | Mean | Std. Deviation | Std. Error | ANOVA Test Result | |
|---|---|---|---|---|---|---|---|
| | | | | | | F | Sig. |
| | ฿651-700 | 1 | 2.1111 | . | . | | |
| | Total | 270 | 2.6008 | .56879 | .03462 | | |
| Physical Demands | ฿300-350 | 163 | 3.3558 | .82163 | .06435 | | |
| | ฿351-400 | 60 | 3.2000 | .65225 | .08420 | | |
| | ฿401-450 | 34 | 3.0588 | .67155 | .11517 | | |
| | ฿451-500 | 10 | 2.6500 | .78351 | .24777 | 2.387 | 0.039 |
| | ฿501-550 | 2 | 3.0000 | .00000 | .00000 | | |
| | ฿651-700 | 1 | 3.0000 | . | . | | |
| | Total | 270 | 3.2537 | .77573 | .04721 | | |
| Emotional/ Mental Demands | ฿300-350 | 163 | 2.2904 | 1.01169 | .07924 | | |
| | ฿351-400 | 60 | 1.9111 | .61942 | .07997 | | |
| | ฿401-450 | 34 | 1.7843 | .61891 | .10614 | | |
| | ฿451-500 | 10 | 1.7333 | .75031 | .23727 | 3.453 | 0.005 |
| | ฿501-550 | 2 | 1.5000 | .23570 | .16667 | | |
| | ฿651-700 | 1 | 2.3333 | . | . | | |
| | Total | 270 | 2.1160 | .90372 | .05500 | | |
| Role of Company | ฿300-350 | 163 | 3.4607 | .85627 | .06707 | | |
| | ฿351-400 | 60 | 3.9530 | .33704 | .04351 | | |
| | ฿451-500 | 10 | 3.8364 | .71556 | .22628 | 7.35 | 0.000 |
| | ฿501-550 | 2 | 2.1818 | .64282 | .45455 | | |
| | ฿651-700 | 1 | 3.7273 | . | . | | |
| | Total | 270 | 3.6418 | .76870 | .04678 | | |
| Wages | ฿300-350 | 163 | 3.7043 | .89148 | .06983 | | |
| | ฿351-400 | 60 | 4.3000 | .35415 | .04572 | 7.159 | 0.000 |
| | ฿401-450 | 34 | 4.2118 | .50917 | .08732 | | |

**Table 4.19**  (continued)

| | | N | Mean | Std. Deviation | Std. Error | ANOVA Test Result | |
|---|---|---|---|---|---|---|---|
| | | | | | | F | Sig. |
| | ฿451-500 | 10 | 3.9400 | .64670 | .20450 | | |
| | ฿501-550 | 2 | 3.2000 | .28284 | .20000 | | |
| | ฿651-700 | 1 | 4.0000 | . | . | | |
| | Total | 270 | 3.9067 | .79189 | .04819 | | |
| Autonomy | ฿300-350 | 163 | 3.7117 | .97641 | .07648 | | |
| | ฿351-400 | 60 | 4.1917 | .48792 | .06299 | | |
| | ฿401-450 | 34 | 4.2059 | .73975 | .12687 | | |
| | ฿451-500 | 10 | 3.6500 | 1.15590 | .36553 | 6.070 | 0.000 |
| | ฿501-550 | 2 | 2.0000 | .70711 | .50000 | | |
| | ฿651-700 | 1 | 5.0000 | . | . | | |
| | Total | 270 | 3.8704 | .90837 | .05528 | | |
| Supervisor Relationship | ฿300-350 | 163 | 3.6488 | .75136 | .05885 | | |
| | ฿351-400 | 60 | 4.0625 | .33152 | .04280 | | |
| | ฿401-450 | 34 | 4.0221 | .47421 | .08133 | | |
| | ฿451-500 | 10 | 4.1250 | .59512 | .18819 | 6.998 | 0.000 |
| | ฿501-550 | 2 | 2.5000 | .53033 | .37500 | | |
| | ฿651-700 | 1 | 3.1250 | . | . | | |
| | Total | 270 | 3.7949 | .67690 | .04119 | | |
| Colleague Relationship | ฿300-350 | 163 | 4.0876 | .95665 | .07493 | | |
| | ฿351-400 | 60 | 4.6214 | .24928 | .03218 | | |
| | ฿401-450 | 34 | 4.5210 | .52031 | .08923 | | |
| | ฿451-500 | 10 | 4.6286 | .33129 | .10476 | 5.325 | 0.000 |
| | ฿501-550 | 2 | 4.0714 | .10102 | .07143 | | |
| | ฿651-700 | 1 | 4.4286 | . | . | | |
| | Total | 270 | 4.2820 | .81387 | .04953 | | |

**Table 4.19** (continued)

| | | N | Mean | Std. Deviation | Std. Error | ANOVA Test Result | |
|---|---|---|---|---|---|---|---|
| | | | | | | F | Sig. |
| Pride in the Job | ฿300-350 | 163 | 3.5882 | .90149 | .07061 | | |
| | ฿351-400 | 60 | 4.1375 | .39642 | .05118 | | |
| | ฿401-450 | 34 | 4.2132 | .52452 | .08995 | | |
| | ฿451-500 | 10 | 4.0375 | .50707 | .16035 | 8.355 | 0.000 |
| | ฿501-550 | 2 | 2.5000 | .88388 | .62500 | | |
| | ฿651-700 | 1 | 4.3750 | . | . | | |
| | Total | 270 | 3.8005 | .81192 | .04941 | | |
| Decision Making | ฿300-350 | 163 | 3.5215 | 1.11437 | .08728 | | |
| | ฿351-400 | 60 | 4.1917 | .52956 | .06837 | | |
| | ฿401-450 | 34 | 4.1471 | .74396 | .12759 | | |
| | ฿451-500 | 10 | 3.9500 | .79757 | .25221 | 6.354 | 0.000 |
| | ฿501-550 | 2 | 2.5000 | .70711 | .50000 | | |
| | ฿651-700 | 1 | 3.5000 | . | . | | |
| | Total | 270 | 3.7574 | 1.00438 | .06112 | | |
| Job Satisfaction | ฿300-350 | 163 | 3.5968 | .94848 | .07429 | | |
| | ฿351-400 | 60 | 4.1864 | .36418 | .04702 | | |
| | ฿401-450 | 34 | 4.1096 | .47411 | .08131 | | |
| | ฿451-500 | 10 | 4.2455 | .52844 | .16711 | 7.584 | 0.000 |
| | ฿501-550 | 2 | 2.6818 | .06428 | .04545 | | |
| | ฿651-700 | 1 | 4.0909 | . | . | | |
| | Total | 270 | 3.8114 | .83372 | .05074 | | |
| Perceived Performance | ฿300-350 | 163 | 3.6851 | .83662 | .06553 | | |
| | ฿351-400 | 60 | 4.0611 | .43609 | .05630 | | |
| | ฿401-450 | 34 | 4.1373 | .47932 | .08220 | 4.927 | 0.000 |
| | ฿451-500 | 10 | 4.2000 | .54885 | .17356 | | |
| | ฿501-550 | 2 | 3.0000 | .00000 | .00000 | | |

**Table 4.19**  (continued)

| | | N | Mean | Std. Deviation | Std. Error | ANOVA Test Result | |
|---|---|---|---|---|---|---|---|
| | | | | | | F | Sig. |
| | ฿651-700 | 1 | 3.6667 | . | . | | |
| | Total | 270 | 3.8395 | .74047 | .04506 | | |
| Loyalty | ฿300-350 | 163 | 3.8920 | .98061 | .07681 | | |
| | ฿351-400 | 60 | 4.4200 | .45800 | .05913 | | |
| | ฿401-450 | 34 | 4.4118 | .50438 | .08650 | | |
| | ฿451-500 | 10 | 4.3200 | .37947 | .12000 | 6.430 | 0.000 |
| | ฿501-550 | 2 | 2.7000 | .14142 | .10000 | | |
| | ฿651-700 | 1 | 5.0000 | . | . | | |
| | Total | 270 | 4.0859 | .86124 | .05241 | | |

**Table 4.20**  Role of Daily Income through Correlation Analysis

| | Working Experience |
|---|---|
| Job Demands | -0.229** |
| Job Resources | 0.196** |
| Personal Resources | 0.226** |
| Workload Pressure | -0.206** |
| Physical Demands | -0.189** |
| Emotional, Mental Demands | -0.210** |
| Role of Company | 0.183** |
| Wages | 0.194** |
| Autonomy | 0.119 |
| Supervisory Relationship | 0.148* |
| Colleague Relationship | 0.217** |
| Pride in Job | 0.230** |
| Decision Making | 0.176** |

**Table 4.20**  (continued)

| | Working Experience |
|---|---|
| Job Satisfaction | 0.223** |
| Perceived Performance | 0.187** |
| Loyalty to Company | 0.197** |

**Note.**  ** Significant at 0.01 level (2-tailed)

    * Significant at 0.05 (2-tailed)

In regard to workers that indicate whether they have issues with congenital disorder, the ANOVA test result shown in Table 4.21 shows no significant differences on workers who have or not have.

**Table 4.21**  ANOVA Test on Congenital Disorder

| | | N | Mean | Std. Deviation | ANOVA F | ANOVA Sig. |
|---|---|---|---|---|---|---|
| Job Demands | Fibromyalgia/ Muscle Strain | 29 | 2.6059 | .48656 | | |
| | Arthralgia/Arthritis | 15 | 2.5429 | .15224 | | |
| | Gastritis | 9 | 2.6825 | .37134 | | |
| | Respiratory Diseases | 3 | 2.2381 | .25085 | 0.544 | 0.775 |
| | Hypertension | 1 | 2.3571 | . | | |
| | No | 207 | 2.5745 | .62390 | | |
| | > 1 Congenital Disorders | 2 | 2.0357 | .05051 | | |
| | Total | 266 | 2.5712 | .58110 | | |
| Job Resources | Fibromyalgia/ Muscle Strain | 29 | 3.8798 | .53259 | | |
| | Arthralgia/Arthritis | 15 | 4.1030 | .18987 | 0.710 | 0.642 |
| | Gastritis | 9 | 3.8754 | .59891 | | |
| | Respiratory Diseases | 3 | 4.0707 | .45589 | | |

**Table 4.21**  (continue)

| | | N | Mean | Std. Deviation | ANOVA F | Sig. |
|---|---|---|---|---|---|---|
| | Hypertension | 1 | 4.3333 | . | | |
| | No | 207 | 3.8687 | .73273 | | |
| | > 1 Congenital Disorders | 2 | 4.5758 | .00000 | | |
| | Total | 266 | 3.8927 | .68500 | | |
| Personal Resources | Fibromyalgia/ Muscle Strain | 29 | 3.8552 | .58529 | | |
| | Arthralgia/Arthritis | 15 | 4.2400 | .25014 | | |
| | Gastritis | 9 | 3.6778 | .86859 | | |
| | Respiratory Diseases | 3 | 3.8000 | .62450 | 1.374 | 0.225 |
| | Hypertension | 1 | 4.0000 | . | | |
| | No | 207 | 3.7787 | .83946 | | |
| | > 1 Congenital Disorders | 2 | 4.8000 | .00000 | | |
| | Total | 266 | 3.8184 | .79532 | | |
| Workload/ Work Pressure | Fibromyalgia/ Muscle Strain | 29 | 2.5977 | .49549 | | |
| | Arthralgia/Arthritis | 15 | 2.5407 | .29656 | | |
| | Gastritis | 9 | 2.6914 | .31318 | | |
| | Respiratory Diseases | 3 | 2.2963 | .33945 | 0.587 | 0.741 |
| | Hypertension | 1 | 2.4444 | . | | |
| | No | 207 | 2.5921 | .59037 | | |
| | > 1 Congenital Disorders | 2 | 2.0000 | .00000 | | |
| | Total | 266 | 2.5848 | .55633 | | |
| Physical Demands | Fibromyalgia/ Muscle Strain | 29 | 3.2241 | .78588 | | |
| | Arthralgia/Arthritis | 15 | 3.4333 | .56273 | 0.734 | 0.622 |
| | Gastritis | 9 | 3.2778 | .56519 | | |
| | Respiratory Diseases | 3 | 2.8333 | .28868 | | |
| | Hypertension | 1 | 2.0000 | . | | |

