THE IMPACT OF HUMAN RESOURCE MANAGEMENT PRACTICES OVER SUPPLY CHAIN QUALITATIVE PERFORMANCE



THE IMPACT OF HUMAN RESOURCE MANAGEMENT PRACTICES OVER SUPPLY CHAIN QUALITATIVE PERFORMANCE

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ABSTRACT

Even though the functionality of Supply Chain Management is widely accepted among its practitioners as the core of the organizations in terms of its efficiency and effectiveness, the influence of Human Resource Management on Supply Chain has started to be realized as a main element of Supply Chain success. Without high level of employee performance and dedication provided, success of Supply Chain Management may stay in danger. This study provides a detailed discussion on how Human Resource Management practices help companies to implement supply chain successfully. In this study, mixed methods are employed to obtain primary data to analyze the influence of Human Resource Management on Supply Chain Qualitative Performance. In this research, it is found that each of Human Resource Management practices has strongly significant impact on Supply Chain Qualitative Performance.

Approved: Signature of Advisor

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CHAPTER 1

INTRODUCTION

1.1 Background of the Research

The supply chain is a vitally important stage for all industries. It is a systematic and strategic coordination of the business functions within a particular industry, which is being used for improving long-term performance of the individual companies (Mentzer, 2001). It is also helpful to increase operational efficiency and effectiveness of the company in terms of product transfer and information sharing.

In order to have solid control over the products and services provided, management ought to focus on monitoring and measuring the process. Traditionally, performance measurement is used to express the level of effectiveness and efficiency of the action taken. It is expected to provide deep insight of the operational process and contribute a set of information to be utilized by the management of the company. Therefore, accurate performance measurement is helpful in improving companies' performance and without a sufficient measurement, improvement may be in danger (Sink and Tuttle, 1989).

In this era of global village, firms are facing intense competition and uncertain business environment due to high level of globalization, technological advancement and ever-changing customer demands and expectations. Therefore, flexibility is a must for companies to react toward those changes.

In this regard, all the industries ought to deal with cut-throat competition across the world where human resources can be utilized by companies as an effective tool to gain competitive edge over their rivals (Becker & Huselid, 1998). In the supply chain concept, many aspects of operational and manufacturing process have been searched in order to gain full picture of supply chains' functionality (Derrouiche, 2008). In particular, main attention has been paid on improvement of the supply chain capacity in terms of quality management, supplier selection and game theory (Forker, 1997; Kogan, 2007).

Scholars in discipline have suggested the importance of supply chain management and much has been written in the perspective of supply chain. But there is an emerging research stream dealing with human resources in the supply chain area (Gowen & Tallon, 2003).

Human Resource Management is built as an United States management tool that basically treats the firms' employees as an asset rather than cost (Wilkinson, 1990; Beaumont, 1992). Three main approaches are identified by Guest (1987). Firstly, Human Resource Management is a renamed form of personnel management without changing the overall practices. Secondly, it is a tool that describes the responsibilities of personnel department and lastly, it is a strategic management that provides positive utilization of human capital.

Additionally, it can also be considered as a tool for maintaining labor relations, dealing with their safety and creating fairness throughout the company (Dessler&Varkkey, 2009). Mondy (2005), stated that Human Resource Management is utilizing individual's performance in order to achieve certain goal that determined by management. Similarly, employees' behavior, attitudes and performance are influenced by Human Resource Management's policies, practices and the strategies executed. Lepak and Snell (1999), argued that superior employee skill rely heavily on different types of HRM practices. Fisher and Shaw (2006) identified and classified human resource activities into four categories: selection, training, evaluation and compensation (Kam et.al, 2010 ; Dessler, 2009). Generally, selection, training, compensation and evaluation are considered as ultimate practices in terms of creating greater supply chain integration and performance (Shub & Stonebraker, 2009).

Eighty percent of organizational disruptions and quality issues of goods and services can be controlled by company management whereas twenty percent by employees (Juran & Gryna, 1980). However, people are strategically important to a firm's success because the execution of the organizational strategies rely heavily on the employees who are involved in specific task.

1.2 Statement of the Problem

Even though the function of supply chain plays significant role that consolidates the level of competitiveness of the firms, it has gained tremendously complex structure due to increased competition, technological advancement and globalization. According to Supply Chain Forum (2012), there is an insufficient awareness, namely, gaining competitive advantage in terms of supply chain efficiency and effectiveness rest heavily on human performance that is being controlled and improved by Human Resources Management. An effective and strategic management of human resource can equally provide strong source of competitive advantage. As both the researchers of Supply Chain Management and Human Resource Management have independently focused on improving and consolidating competitive edge of the firms, they have begun to collaborate their mutual functionality and purpose to strengthen companies' position in the market compared to its rivals. Thus, various of supply chain dimensions must be examined in terms of Human Resource Management to bridge the gaps.

1.3 Research Question

It is critically important to bring the research problems into research question in terms of its role in creating influential outcome on the remaining steps of research (Hair, Bush and Ortinau, 2006). Hence, we determined the research question based on the perspective of research is discussed as follow.

Does Human Resources Management practices (training, selection, compensation, evaluation) have significant impact over Supply Chain Qualitative Performance (on-time delivery, accuracy, customer satisfaction)?

1.4 Significance of the Research

This thesis will clarify some of dimensions of the human resources management practices that have influential outcome on the supply chain qualitative performance. By exploring the relationship between human resources management practices and supply chain qualitative performance, this paper will also discuss how human performance would affect the course of organization in terms of their attitude toward given task. Additionally, this thesis helps increasing awareness of the impact of the Human Resource Management Practices on Supply Chain Qualitative Performance. Moreover, this study will provide future recommendations that can be used as a foundation of the future research regarding different dimensions of Supply Chain Management and Human Resource Management to be examined to gain full picture of the correlation.