**Table 4.21** (continue)

| | | N | Mean | Std. Deviation | ANOVA | |
|---|---|---|---|---|---|---|
| | | | | | F | Sig. |
| | No | 207 | 3.2343 | .79252 | | |
| | > 1 Congenital Disorders | 2 | 3.2500 | .35355 | | |
| | Total | 266 | 3.2368 | .76868 | | |
| Emotional/ Mental Demands | Fibromyalgia/ Muscle Strain | 29 | 2.2184 | .84175 | | |
| | Arthralgia/Arthritis | 15 | 1.9556 | .39574 | | |
| | Gastritis | 9 | 2.2593 | .82962 | | |
| | Respiratory Diseases | 3 | 1.6667 | .00000 | 0.593 | 0.736 |
| | Hypertension | 1 | 2.3333 | . | | |
| | No | 207 | 2.0821 | .91683 | | |
| | > 1 Congenital Disorders | 2 | 1.3333 | .00000 | | |
| | Total | 266 | 2.0865 | .87622 | | |
| Role of Company | Fibromyalgia/ Muscle Strain | 29 | 3.6332 | .61104 | | |
| | Arthralgia/Arthritis | 15 | 3.8606 | .31279 | | |
| | Gastritis | 9 | 3.5657 | .61284 | | |
| | Respiratory Diseases | 3 | 3.6061 | 1.15470 | 0.583 | 0.744 |
| | Hypertension | 1 | 4.1818 | . | | |
| | No | 207 | 3.6517 | .79245 | | |
| | > 1 Congenital Disorders | 2 | 4.3636 | .00000 | | |
| | Total | 266 | 3.6654 | .74944 | | |
| Wages | Fibromyalgia /Muscle Strain | 29 | 3.8966 | .70025 | | |
| | Arthralgia/Arthritis | 15 | 4.2400 | .25298 | | |
| | Gastritis | 9 | 4.0667 | .74162 | 1.042 | 0.399 |
| | Respiratory Diseases | 3 | 4.2000 | .40000 | | |
| | Hypertension | 1 | 4.2000 | . | | |
| | No | 207 | 3.8957 | .80528 | | |

**Table 4.21** (continued)

| | | N | Mean | Std. Deviation | ANOVA | |
|---|---|---|---|---|---|---|
| | | | | | F | Sig. |
| | > 1 Congenital Disorders | 2 | 4.8000 | .00000 | | |
| | Total | 266 | 3.9323 | .76878 | | |
| Autonomy | Fibromyalgia/ Muscle Strain | 29 | 4.0517 | .77165 | | |
| | Arthralgia/Arthritis | 15 | 4.3667 | .51640 | | |
| | Gastritis | 9 | 3.8889 | .78174 | | |
| | Respiratory Diseases | 3 | 4.0000 | .50000 | 1.115 | 0.354 |
| | Hypertension | 1 | 4.5000 | . | | |
| | No | 207 | 3.8309 | .93498 | | |
| | > 1 Congenital Disorders | 2 | 4.0000 | .00000 | | |
| | Total | 266 | 3.8929 | .89273 | | |
| Supervisor Relationship | Fibromyalgia/ Muscle Strain | 29 | 3.7672 | .55473 | | |
| | Arthralgia/Arthritis | 15 | 3.8750 | .35355 | | |
| | Gastritis | 9 | 3.7917 | .55199 | | |
| | Respiratory Diseases | 3 | 4.3333 | .31458 | 0.843 | 0.538 |
| | Hypertension | 1 | 4.3750 | . | | |
| | No | 207 | 3.8013 | .69956 | | |
| | > 1 Congenital Disorders | 2 | 4.5000 | .00000 | | |
| | Total | 266 | 3.8148 | .66172 | | |
| Colleague Relationship | Fibromyalgia/ Muscle Strain | 29 | 4.3350 | .61121 | | |
| | Arthralgia/Arthritis | 15 | 4.5714 | .20203 | | |
| | Gastritis | 9 | 4.3175 | .81996 | 0.621 | 0.713 |
| | Respiratory Diseases | 3 | 4.4286 | .24744 | | |
| | Hypertension | 1 | 4.5714 | . | | |
| | No | 207 | 4.2781 | .83741 | | |

**Table 4.21**  (continued)

| | | N | Mean | Std. Deviation | ANOVA F | Sig. |
|---|---|---|---|---|---|---|
| | > 1 Congenital Disorders | 2 | 5.0000 | .00000 | | |
| | Total | 266 | 4.3104 | .78502 | | |
| Pride in the Job | Fibromyalgia/ Muscle Strain | 29 | 3.8836 | .59474 | | |
| | Arthralgia/Arthritis | 15 | 4.1917 | .30933 | | |
| | Gastritis | 9 | 3.6528 | .86100 | | |
| | Respiratory Diseases | 3 | 3.7917 | .62915 | 1.470 | 0.189 |
| | Hypertension | 1 | 3.7500 | . | | |
| | No | 207 | 3.7905 | .82592 | | |
| | > 1 Congenital Disorders | 2 | 5.0000 | .00000 | | |
| | Total | 266 | 3.8275 | .78641 | | |
| Decision Making | Fibromyalgia/ Muscle Strain | 29 | 3.7414 | .79755 | | |
| | Arthralgia/Arthritis | 15 | 4.4333 | .45774 | | |
| | Gastritis | 9 | 3.7778 | .93912 | | |
| | Respiratory Diseases | 3 | 3.8333 | .76376 | 1.463 | 0.191 |
| | Hypertension | 1 | 5.0000 | . | | |
| | No | 207 | 3.7319 | 1.03897 | | |
| | > 1 Congenital Disorders | 2 | 4.0000 | .00000 | | |
| | Total | 266 | 3.7820 | .99024 | | |
| Job Satisfaction | Fibromyalgia/ Muscle Strain | 29 | 3.8056 | .61931 | | |
| | Arthralgia/Arthritis | 15 | 4.2485 | .23921 | | |
| | Gastritis | 9 | 3.7071 | .64568 | 1.354 | 0.234 |
| | Respiratory Diseases | 3 | 3.7879 | .53268 | | |
| | Hypertension | 1 | 4.0909 | . | | |
| | No | 207 | 3.8103 | .85755 | | |

**Table 4.21** (continued)

| | | N | Mean | Std. Deviation | ANOVA | |
|---|---|---|---|---|---|---|
| | | | | | F | Sig. |
| | > 1 Congenital Disorders | 2 | 4.9091 | .00000 | | |
| | Total | 266 | 3.8401 | .80604 | | |
| Perceived Performance | Fibromyalgia/ Muscle Strain | 29 | 3.9540 | .59578 | | |
| | Arthralgia/Arthritis | 15 | 4.0667 | .33806 | | |
| | Gastritis | 9 | 3.7037 | .80699 | | |
| | Respiratory Diseases | 3 | 4.0000 | .33333 | 0.959 | 0.453 |
| | Hypertension | 1 | 3.3333 | . | | |
| | No | 207 | 3.8551 | .74639 | | |
| | > 1 Congenital Disorders | 2 | 3.0000 | .00000 | | |
| | Total | 266 | 3.8659 | .71285 | | |
| Loyalty | Fibromyalgia/ Muscle Strain | 29 | 4.1310 | .70564 | | |
| | Arthralgia/Arthritis | 15 | 4.3733 | .34531 | | |
| | Gastritis | 9 | 3.9111 | .92796 | | |
| | Respiratory Diseases | 3 | 4.1333 | .30551 | 0.341 | 0.915 |
| | Hypertension | 1 | 4.0000 | . | | |
| | No | 207 | 4.0995 | .88699 | | |
| | > 1 Congenital Disorders | 2 | 4.2000 | .00000 | | |
| | Total | 266 | 4.1128 | .83827 | | |

From the T-test result, shown in Table 4.22, workers of Myanmar nationality show higher levels of perceived supportability on the different aspects of job resources, which, further denoted by higher level of perceived job satisfaction, perceived performances and loyalty to the company, when compared to the Thai counterparts. Nevertheless, the interpretation of T-Test has to be taken cautiously as there are unequaled proportions of the nationality between Thai and Myanmar.

**Table 4.22** T-Test between Thai and Workers from Myanmar

**Group Statistics**

| | Nationality | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Job Demands | Thai | 255 | 2.5972 | .61175 | .03831 |
| | Burmese | 15 | 2.4714 | .24714 | .06381 |
| Job Resources | Thai | 255 | 3.8538 | .72489 | .04539 |
| | Burmese | 15 | 4.1212 | .12389 | .03199 |
| Personal Resources | Thai | 255 | 3.7698 | .83647 | .05238 |
| | Burmese | 15 | 4.1667 | .19881 | .05133 |
| Workload/ Work Pressure | Thai | 255 | 2.6065 | .58160 | .03642 |
| | Burmese | 15 | 2.5037 | .26182 | .06760 |
| Physical Demands | Thai | 255 | 3.2510 | .78979 | .04946 |
| | Burmese | 15 | 3.3000 | .49281 | .12724 |
| Emotional/ Mental Demands | Thai | 255 | 2.1333 | .92198 | .05774 |
| | Burmese | 15 | 1.8222 | .41532 | .10723 |
| Role of Company | Thai | 255 | 3.6271 | .78563 | .04920 |
| | Burmese | 15 | 3.8909 | .29196 | .07538 |
| Wages | Thai | 255 | 3.8949 | .81168 | .05083 |
| | Burmese | 15 | 4.1067 | .22509 | .05812 |
| Autonomy | Thai | 255 | 3.8549 | .91924 | .05757 |
| | Burmese | 15 | 4.1333 | .66726 | .17229 |
| Supervisor Relationship | Thai | 255 | 3.7779 | .69110 | .04328 |
| | Burmese | 15 | 4.0833 | .20952 | .05410 |
| Colleague Relationship | Thai | 255 | 4.2672 | .83264 | .05214 |
| | Burmese | 15 | 4.5333 | .27778 | .07172 |
| Pride in the Job | Thai | 255 | 3.7775 | .82915 | .05192 |
| | Burmese | 15 | 4.1917 | .14068 | .03632 |

**Table 4.22** (continued)

## Group Statistics

|  | Nationality | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Decision Making | Thai | 255 | 3.7392 | 1.02028 | .06389 |
|  | Burmese | 15 | 4.0667 | .62297 | .16085 |
| Job Satisfaction | Thai | 255 | 3.7932 | .85228 | .05337 |
|  | Burmese | 15 | 4.1212 | .26093 | .06737 |
| Perceived Performance | Thai | 255 | 3.8209 | .75393 | .04721 |
|  | Burmese | 15 | 4.1556 | .33014 | .08524 |
| Loyalty | Thai | 255 | 4.0604 | .87842 | .05501 |
|  | Burmese | 15 | 4.5200 | .19712 | .05090 |

**Table 4.23** Levene's Test for Equality of Variances

|  |  | Levene's Test for Equality of Variances | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|
|  |  | F | Sig. |  |  |  |
| Job Demands | Equal variances assumed | 5.311 | .022 | .791 | 268 | .429 |
|  | Equal variances not assumed |  |  | 1.690 | 25.726 | .103 |
| Job Resources | Equal variances assumed | 12.999 | .000 | -1.425 | 268 | .155 |
|  | Equal variances not assumed |  |  | -4.815 | 103.935 | .000 |
| Personal Resources | Equal variances assumed | 11.828 | .001 | -1.831 | 268 | .068 |
|  | Equal variances not assumed |  |  | -5.411 | 55.048 | .000 |

**Table 4.23**  (continued)

| | | Levene's Test for Equality of Variances | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| | | F | Sig. | | | |
| Workload/ Work Pressure | Equal variances assumed | 4.784 | .030 | .680 | 268 | .497 |
| | Equal variances not assumed | | | 1.339 | 23.199 | .193 |
| Physical Demands | Equal variances assumed | 3.896 | .049 | -.237 | 268 | .813 |
| | Equal variances not assumed | | | -.359 | 18.527 | .724 |
| Emotional/ Mental Demands | Equal variances assumed | 7.076 | .008 | 1.297 | 268 | .196 |
| | Equal variances not assumed | | | 2.555 | 23.186 | .018 |
| Role of Company | Equal variances assumed | 8.207 | .005 | -1.293 | 268 | .197 |
| | Equal variances not assumed | | | -2.931 | 28.184 | .007 |
| Wages | Equal variances assumed | 10.099 | .002 | -1.007 | 268 | .315 |
| | Equal variances not assumed | | | -2.743 | 42.246 | .009 |
| Autonomy | Equal variances assumed | .864 | .354 | -1.154 | 268 | .249 |
| | Equal variances not assumed | | | -1.533 | 17.289 | .143 |
| Supervisor Relationship | Equal variances assumed | 10.276 | .002 | -1.704 | 268 | .090 |
| | Equal variances not assumed | | | -4.408 | 36.823 | .000 |

**Table 4.23**  (continued)

| | | Levene's Test for Equality of Variances | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| | | F | Sig. | | | |
| Colleague Relationship | Equal variances assumed | 5.211 | .023 | -1.232 | 268 | .219 |
| | Equal variances not assumed | | | -3.001 | 32.213 | .005 |
| Pride in the Job | Equal variances assumed | 13.698 | .000 | -1.930 | 268 | .055 |
| | Equal variances not assumed | | | -6.537 | 105.406 | .000 |
| Decision Making | Equal variances assumed | 5.008 | .026 | -1.228 | 268 | .220 |
| | Equal variances not assumed | | | -1.892 | 18.741 | .074 |
| Job Satisfaction | Equal variances assumed | 9.640 | .002 | -1.484 | 268 | .139 |
| | Equal variances not assumed | | | -3.816 | 36.299 | .001 |
| Perceived Performance | Equal variances assumed | 6.272 | .013 | -1.707 | 268 | .089 |
| | Equal variances not assumed | | | -3.434 | 23.784 | .002 |
| Loyalty | Equal variances assumed | 12.571 | .000 | -2.020 | 268 | .044 |
| | Equal variances not assumed | | | -6.133 | 61.206 | .000 |

# CHAPTER 5

# CONCLUSION AND IMPLICATIONS

## 5.1 Introduction

According to the independent study requirement at Purdue University (2015), there are two important characteristics in a dissertation, and there must be evidences of "original" and "substantial" contributions. As there is a dearth of knowledge and empirical evidences relating to the interrelated structure of relationship and nature of job demands and resources, states of job satisfaction, loyalty to the employer, and perceived performance from the views of the labor workforces in the construction industry, this research thus establishes its research objective along this direction, as point of entry for further contribution to the body of knowledge relating to the fields and disciplines of human resources and organization development, in particular dealing with construction industry.

In order to address the research objective, the literature pertaining to job resources, job demands, job satisfaction, employee loyalty, and perceived performance was reviewed, in which one broad-based research question, and three hypotheses are raised, as follows:

1. What are the patterns of relationship between the different facets of job demands and resources available to the workers (both job and personal resources)? A broad-based research question that attempts to study the interrelationship structure or pattern of job resources and demands is undertaken as this phenomenon is contextual, situational, and thus there is no one fixated pattern, i.e. stressful demand leads to higher provision of job resources, as otherwise, it is a different research issue.

2. Hypothesis 1 (H1): Job resources and personal resources can significantly explain the variance of job satisfaction.

3. Hypothesis 2 (H2): Both job satisfaction and its antecedent at job resources and personal resources levels, can significantly explain the variances of employee loyalty.

4. Hypothesis 3 (H3): Both employee loyalty and job satisfaction can significantly explain the variances of the perceived job performance.

Numerous demographics and job relevancy variables would be addressed to study their roles in the influence of the key variables of the conceptual model , namely gender, marital status, age groups, educational level, nationality, working position, ability (willingness) to work with hazardous risk, working experience, full-part or part-time status, congenital disorder, daily income level, and distance from home of the workers.

Literature review provides the base of validity and reliability for the survey instrument design in Chapter Three. Exploratory factor analysis is used to detail the dimensions of the relevant constructs, such as job resources and job demands. Reliability coefficients in terms of Cronbach Alpha provide the base for the instrument and the statistical analyses. Chapter four then reported the results of the data analysis in both descriptive and inferential dimensions. This chapter puts the data analysis into the perspective of the extant literature, in the context of the research objective and attempts to shed light on the possible nature and scopes of contributions to the body of knowledges by suggesting the implications of the research.

## 5.2 Concluding Research Objective

Realizing the significant role of people as the dominant driver for competitive advantage, business needs to ensure a better understanding about what drives the satisfaction of the employees, and what results them to commit to the organization and to perform in their job roles. This research focuses on the personal and company-level of job resources and the different nature of job demands that influence job satisfaction and employee loyalty, and job performance.

Studying job resource-demand is a part of an organization design issue. According to the research findings discussed in Capelle (2014), organization design is one factor that is powerful enough to be directly related to improve outcomes. While Capelle (2014) focuses on manager-direct report alignment and the stratum structure of job structure (i.e. spans of control), this research focuses on organization design that relates to employee-level. The former attempts to study organization design and its predictive ability to influence better alignment of deliverables, the employee-level job resource-demand design is aimed to build favorable employee attitude in terms of satisfaction and commitment known as loyalty.

Employee satisfaction is an important construct to discuss as many empirical research data show that satisfaction and loyalty of employees influence the satisfaction and the loyalty of the customers. A widely known model that captures the employee-customer relationship structure is known as the service profit chain (Heskett, Sasser, & Wheeler, 2008). This research, as evidenced in the final model presented in Figure 5.1, job satisfaction can significantly be predicted by organizations stressing on the improvement and the provisions of quality standards in the roles of company as job resources and the introduction and commitment in relevant HR policies to help stimulate the personal resources potentialities of the workers, such as in prideness of job and providing the necessary opportunities for decision making in coping with emerging complexities at the construction sites. The percent of these predictors to explain the variance of job satisfaction stands at 78.8 percent which is considered very high strength, with robust matching between the theoretical model and the application context as discussed in Cohen (1992).

In view of job resources and demand phenomena, they are predominantly the focus of the job characteristics theory (Hackman & Oldham, 1975). Fundamentally, job resources and demand do share the similar attributes and domains of characteristics of the available motivation theories, i.e. the hierarchical needs (Maslow, 1954), the growth-relatedness-existence (ERG Theory, Aldefer, 1972), and Herzberg's (1966) Two-Factor theory of motivation. Nevertheless, the patterns of the interrelationships between job and personal resources and job demands are relatively unknown in the construction industry. The inverse patterns of relationship between job and personal resources (at mean of 4.0515, and 3.8897) and job demands (at mean of 2.3778) indicate

a general higher resources and lower demand job situations at the construction sites in Chiang Rai. Thus, the limitation of this research is that it is not able to reveal the other scenarios which involve high job demand and high resources situations, which are typical cases for high work engagement (Bakker & Demerouti, 2007). Thus, it implies to the construction organization as follows: The managers should make efforts to identify the matching of JD-R (nature of Job Demands and Resources) and to try to rectify the job stresses induced by mismatching of JD-R and the inherent weaknesses of the current JD-R patterns. Furthermore, the posititive interrelationship between the personal-level and job-level resource further implies that workers can be simulated to perceive positive attitudes towards the works and their ability to contribute and apply their competencies in the work settings, which they also perceive can lead them to promotion, by the supporting roles of the various aspects of job resources. In other words, the provision of physical (i.e. equipments and the necessary facilities), psychological (i.e. induced by good atmospheric environment in the workplace and that the organization listens provides channels of listens to the voices of the workers), social (i.e. productive supervisory relationship) and organizational (i.e. the company provides good welfare) resources can help to stimulate the intrinsic working of the personal resources, to drive productivity, satisfaction and loyalty.
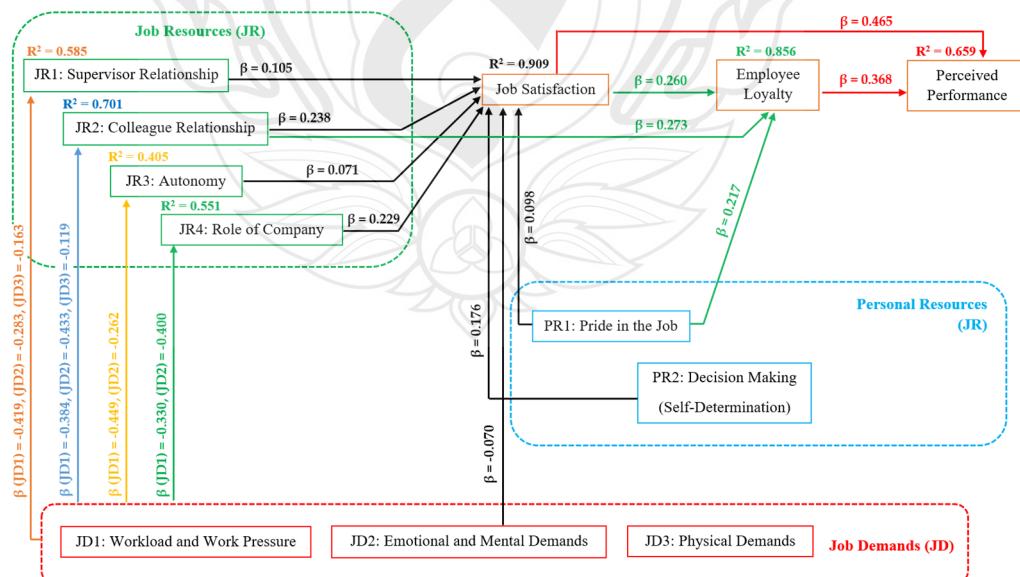


**Figure 5.1** Final Model

Overall, the research objective is fulfilled. Even at the exploratory level of this research, the empirical outcome of this research is capable to reveal many important attributes and points for implications and further research, which will be discussed in the remaining sections of this independent study.

## 5.3 Concluding Research Question 1

Research question 1 is attempted to address to identify the pattern of relationship between job demand and job nature, which the statistical results in Chapter Four indicate the inverse relationship patterns between the different facets of worker resources (both personal and job resources) and the three nature of the job demands (represented by work pressure, physical demand and emotional demand in jobs).

Two types of resources are identified in the exploratory factor analysis, namely personal resources and job resources, and both can collectively represent the resources available to each of the workers, represented by 0.472JR (Job Resource) + 0.547PR (Personal Resource). Specifically, personal resource is represented by 0.793 of price in the job, i.e. interesting in construction work, can use the expertise at the construction, always well-prepared to work for the next day, there is a recognition from the job, job is challenging, job security and stability, good opportunities for personal skills development, and good opportunity to be promoted, and 0.245 of decision making opportunity of workers, i.e. there is a participation in deciding about the nature of the worker's work and there is a participation in deciding about when a piece of work must be completed. For construction work sites, the majority of the personal resources, as shown in Table 1, are intrinsically psychological in nature, driven by perceived opportunities and the confidence of personal skills that can be exploited and be matched with the relevancy of job requirements. The discretionary weight is low, at 0.245 as compared to pride of the job which is at 0.811, in characterizing the nature of personal resources.

In terms of factorized elements of job resource, there are a total of five elements, with the key variables being the role of company, at Beta weight of 0.362, and relationships with colleagues and supervisors, at Beta of 0.244 and 0.232, respectively.

The other minor elements of job resource are wages, at Beta of 0.170, and autonomy, of the least role, at Beta of 0.078. The role of company captures the perceptions of the workers towards the supports and invested actions of the organization in terms of HR and strategic policies, regulations, ethical principles and equipments, such as, "the construction materials and tools of the construction company are always ready, meaning well-prepared for the current job," "there are fairness of regulations in the company," "there is a good atmospheric environment at the workplace," "there are good workplace safety rules," "there are good welfare conditions," "compatibility with company such as in terms of values and policy," "good working equality practices at the workplace," "the company shows best interest of employees in mind," "the company listens to what the employees have to say," "the company disciplines workers who violate ethical standards," and "the company discusses business ethics or values with employees." In the domain of job resources that deal with colleague relationships, perceptions are sought over, for instance, the supportability, harmonious relationship, encouragement, teamworking spirits and brainstorming advantages of the colleagues as job resources to accomplish the tasks at hand. Both the role of company and colleague relationships would have significant influence to influence the satisfaction state of the workers, as well as loyalty attitude and behaviors, to be discussed in the sequel. For other elements of job resources, it is recommended to refer back to the summary of the questionnaire items in Chapter Three.

The inverse patterns of relationship between job and personal resources (at mean of 3.8687, and 3.7919) and job demands (at mean of 2.5902) indicate a general higher resources and lower demand job situations at the construction sites in Chiang Rai. Thus, the limitation of this research is that it is not able to reveal the other scenarios which involve high job demand and high resources situations, which are typical cases for high work engagement (Bakker & Demerouti, 2007). Thus, it implies to the construction organization as follows: The managers should make efforts to identify the matching of JD-R (nature of Job Demands and Resources) and to try to rectify the job stresses induced by mismatching of JD-R and the inherent weaknesses of the current JD-R patterns. Furthermore, the positive interrelationship between the personal-level and job-level resource further implies that workers can be simulated to perceive positive attitudes towards the works and their ability to contribute and apply their competencies

in the work settings, which they also perceive can lead them to promotion, by the supporting roles of the various aspects of job resources. In other words, the provision of physical (i.e. equipments and the necessary facilities), psychological (i.e. induced by good atmospheric environment in the workplace and that the organization listens provides channels of listens to the voices of the workers), social (i.e. productive supervisory relationship) and organizational (i.e. the company provides good welfare) resources can help to stimulate the intrinsic working of the personal resources, to drive productivity, satisfaction and loyalty.

## 5.4 Concluding Hypothesis 1

H1 is supported at a very significant 90.9 percents of the variance, predicted by job resources represented by the role of the company, at Beta of 0.229, autonomy at Beta of 0.071, and supervisory relationship, at Beta of 0.105, and colleague relationship at Beta of 0.238, and personal resources represented by pride in job, at Beta of 0.176, and decision making authority of the workers at Beta of 0.098.

Specifically, in this hypothesis, it can be known that workers provide the aspects of their assessments on job satisfaction in various aspects, for instance, towards company policy, wages, ethical principles of the company, job security, happiness in the work, and a working environment which stresses on safety, friendliness, and the supportive spirits of the management and the relational attractiveness of the working environments. The significant predictors to job satisfaction are notably the role of the company, supervisory and colleague relationships, and the other two aspects of personal resources, namely pride in the job and decision making.

Thus, the construction companies would need to particularly stress upon improving the standards of the roles provided, i.e., the readiness of the construction materials and tools to support the works of the workers, the fairness of regulations in the company, the good atmospheric environment at the workplace, the safety rules of the workplace, good welfare conditions, compatibility with the construction company in terms of values and policies, good working equality practices at the workplace, and the evidences the company listen to what the workers have to say. The organization

should also not ignore the personal resources in an attempt to provide the necessary matching and alignment between the personal characteristics and the job characteristics. The personal resources, represented by pride in the job and decision making opportunities for jobs that may need emerging adjustments at the construction sites, would need to be the focal radar of the organization as the combined standard coefficient weights of the personal resources (Beta 0.176 + Beta 0.098) are higher than the role played by the role-of-the organization resources (Beta of 0.229). In addition, at the current states, the construction companies have performed below the agreeable expectation (below "4" scale) of the workers in most of the aspects of the predictors to job satisfaction, except colleague relationship, at a mean of 4.282.

## 5.5 Concluding Hypothesis 2

H2 is supported as reflected by the predictors shown in Table 4.9, which indicates the significant roles of both job and personal resources, represented by colleague relationship at Beta of 0.273 and pride in job at Beta of 0.217, respectively, and also job satisfaction, at Beta of 0.260. These predictors are able to explain 85.6 percents of the variance of loyalty of the workers to the company. Thus, it is important the construction companies attempt to foster a good harmonious working relationship, significantly of the workers and their colleagues, from which they can obtain the necessary encouragement in stressful or job-demanding environment and the necessary teamwork and intellectual sources for brainstorming to help them speed up the work, and better to achieve targeted works at the construction sites. In addition, the construction companies should also put their attention on the key drivers to job satisfaction i.e. pride in the job, decision-making space and the role of company aspect of job resources, and the state of job satisfaction itself to develop and maintain worker loyalty.

In addition, judging from the nature of the predictors, namely colleague relationship and job satisfaction, which is feeling in the former and evaluative in the latter, thus, worker loyalty is a psychological inclination that contains "feeling" (Boroff & Lewin, 1997) as well as evaluative consequences including attachment (Leck &

Saunders, 1992) and commitment to the organization (Sverke & Goslinga, 2003). The evaluative characteristics of worker loyalty are reflected, for instance, in the measurement of this research by the perceptions of the workers over, "this company is always my first preference for future construction work project," and "for me this company is the best of all possible construction companies for which to work." In addition, worker loyalty also connotes the perceptions of workers towards, for instance, "I am willing to put in extra effort to deliver the construction project on time," which illuminates the commitment and organizational citizenship participation of the workers towards the organization (Diefendorff, Brown, Kamin, & Lord, 2002). This also implies in the further research effort to include other aspects of the consequences to worker loyalty beyond perceived performances of the workers, by including, for instance, organizational citizenship behaviors (Diefendorf et al. 2002).

## 5.6 Concluding Hypothesis 3

H3 is supported, which states that both employee loyalty (at Beta of 0.368) and job satisfaction (at Beta of 0.465) can significantly explain the variances of the perceived job performance, at 65.9 per cent. Thus, to influence job-related performance, for instance, in on-time delivery of construction project, the zero accidents on the job site and the quality of the construction work in matching the specified standards, the construction companies would need to ensure the creation of a favorable psychological state of feeling and commitment to the employees, represented by their loyalty and job satisfaction.

## 5.7 Concluding Demographics and Job-Relevancy Variables

The roles of numerous demographics and job relevancy variables have been addressed in Chapter Four, namely gender, marital status, age groups, educational level, nationality, working position, ability (willingness) to work with hazardous risk, working experience, full-part or part-time status, congenital disorder, daily income level, and distance from home of the workers.

In general, the t-test results on gender indicate that the female workers perceive higher level of job resources than their male counterparts, which those of particularly significant differences are those that relate to supervisory relationship and the supportive role of the company, for instance, in making readiness of construction materials and tools for the current job, including the fairness of regulations, good atmospheric environment at the workplace, safety rules and good welfare conditions, compatibility of values and policy between theirs and the organization, and equality practices at the workplace.

On the marital domain, there are no significant differences of the perceptions and attitudes, or behaviors and performances of the jobs of the workers of different marital statuses.

The interpretation of the significant differences across the different age groups is not straightforward. Although the ANOVA test results indicate significant differences for most of the variables involved, but in general, the trend is that the workers of "41-45 years old" group perceive they receive better supports of job resources, which also indicates higher levels of job satisfaction, loyalty and perceived performances, at a response scale over "4" ("Agreeable"), in five Likert Scale, from "1" ("Strongly disagree") to "5" ("Strongly agree"). A rationale for why the workers of age group "41-45 years old" has the highest perceived job resources, and one of the lowest on perceived stressfulness in job demands, which also shows significantly higher level of attitude and behavior in terms of job satisfaction and loyalty to the organization, and thus perceived job performance, is the highest working years of experience in the company, at an average of 8 years. The correlation analysis result provides the evidence, significant at 0.01 level (2-tailed), that workers of higher level of experience is an important variable which can indicate significantly higher perceived levels of supportability of the various aspects of job resources provided by the organization, as well as at personal level, and their perceived performance level in project delivery and the quality assurance aspect of the project, job satisfaction and loyalty. Workers of higher experience also perceive favorable in the various facets of job demands, in terms of work pressure, physical demands and emotional, or mental demands, presented by the negative correlation coefficient, at -0.325** (significant at 0.01 level, 2-tailed).

Based on the significant correlation strengths between the "years of working experience" variable of the workers and all the variables involved in this research, a more comprehensive multivariate regression analysis is performed by taking the demographics and the job-relevancy profiles of the workers into consideration, which shows very important finding, indicating the significant roles of education, years of working experiences, full-time or part-time job position, and their accommodation location characterized by the "distance from home." Specifically, these demographics and job-relevancy predictors can explain 44.3 percents of the variance of perceived performance which the workers perceive they are able to contribute and to deliver, i.e. the on-time project delivery, and quality of the construction works that match with the specified standards.

In particular, the predicting direction towards higher level of perceived performance is in favor of workers of higher level of education (Beta = 0.228), having longer years of working experience (Beta = 0.175), and workers of full-time status (Beta = - 0.189), and who live in shorter distance between home and the worksites (Beta = - 0.364), is shown in Figure 5.2.
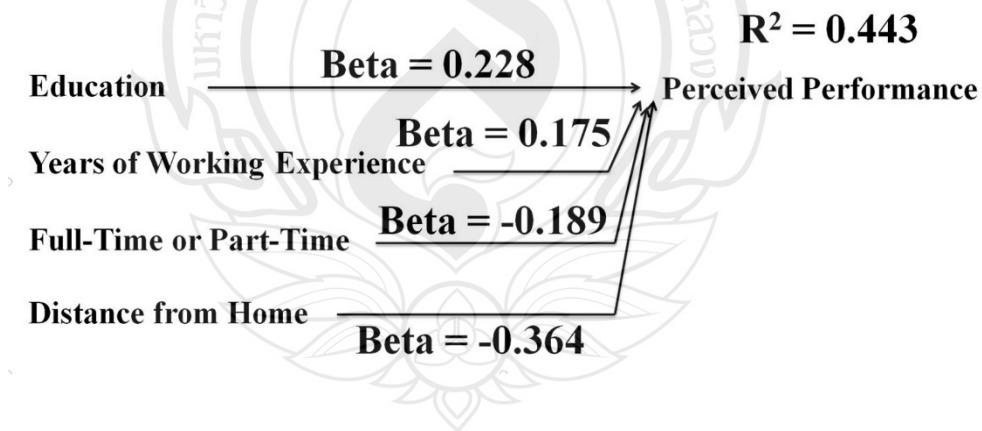


**Figure 5.2** Significant Influences by Demographics and Job-Relevancy Variables on Perceived Performances of Workers

In the aspect of job satisfaction, which relates to the perceptions of the workers towards the company policy, and working environments characterized as safety, friendliness and supportive, and the relationships with supervisors and colleagues, and

in areas of ethics, wages, and job security, and happiness of the work, the result of the multivariate regression indicates the significant role of:

1. Gender (Beta = 0.113)
2. Education (Beta = 0.225)
3. Years of Working Experience (Beta = 0.224)
4. Full-Time or Part-Time (Beta = - 0.208)
5. Distance from Home (Beta = -0.420)

Specifically, the multivariate regression result indicates that these demographics and job-relevancy predictors can explain up to 55.6 percents of the variance of job satisfaction, depicted by the trend that the female workers show higher level of job satisfaction, and workers of higher education and years of working experience also reflect higher level of job satisfaction. On the other hand, part-time workers perceive lower level of job satisfaction, and the workers who live further from the worksites are also less satisfied. These provide tremendous valuable information to the construction companies as the important backgrounds that have significant impact on job productivity, job satisfaction and the states of the employee loyalty to the company.
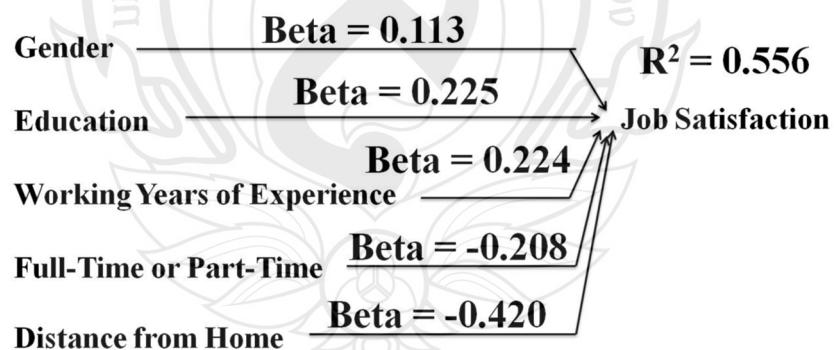


**Figure 5.3** Significant Influences by Demographics and Job-Relevancy Variables on Job Satisfaction

Pertaining to loyalty of workers to the company, as shown in Figure 5.4, the following demographics and job-relevancy variables play significant predicting ability to explain the variance of loyalty at 48.3 percents:

      1. Gender (Beta = 0.098)

      2. Education (Beta = 0.218)

      3. Ability (Willingness) to Work with Hazardous Risk Areas (Beta = -0.106)

      4. Years of Working Experience (Beta = 0.247)

      5. Full-Time or Part-Time (Beta = -0.224)

      6. Distance from Home (Beta = -0.316)

In short, the female workers show slightly higher level of loyalty to the company, and the positive trend which describes the higher level of loyalty is predicted by higher level of education of the workers and the longer years of working experience. On the other hand, the workers who show no ability or not willing to work with hazardous risk areas are less loyal, and those of part-time job status, including the accommodation further away from the worksite also show less loyal to the construction company.
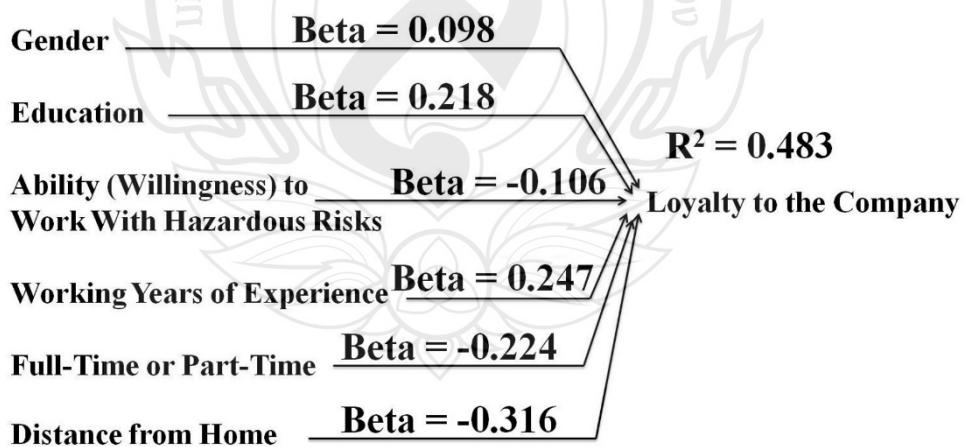


**Figure 5.4** Significant Influences by Demographics and Job-Relevancy Variables on Loyalty to the Company

In general, confirmed through correlation and ANOVA analyses, workers of higher daily income perceive higher levels at the job resources level, job satisfaction, perceived performance and loyalty, and also perceive lower stressful conditions on the jobs.

In regard to workers that indicate whether they have issues with congenital disorder, the ANOVA test result shows no significant differences on workers who have or not have.

From the T-test result, workers of Myanmar nationality show higher levels of perceived supportability on the different aspects of job resources, which, further denoted by higher level of perceived job satisfaction, perceived performances and loyalty to the company, when compared to the Thai counterparts. Nevertheless, the interpretation of T-Test has to be taken cautiously as there are unequaled proportions of the nationality between Thai and Myanmar.

## 5.8 Implication to Construction Companies

There are many aspects of implication to suggest to the construction companies.

First, the inverse relationship patterns between the different facets of worker resources (both personal and job resources) and the three nature of the job demands (workload pressure, physical demands, and emotional demands) can be explained in two ways – either higher job resource provided to low job demand condition, or limited job resource currently the state of play for high-demand jobs. Although descriptively the scenario reflects the first situation, but it also connotes the pattern of job strain rather than job engagement (Bakker & Demerouti, 2007). In either case, productivity may be lost or not appropriately or optimally improved (cf. Linz, Good, & Bush, 2015). Thus, managers should make efforts to identify the matching of JD-R (nature of Job Demands and Resources) and to try to rectify the job stresses induced by mismatching of JD-R and the inherent weaknesses of the current JD-R patterns.

Second, judging by high R-squared at 0.909 and 0.856 in the roles played by JD-R in job satisfaction and worker loyalty, respectively, the HR strategies of construction companies should stress to improve on the physical, psychological, social,

organizational and even personal-level aspects of job resources which can help to cushion to impact of job demands, stimulate personal growth and development, and help improve job performances.

Third, from the positive correlational cross-interaction between the personal-level and job-level resources, it implies, for instance, that workers can be simulated to perceive positive attitudes towards the works and their ability to contribute and apply their competencies in the work settings, which they also perceive can lead them to promotion, by the supporting roles of the various aspects of job resources. In other words, the provision of physical (i.e. equipments and the necessary facilities), psychological (i.e. induced by good atmospheric environment in the workplace and that the organization listens provides channels of listens to the voices of the workers), social (i.e. productive supervisory relationship) and organizational (i.e. the company provides good welfare) resources can help to stimulate the intrinsic working of the personal resources, to drive productivity, satisfaction and loyalty.

## 5.9 Implication to Theory

There are also many aspects of implication to theory.

First, a key implication for theory is that the validation of the practicality and applicability of the Job Demand-Resources (JD-R) model in the ability to explain workers' job satisfaction and perceived performances can allow the similar research to exploit the firm base and power of explanation of environment psychology. Environmental psychology, as a mainstream discipline of psychology student, can be used to unify the job resources-mediated demand environment in influencing employees' behaviors and attitudes, i.e., job satisfaction and loyalty. Environment psychology, when further supported by the "Social Exchange Theory (SET)" (Blau, 1964), would further embrace the relational (i.e., relationships among colleagues) nature of job resources and demands, which help to enrich the understanding of the JD-R and JCM (Job Characteristics Model) by the use of cross-disciplinary knowledge.

Second, which is a nature of contribution beyond validating the existing JD-R model, is the ability of this research to indicate the patterns of relationships and thus

the existence of possible strains of job situations, as characterized by the analysis of the JD-R model directly. The discussion can be found in Research Question 1 (RQ1).

Third, this research provides the statistical evidences to chart a route of procedures for systematic studies and uses of operational definitions to the various variables or constructs involved in this research. In other words, this research helps one to see that both antecedents and consequences to a construct, such as worker loyalty, actually share the similar domains of characteristics. For instance, judging from the nature of the predictors, namely colleague relationship and job satisfaction, which is feeling in the former and evaluative in the latter, thus, worker loyalty is a psychological inclination that contains "feeling" (Boroff & Lewin, 1997) as well as evaluative consequences including attachment (Leck & Saunders, 1992) and commitment to the organization (Sverke & Goslinga, 2003). The evaluative characteristics of worker loyalty are reflected, for instance, in the measurement of this research by the perceptions of the workers over, "this company is always my first preference for future construction work project," and "for me this company is the best of all possible construction companies for which to work." In addition, worker loyalty also connotes the perceptions of workers towards, for instance, "I am willing to put in extra effort to deliver the construction project on time," which illuminates the commitment and organizational citizenship participation of the workers towards the organization (Diefendorff, Brown, Kamin, & Lord, 2002). This also implies in the further research effort to include other aspects of the consequences to worker loyalty beyond perceived performances of the workers, by including, for instance, organizational citizenship behaviors (Diefendorf et al. 2002).

Fourth, by extending the scopes of benefits beyond perceived performance, the further research should systematically review the literature and theories of the resource-based view (RBV) to better provide a more strategic bridge between the creation of engaged employees within an organization and outcome of competitive advantage, i.e. as revealed in VRINO (Value, Rare, Inimiatable, Non-Substitutable, and Organized). For further insights into the possible scopes of further research in areas of RBV, one can refer to Djailani and Tan (2015).

## 5.10 Limitation

A key limitation of this research is discovered at post-data analysis stage. That is, the inverse patterns of relationship between job and personal resources (at mean of 4.0515, and 3.8897) and job demands (at mean of 2.3778) indicate a general higher resources and lower demand job situations at the construction sites in Chiang Rai. Thus, the limitation of this research is that it is not able to reveal the other scenarios which involve high job demand and high resources situations, which are typical cases for high work engagement (Bakker & Demerouti, 2007). In addition, the inverse relationship patterns between the different facets of worker resources (both personal and job resources) and the three nature of the job demands (workload pressure, physical demands, and emotional demands) can be explained in two ways – either higher job resource provided to low job demand condition, or limited job resource currently the state of play for high-demand jobs. Although descriptively the scenario reflects the first situation, but it also connotes the pattern of job strain rather than job engagement (Bakker & Demerouti, 2007). In either case, productivity may be lost or not appropriately or optimally improved (cf. Linz, Good, & Bush, 2015).

## 5.11 Further Research

The outcomes of this research reveal many fronts of further research.

First, if the sample size can be significantly improved, such as to systematically incorporate cases of works that involve high-high, high-low, low-high, and low-low aspects of job demand and job resources, as indicated in Figure 5.5, perhaps by the use of interviews based case studies, the research could systematically identify factors that are antecedents to job satisfaction and employee loyalty. For instance, as evidenced in Bakker and Derks (2010), when employees face high-demand and high-resource situations, they tend to have higher level of work engagement, otherwise, on high demands but low resource situations, they tend to experience burnout. Thus, variables such as work engagement and burnout could then be incorporated to further enrich the research study. On another context, when employees are facing a high-demand situation

that demands them to solve intense client problem situation but in which resources needed are lacking, they may use depersonalization technique as an attempt to minimize their emotional resources (Wright & Bonett, 1997).
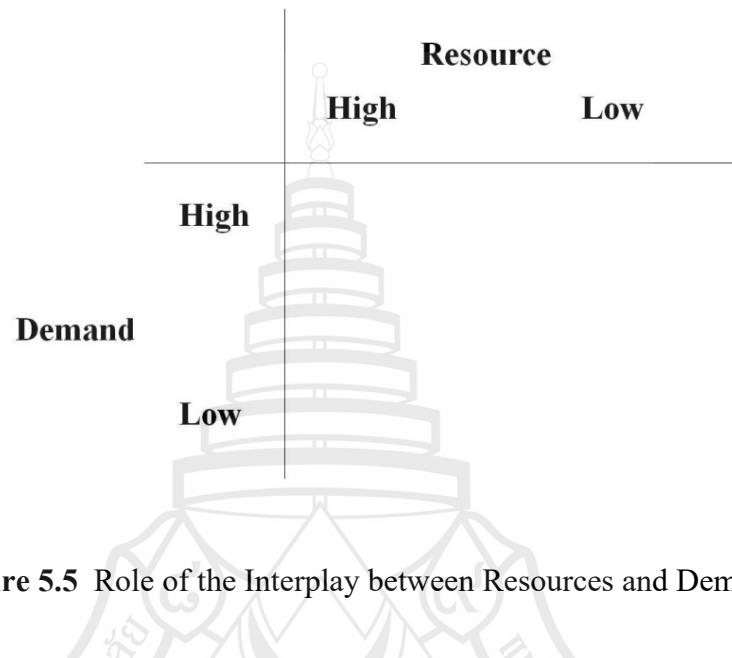


**Figure 5.5** Role of the Interplay between Resources and Demands

Not only that, when a research is equipped with high sampling size that is based on distinctive variances of the characteristics of the population, research could provide the different insight and suggestions as to how to balance resources and demands. In addition, the research could also provide useful inferences to build business model that also needs the strategically balancing acts of resources and demands in order to create sustainable winning business strategies.

Thus, a systematic improvement of sample sizes that are representatives of the context as illustrated in Figure 5.5 could not only help contribute to the literature of HRM (Human Resource Management) in suggesting effective HR policies, but could also provide further insights into the different types of resources that have been lacking the empirical studies, i.e. as emotional resource has been shown to be related to draining employee's energy for engagement and performances (Cordes & Dougherty, 1993). Similarly, there are other types of resources such as physical resources and mental resources, in which the depletion of these resources could lead to health issues, reduced

performances at both employee and organizational levels (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

The direction of the above suggestions for further research is projected to attempt to provide a holistic understanding to the nature of resources and demands, in different facets and angles of important strategic usefulness, to influence the performances and the psychological well-being of the employees, groups, organizational and at business levels. This is an important research effort, as the balancing states and the interplay, the roles between job demands and job resources, in different domains, could influence the competitive environment of working life (Yener & Coskun, 2013) and the organization.

Second, as the perceived performance can also be used as proxy to measure the effectiveness of operational strategies and organizational policies in the workplaces in the midst of new demands and rapid changes (Ashford & Taylor, 1990), the further research should actively incorporate the views of the organization, represented for instance by senior managers, to study that the actual perceived performances are actually aligned with the goals of the organization. This would thus provide the necessary implications and evidences that the JR-job satisfaction-loyalty model at worker level is strategically valid.

Third, in view of the actual limitation which lies in the nature and the number of construction sites of different nature and scopes of activities, including HR policies, the further research should expand the data collection participants from a larger number of construction sites around Thailand.

Fourth, the various other antecedent variables to influence could be considered, perceived performance by worker loyalty and satisfaction, for instance, by including trust and participation (Ashleigh, Higgs, & Dulewicz, 2012), and alternative forms of benefits rather than perceived performance would allow the impact of worker loyalty and job satisfaction to be more directed to the right areas of influence, such as organizational citizenship behavior (OCBs), firm profits, increasing value of the organization (Guillon & Cezanne, 2014), or more worker oriented benefits such as engagement, alignment, turnover, or enhancement of services (Linz, Good, & Busch, 2015).
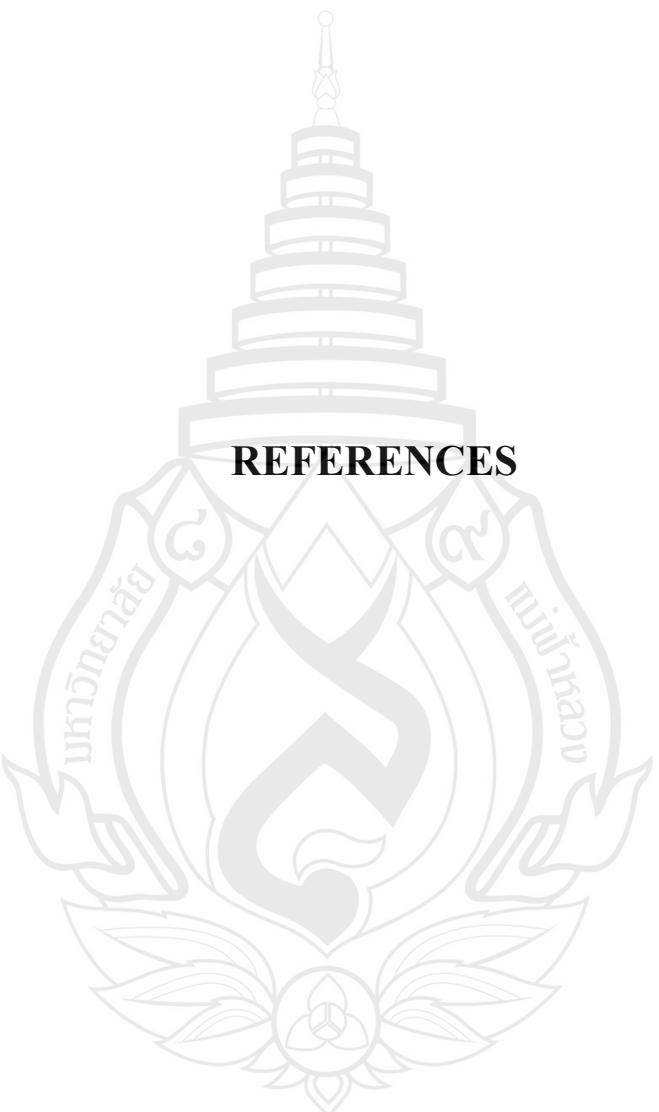
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**APPENDIX**

# APPENDIX

# SURVEY QUESTIONNAIRE

**Factors Related to the Improvement of Construction Workers' Performance and Loyalty in ChiangRai**

**Dear Sir/Madam,**

I am currently a student pursuing for the degree of MBA (Master of Business Administration) with major in Entrepreneurial Management (International Program), at Mae Fah Luang University of The Kingdom of Thailand.

This questionnaire is designed to study the job satisfaction of construction workers in ChiangRai following the model of Job Demands-Resources (JD-R), which indicates to their perception of performance and loyalty at the workplace. The questionnaire seeks your perception of whether you agree or disagree, in different degree of difference to the statements. Your participation is highly valuable for better understanding of the local construction workers that will help to find the real factors related to the improvement of performance and loyalty for construction companies in ChiangRai.

This survey includes **two parts**; and it will only take about 20-30 minutes. Please kindly answer each question to the best of your experience and ability. There are no right or wrong answers to the questions. Your participation are on voluntary basis.

If there are any doubts on this survey, you are free to contact the school of Management at Mae Fah Luang University, or contact my supervisor **Dr. Chai Ching Tan**.

**Thank you for your participation and valuable assistance.**

Sincerely,

Warut Srisuwan

**Contact:**    Mr. Warut Srisuwan

            Phone: 09-5450-9555 (Tul)

            Email: warut_tul@hotmail.com


**Supervisor:**  Dr. Chai Ching Tan

            Email: drcctan@yahoo.com

            Senior Lecturer at Mae Fah Luang University


**Part I:** This survey seeks your perceptions of whether you agree or disagree, in different degree of difference, to each of the questionnaire item statements in the **TABLE**. You are to **CIRCLE** the number that best describes with your perceived reality towards the statement, WHERE:

    **1** = strongly disagree;  **2** = disagree;  **3** = neither agree nor disagree;  **4** = agree;
    **5** = strongly agree

Please answer these items carefully, thinking about how you are generally. Do not spend too much time on any one item.

<u>ตอนที่ 1</u>: แบบสอบถามนี้ จัดทำขึ้นเพื่อการค้นคว้าหามุมมองของตัวพนักงานผู้ใช้แรงงานก่อสร้าง ในเชิงความคิดเห็นที่มีต่องาน โดยจะแบ่งคำถาม และลำดับความคิดเห็นในระดับที่แตกต่างกัน ออกไปตามตาราง จากกแบบสอบถามนี้ ให้ผู้ตอบแบบสอบถาม วงกลม ลงบนตัวเลขที่ตรงกับ ความเป็นจริงของผู้กรอกแบบสอบถามมากที่สุด โดยลำดับความคิดเห็นนั้นจะใช้ตัวเลขแทนในแต่ ละตัว ดังต่อไปนี้

1 = ไม่เห็นด้วยอย่างยิ่ง; 2 = ไม่เห็นด้วย; 3 = ทั้งเห็นด้วย และ ไม่เห็นด้วย (ระดับปานกลาง); 4 = เห็นด้วย; 5 = เห็นด้วยอย่างยิ่ง

กรุณาอ่าน และตอบคำถามจากพื้นฐานของตัวผู้ตอบแบบสอบถามในแต่ละข้ออย่างรอบคอบ โดย ไม่ควรใช้เวลามากเกินไปในการตอบคำถามแต่ละข้อ

**Part I** (ตอนที่ 1)

| | Disagree<br>(ไม่เห็นด้วย) | | | Agree<br>(เห็นด้วย) | |
|---|---|---|---|---|---|
| **Job Demands:**<br>(งานที่ใช้ข้อเรียกร้องจากงานสูง) | 1 | 2 | 3 | 4 | 5 |
| 1) Too much workload at the work place<br>(ทำงานหนักมากเกินไป) | 1 | 2 | 3 | 4 | 5 |
| 2) Appropriate working hours<br>(มีชั่วโมงในการทำงานที่เหมาะสม) | 1 | 2 | 3 | 4 | 5 |
| 3) Too much overtime working hours<br>(ต้องทำงานล่วงเวลา หรือทำโอทีมากเกินไป) | 1 | 2 | 3 | 4 | 5 |
| 4) Carrying too much of responsibilities<br>(ต้องแบกรับความรับผิดชอบในงานมากเกินไป) | 1 | 2 | 3 | 4 | 5 |
| 5) The work always needs to contact with difficult people<br>(เวลาทำงานต้องติดต่อคนอื่นซึ่งเข้าถึงยากเป็นประจำ) | 1 | 2 | 3 | 4 | 5 |
| 6) Needs to pay attention to many things at the same time<br>(ต้องสนใจ หรือ ตั้งใจทำอะไรหลายๆ อย่างพร้อมกันในเวลาเดียว) | 1 | 2 | 3 | 4 | 5 |
| 7) Work is always under the time pressure<br>(ถูกกดดันเรื่องเวลาในการทำงานเป็นประจำ) | 1 | 2 | 3 | 4 | 5 |
| 8) Working in many tasks at the same time<br>(ต้องทำงานหรือได้รับหน้าที่หลายๆ อย่างพร้อมกันในเวลาเดียว) | 1 | 2 | 3 | 4 | 5 |
| 9) Too much hazard risk of working<br>(เป็นงานที่เสี่ยงกับอันตรายมากเกินไป) | 1 | 2 | 3 | 4 | 5 |
| 10) Working too much in an unusual posture<br>(ทำงานโดยใช้ท่าที่ผิดปกติมากเกินไป) | 1 | 2 | 3 | 4 | 5 |
| 11) Moving or shifting too much for large and heavy construction materials<br>(ต้องยกของหรือเคลื่อนย้ายวัสดุอุปกรณ์การก่อสร้างที่มีน้ำหนักมากเกินไป) | 1 | 2 | 3 | 4 | 5 |

| 12) | The construction job puts worker in emotionally upsetting situations (งานก่อสร้าง ทำให้ตกอยู่ในสภาวะทางอารมณ์หรือเหตุการณ์ที่เศร้าหมอง) | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 13) | Work suffering due to the worker needs to take care of family (การทำงานแย่ลงหรือรู้สึกแย่จากการทำงาน เพราะต้องเอาเวลาไปดูแลครอบครัว) | 1 | 2 | 3 | 4 | 5 |
| 14) | This job keeps worker from doing best for the family (การทำงานนี้ ทำให้ไม่สามารถดูแลครอบครัวได้อย่างทั่วถึง) | 1 | 2 | 3 | 4 | 5 |
| **Resources:** (ทรัพยากร) | | | | | | |
| **Job Resources:** (ทรัพยากรของงาน) | | | | | | |
| 15) | There is a good interpersonal relationship with supervisor (มีความสัมพันธ์ที่ดีต่อหัวหน้างาน) | 1 | 2 | 3 | 4 | 5 |
| 16) | There is a difficulty for contacting to the supervisor (เป็นเรื่องยากที่จะติดต่อประสานงานกับหัวหน้างาน) | 1 | 2 | 3 | 4 | 5 |
| 17) | Can count on supervisor when come across difficulties in work (สามารถไว้ใจหัวหน้างานได้เมื่อต้องเผชิญหน้ากับงานที่ยากไปด้วยกัน) | 1 | 2 | 3 | 4 | 5 |
| 18) | Supervisor trains and guides the workers practicably (หัวหน้างานทำการฝึกสอนงานได้อย่างเหมาะสม และนำไปปฏิบัติได้จริง) | 1 | 2 | 3 | 4 | 5 |
| 19) | Supervisor oversees the workers appropriately (หัวหน้างานดูแลพนักงานได้อย่างเหมาะสม) | 1 | 2 | 3 | 4 | 5 |
| 20) | Supervisor understands and knows the workers' need (หัวหน้างานเข้าใจ และรู้ความต้องการของพนักงาน) | 1 | 2 | 3 | 4 | 5 |
| 21) | The suggestion is listened by supervisor (หัวหน้างานรับฟังความคิดเห็นจากพนักงาน) | 1 | 2 | 3 | 4 | 5 |
| 22) | There is a good feedback from the supervisor (ได้รับคำชมหรือผลตอบรับในการทำงานที่ดีจากหัวหน้างาน) | 1 | 2 | 3 | 4 | 5 |
| 23) | There is a good relationship with colleagues (มีความสัมพันธ์ที่ดีต่อเพื่อนร่วมงาน) | 1 | 2 | 3 | 4 | 5 |

| 24) | Can count on colleagues when come across difficulties in work (สามารถไว้ใจเพื่อนร่วมงานได้เมื่อต้องเผชิญหน้ากับงานที่ยากไปด้วยกัน) | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 25) | There is a harmonious relationship among the colleagues (มีความสามัคคีกันในหมู่เพื่อนร่วมงาน) | 1 | 2 | 3 | 4 | 5 |
| 26) | There is an encouragement comes from colleagues (กำลังใจในการทำงาน มาจากเพื่อนร่วมงาน) | 1 | 2 | 3 | 4 | 5 |
| 27) | Teamwork helps to achieve targeted work (การทำงานเป็นกลุ่ม มีส่วนช่วยให้บรรลุเป้าหมายในการทำงาน) | 1 | 2 | 3 | 4 | 5 |
| 28) | Team working speed up the work (การทำงานเป็นกลุ่ม ช่วยให้การทำงานเร็วขึ้น) | 1 | 2 | 3 | 4 | 5 |
| 29) | Brainstorming with colleagues helps solve the problems better than individual (การทำงานเป็นกลุ่ม ช่วยให้การแก้ไขปัญหาต่างๆ ในการทำงานง่ายขึ้น เมื่อเปรียบเทียบกับการทำงานคนเดียว) | 1 | 2 | 3 | 4 | 5 |
| 30) | There is a possibility of independent thought and action (มีความเป็นไปได้ที่จะสามารถนึกคิด และทำสิ่งต่างๆ ได้อย่างอิสระ) | 1 | 2 | 3 | 4 | 5 |
| 31) | Having freedom in doing the work activities (มีอิสระในการทำงาน) | 1 | 2 | 3 | 4 | 5 |
| 32) | Construction materials and tools in the company are always ready, meaning well prepared for the current job (เครื่องมือ และวัสดุอุปกรณ์ก่อสร้างถูกจัดเตรียมไว้อย่างดี และสม่ำเสมอ – ของไม่ขาดในเวลาทำงาน) | 1 | 2 | 3 | 4 | 5 |
| 33) | There are the fairness of regulations in the company (บริษัทมีกฎระเบียบที่เป็นธรรม) | 1 | 2 | 3 | 4 | 5 |
| 34) | There is a good atmospheric environment at the workplace (มีสภาพแวดล้อมความเป็นอยู่ที่ดีในที่ทำงาน) | 1 | 2 | 3 | 4 | 5 |
| 35) | There are good workplace safety rules (มีกฎระเบียบรักษาความปลอดภัยในด้านการทำงาน และสถานที่ที่ดี) | 1 | 2 | 3 | 4 | 5 |
| 36) | There are the good welfare conditions (มีเงื่อนไขสวัสดิการที่ดี) | 1 | 2 | 3 | 4 | 5 |

| 37) | There is fairness of wage payment<br>(มีการจ่ายเงินค่าจ้างอย่างเป็นธรรม) | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 38) | There is adequacy of wages<br>(มีการจ่ายเงินค่าจ้างอย่างพอเพียง) | 1 | 2 | 3 | 4 | 5 |
| 39) | Get paid enough for the work performed<br>(ได้รับเงินค่าจ้างอย่างเหมาะสมเมื่อเทียบกับประสิทธิภาพใน<br>การทำงานของฉัน) | 1 | 2 | 3 | 4 | 5 |
| 40) | Wages payments are always on-time<br>(จ่ายเงินค่าจ้างตรงเวลา) | 1 | 2 | 3 | 4 | 5 |
| 41) | Can live comfortably on my wage<br>(สามารถใช้ชีวิตอยู่ได้อย่างสะดวกสบายจากเงินค่าจ้างที่ได้รับ) | 1 | 2 | 3 | 4 | 5 |
| 42) | Compatibility with company such as in terms of values<br>and policy<br>(เข้ากันได้กับที่ทำงาน ทั้งในเชิงของคุณค่าความพอใจ และ<br>นโยบายของบริษัท) | 1 | 2 | 3 | 4 | 5 |
| 43) | Good working equality practices at the workplace<br>(มีความเท่าเทียมกันในสถานที่ทำงาน) | 1 | 2 | 3 | 4 | 5 |
| 44) | The company shows best interest of employees in mind<br>(บริษัทให้ความสนใจต่อความคิดจิตใจของพนักงาน) | 1 | 2 | 3 | 4 | 5 |
| 45) | The company listens to what we have to say<br>(บริษัทรับฟังในทุกๆ เรื่องที่พนักงานพูดหรือบอกกล่าว) | 1 | 2 | 3 | 4 | 5 |
| 46) | The company disciplines workers who violate ethical<br>standards<br>(บริษัทมีระเบียบการทางวินัยต่อพนักงานที่ละเมิดกฎตามหลัก<br>จริยธรรม) | 1 | 2 | 3 | 4 | 5 |
| 47) | The company discusses business ethics or values with<br>employees<br>(บริษัทมีการสนทนาหรือพิจารณาเกี่ยวกับคุณค่าทางคุณธรรม<br>จริยธรรม และจรรยาบรรณแก่พนักงาน) | 1 | 2 | 3 | 4 | 5 |
| | **Personal Resources:**<br>(ทรัพยากรส่วนบุคคล) | | | | | |
| 48) | Interesting in construction work<br>(งานก่อสร้างเป็นงานที่น่าสนใจ) | 1 | 2 | 3 | 4 | 5 |

| 49) | Can use my expertise at the construction (สามารถนำทักษะความเชี่ยวชาญของฉันมาใช้ได้ในการทำงานก่อสร้าง) | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|
| 50) | Always well-prepared to work for the next day (วางแผนในการทำงานล่วงหน้าเป็นประจำ) | 1 | 2 | 3 | 4 | 5 |
| 51) | There is a recognition from the job (ได้รับการยอมรับจากงานที่ทำ) | 1 | 2 | 3 | 4 | 5 |
| 52) | Job is challenging (เป็นอาชีพที่มีความท้าทาย) | 1 | 2 | 3 | 4 | 5 |
| 53) | Job security and stability (เป็นอาชีพที่แน่วแน่ และมั่นคง) | 1 | 2 | 3 | 4 | 5 |
| 54) | Good opportunities for personal skills development (มีโอกาสที่ดีในการฝึกพัฒนาทักษะ และฝีมือจากงานที่ทำ) | 1 | 2 | 3 | 4 | 5 |
| 55) | Good opportunity to be "promoted" (มีโอกาสที่ดีในการเลื่อนตำแหน่งจากงานที่ทำ) | 1 | 2 | 3 | 4 | 5 |
| 56) | There is a participation in deciding about the nature of the worker's work (มีส่วนร่วมในการตัดสินใจเกี่ยวกับงานที่ฉันทำ ตามลักษณะ หรือเนื้องานที่ได้รับมอบหมาย) | 1 | 2 | 3 | 4 | 5 |
| 57) | There is a participation in deciding about when a piece of work must be completed (มีส่วนร่วมในการตัดสินใจเกี่ยวกับงานแต่ละชิ้นที่จะต้องเสร็จตามกำหนด – ตัดสินใจในการทำงานได้เอง โดยที่ไม่ต้องผ่านหรือสอบถามจากหัวหน้างานเพื่อให้งานนั้นๆ เสร็จ และบรรลุตามเป้าหมาย) | 1 | 2 | 3 | 4 | 5 |

**Job Satisfaction:**
(ความพึงพอใจในการทำงาน)

| 58) | I am satisfied with … (มีความพึงพอใจกับ ...) | | | | | |
|---|---|---|---|---|---|---|
| | A. Overall (ภาพรวมทั้งหมดในการทำงาน) | 1 | 2 | 3 | 4 | 5 |
| | B. Company policy (นโยบายของบริษัท) | 1 | 2 | 3 | 4 | 5 |
| | C. Safety working environment (ความปลอดภัยในสภาพแวดล้อมการทำงาน) | 1 | 2 | 3 | 4 | 5 |

| | | | | | |
|---|---|---|---|---|---|
| D. Friendly working environment<br>(สภาพแวดล้อมการทำงานที่เป็นมิตร) | 1 | 2 | 3 | 4 | 5 |
| E. Supportive working environment – i.e. management<br>    listens and supports to the needs of workers<br>(ได้รับการสนับสนุนจากสภาพแวดล้อมการทำงาน เช่น การรับฟัง และการสนับสนุนทางด้านความต้องการของพนักงานจากแผนกบริหาร และการจัดการ) | 1 | 2 | 3 | 4 | 5 |
| F. Relationship with supervisors<br>(ความสัมพันธ์ต่อหัวหน้างาน) | 1 | 2 | 3 | 4 | 5 |
| G. Relationship with colleagues<br>(ความสัมพันธ์ต่อเพื่อนร่วมงาน) | 1 | 2 | 3 | 4 | 5 |
| H. Wages<br>(เงินค่าจ้าง) | 1 | 2 | 3 | 4 | 5 |
| I. Ethics of the company<br>(คุณธรรม และจริยธรรมของบริษัท) | 1 | 2 | 3 | 4 | 5 |
| J. Job security<br>(ความมั่นคงในอาชีพ) | 1 | 2 | 3 | 4 | 5 |
| K. Happiness in the work<br>(ความสุขในการทำงาน) | 1 | 2 | 3 | 4 | 5 |

**Perceived Performance:**
(การล่วงรู้ประสิทธิภาพในการทำงาน)

| | | | | | |
|---|---|---|---|---|---|
| 59) Always deliver the construction project on-time<br>(ทำงานเสร็จตรงตามเวลาอย่างสม่ำเสมอ) | 1 | 2 | 3 | 4 | 5 |
| 60) Always maintain zero accidents<br>(ยังไม่เคยได้รับอุบัติเหตุจากการทำงาน) | 1 | 2 | 3 | 4 | 5 |
| 61) Quality of the construction work always matches the specified standards<br>(คุณภาพของงานก่อสร้างที่ทำ ตรงตามมาตรฐานงานที่ระบุหรือตั้งไว้อย่างสม่ำเสมอ) | 1 | 2 | 3 | 4 | 5 |

**Loyalty:**
(ความซื่อสัตย์)

| | | | | | |
|---|---|---|---|---|---|
| 62) This company is always my first preference for future construction work project | 1 | 2 | 3 | 4 | 5 |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (ถ้ามีโครงการหรืองานก่อสร้างในครั้งต่อไป บริษัทนี้จะเป็นบริษัทแรกที่ฉันจะเลือกเข้าร่วมทำงานด้วย) | | | | | |
| 63) | For me this company is the best of all possible construction companies for which to work<br>(บริษัทนี้ เป็นบริษัทก่อสร้างที่ดีที่สุดที่น่าทำงานด้วย) | 1 | 2 | 3 | 4 | 5 |
| 64) | I am proud to tell others about this company<br>(ฉันมีความภาคภูมิใจที่จะบอกต่อคนอื่นเกี่ยวกับบริษัทนี้) | 1 | 2 | 3 | 4 | 5 |
| 65) | I talk this construction company to my friends as a great construction company to work for<br>(ฉันพูดเกี่ยวกับบริษัทนี้ให้เพื่อนของฉันฟังว่า เป็นบริษัทก่อสร้างที่ดีที่สุดที่น่าทำงานด้วย) | 1 | 2 | 3 | 4 | 5 |
| 66) | I am willing to put in extra effort to deliver the construction project on time<br>(ฉันมีความเต็มใจที่จะพยายามให้มากขึ้นเป็นพิเศษ เพื่อที่จะทำงานให้เสร็จตรงตามเวลาที่กำหนด) | 1 | 2 | 3 | 4 | 5 |

**Part II: General Information**
**Please mark '✓' in the box that best describes you.**

<u>ตอนที่ 2</u>: ข้อมูลทั่วไป
กรุณาทำเครื่องหมาย '✔' ลงในช่องสี่เหลี่ยม

**1. Gender** (เพศ)**:** ☐ 1. Male (ชาย) ☐ 2. Female (หญิง)

**2. Marital Status:** ☐ 1. Single ☐ 2. Married ☐ 3. Divorce
(สถานภาพการสมรส) (โสด) (สมรส) (อย่าร้าง)

**3. Age (Years):** ☐ 1. < 20 ☐ 2. 21-25 ☐ 3. 26-30 ☐ 4. 31-35 ☐ 5. 36-40
(อายุ) ☐ 6. 41-45 ☐ 7. 46-50 ☐ 8. 51-55 ☐ 9. 56-60 ☐ 10. > 61

**4. Nationality** (สัญชาติ)**:** ☐ 1. Thai (ไทย) ☐ 2. Burmese (พม่า) ☐ 3. Laotian/Lao (ลาว)
☐ 4. Cambodian (กัมพูชา)

**5. Education:** ☐ 1. Primary School (ชั้นประถม) ☐ 2. High school (ชั้นมัธยม)
(การศึกษา) ☐ 3. Vocational College (ปวช./ปวส.) ☐ 4. Bachelor Degree (ปริญญาตรี)

**6. Working Position:** ☐ 1. Manson (ช่างปูน) ☐ 2. Smith (ช่างเหล็ก)

(ตำแหน่งหน้าที่งาน) ☐ 3. Carpenter (ช่างไม้) ☐ 4. Painter (ช่างสี)

☐ 5. Electrician (ช่างไฟ) ☐ 6. Plumber (ช่างประปา)

☐ 7. Labor (คนงานทั่วไป – ผู้ช่วยงาน) ☐ 8. Foreman (โฟร์แมน)

☐ 9. > 1 Working Positions (ทำมากกว่า 1 หน้าที่)

**7. Ability (Willing) to Work with Hazard Risk:** ☐ 1. Yes (ใช่) ☐ 2. No (ไม่)
(มีความสามารถ และเต็มใจที่จะรับมือกับงานที่เสี่ยง เช่น ทำงานในที่สูง)

**8. Working Experience - Year:** ☐ 1. < 1 ☐ 2. 1-2 ☐ 3. 2-3

(ประสบการณ์ในการทำงาน - ปี) ☐ 4. 3-4 ☐ 5. 4-5 ☐ 6. 5-6

☐ 7. 6-7 ☐ 8. 8-9 ☐ 9. > 9

**9. Working** (งาน)**:** ☐ 1. Full Time (พนักงานประจำ) ☐ 2. Part Time (พนักงานนอกเวลา)

**10. Congenital Disorder:** ☐ 1. Fibromyalgia/Muscle Strain (ปวดกล้ามเนื้อ/กล้ามเนื้ออักเสบ)

(โรคประจำตัว) ☐ 2. Arthralgia/Arthritis (โรคปวดข้อ/ไขข้ออักเสบ)

☐ 3. Gastritis (โรคกระเพาะ)

☐ 4. Respiratory Diseases (โรคระบบทางเดินหายใจ)

☐ 5. Hypertension (โรคความดันโลหิตสูง)

☐ 6. Diabetes (โรคเบาหวาน)
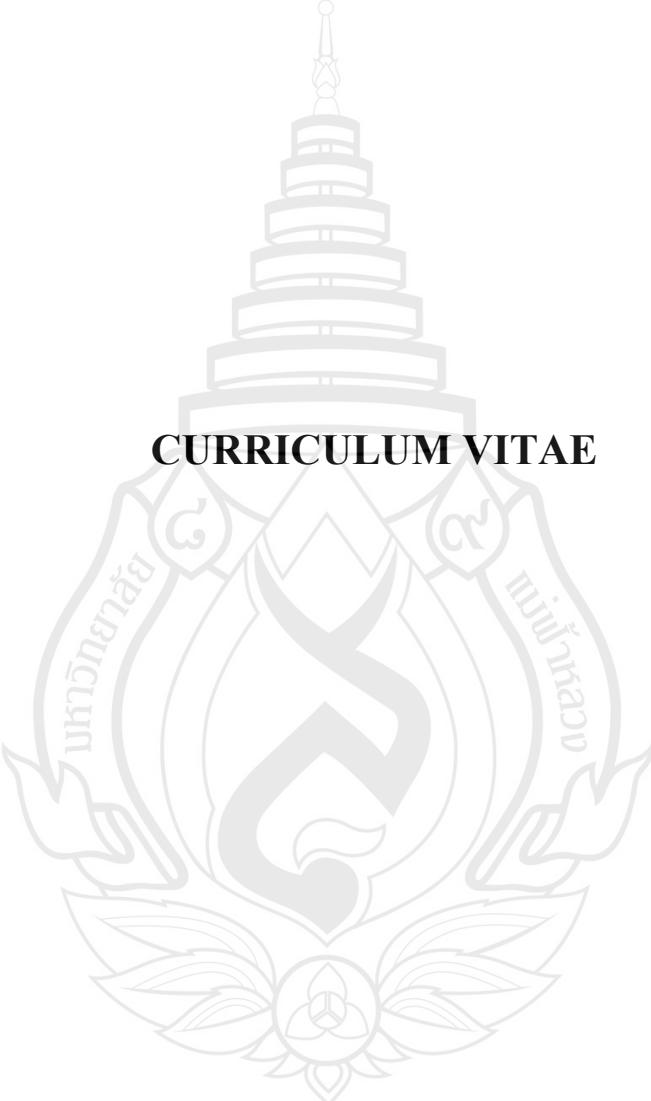
☐ 7. No (ไม่เป็นโรคประจำตัว)

☐ 8. > 1 Congenital Disorders (เป็นโรคประจำตัวมากกว่า 1 โรค)

**11. Daily Income:** ☐ 1. ฿300-350 ☐ 2. ฿351-400 ☐ 3. ฿401-450 ☐ 4. ฿451-500

(รายรับต่อวัน) ☐ 5. ฿501-550 ☐ 6. ฿551-600 ☐ 7. ฿601-650 ☐ 8. ฿651-700

**12. Distance from Home:** ☐ 1. <5 km. (กม.) ☐ 2. 6-10 km. (กม.) ☐ 3. 11-15 km. (กม.)

(ระยะทางจากบ้าน) ☐ 4. 16-20 km.(กม.) ☐ 5. 21-25 km.(กม.) ☐ 6. >26 km.(กม.)

# CURRICULUM VITAE

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**NAME** Mr. Warut Srisuwan

**DATE OF BIRTH** 10 October 1989

**ADDRESS** 489/1 Moo 6 Tumbol Rimkok

*Amphur* Muang Chiang Rai,

Chiang Rai, Thailand 57100

**EDUCATIONAL BACKGROUND**

2013 Bachelor of Arts

Business English

Assumption University