1.5 Objectives of the Research

The primary objective of this thesis is to provide deep insight and understanding of the function of the Human Resources Management and examine its overall impact on Supply Chain Qualitative Performance. In addition to primary objective, other specific objectives are stated as follows.

1.5.1 To examine whether there is a significant relationship between selection and supply chain qualitative performance

1.5.2 To examine whether there is a significant relationship between training and supply chain qualitative performance

1.5.3 To examine whether there is a significant relationship between compensation and supply chain qualitative performance

1.5.4 To examine whether there is a significant relationship between evaluation and supply chain qualitative performance

1.6 Scope of the Research

This study covers an assessment of the impact of the Human Resources Management practices (training, evaluation, selection, and compensation) on Supply Chain Qualitative Performance (on-time delivery, customer satisfaction, and accuracy) of the jewelry companies located in Bangkok Metropolitan Area. In addition to fifteen interviews with the company managers, four hundred company's frontline and mid-level positioned employees participated.

According to Jewelry Traders Association of Thailand, there are 1,3 million people are employed in jewelry industry that produce 1,23 billion dollars worth export, which reveals the industries' significance for the country.

1.7 Limits of the Study

The data's is collected only from jewelry companies that located in Bangkok Metropolitan Area. As the research conducted within only one industry, it is needed to assess the correlation between variables within another industry so that clear picture can be achieved. Therefore, the result we obtained in this study might not be applicable to every type of industry which likely to have certain differences in terms of organizational structure.

On the other hand, the quantitative data is collected completely from employees. It is necessary for future studies to focus on managerial level to obtain the information that might differentiate itself from the current results and analyzes.

1.8 Disposition

The structure of this thesis is presented in the following way. Firstly, contextual background is presented to provide an overview and deep insight of the background and the issues that are dealt within the research. Following this background and introduction, extensive description of the frame of references is presented. The sections in the framework of references are included in this thesis are providing both a kind of state-of-the-art literature review and a knowledge base that can be used to enhance the understanding of the research results presented. Literature review is followed by presentation of describing the scientific methods and approaches used in the research in order to provide scientific value of the results. The main results of this research work are then presented in the findings chapter that is followed by a discussion and conclusion. Conclusion chapter summarizes the thesis and the research

work performed and also provides future recommendations that can be used as a foundation of future studies.



CHAPTER 2

LITERATURE REVIEW

2.1 Theoretical Background

Scholars in discipline and practitioners of supply chain management have been suggesting that effective use of supply chain is likely to produce a strong source of competitive edge to all companies (Dubois, 2004). The effective supply chain applications have improved many companies' operational efficiency by lowering the cost as well as increasing customer service and satisfaction (Christopher, 2000).

Supply chain is first introduced in the early 1980's (Lambert&Cooper, 2000) and it has gained inter-organizations identity over time (Dubois, 2004). Successful management of information and material flow are rely on a strong foundation of effective supply chain. In order to prevent potential disruptions, the strategy being used must uncover some complex aspect of supply chain (Croom, 2000).

According to the theory presented by Storey (2006), supply chain management consist of three elements which including description, prescription and trend identification. The basic definition of each elements based on the study are met upon additional requirement regarding the integration of the whole process from sourcing through end customer which is all-encompassing and embracing the whole process. The structure of supply chain is not consisting of one-to-one or business-to-business relationships. Instead, it consists of multiple business and management relationships (Lambert&Cooper, 2000).

All the supply chain strategies pose certain differences from each other and the structural dimensions of the network and relationships are critical when analyzing and

managing the supply chain (Storey 2006).Hence, realizing the importance of the integration of the companies and the interaction of the management process will positively affect the success of the whole value chain (Lambert&Cooper, 2000).

2.2 Hypotheses and Results

In this thesis it is hypothesized that Human Resource Management practices (training, compensation, evaluation, selection) have significant impact over Supply Chain Qualitative Performance (on-time delivery, accuracy, customer satisfaction). Other specific hypotheses are shown as following:

H1: Training has significant positive impact over accuracy
H2: Training has significant positive impact over on-time delivery
H3: Training has significant positive impact over customer satisfaction
H4: Evaluation has significant positive impact over accuracy
H5: Evaluation has significant positive impact over on-time delivery
H6: Evaluation has significant positive impact over customer satisfaction
H7: Selection has significant positive impact over accuracy
H8: Selection has significant positive impact over on-time delivery
H9: Selection has significant positive impact over on-time delivery
H9: Selection has significant positive impact over customer satisfaction
H10: Compensation has significant positive impact over accuracy
H11: Compensation has significant positive impact over on-time delivery
H12: Compensation has significant positive impact over customer satisfaction

Summary of the hypotheses results are shown in table 4.14 below.

Table 2.1: Summary of Hypotheses Results

	Hypotheses	Results
H1	Training has significant positive impact over accuracy	Supported
H2	Training has significant positive impact over on-time delivery	Supported
Н3	Training has significant positive impact over customer satisfaction	Supported
H4	Evaluation has significant positive impact over accuracy	Supported
Н5	Evaluation has significant positive impact over on- time delivery	Supported
H6	Evaluation has significant positive impact over customer satisfaction	Supported
H7	Selection has significant positive impact over accuracy	Supported
H8	Selection has significant positive impact over on-time delivery	Supported
Н9	Selection has significant positive impact over customer satisfaction	Supported
H10	Compensation has significant positive impact over accuracy	Supported
H11	Compensation has significant positive impact over on-time delivery	Supported
H12	Compensation has significant positive impact over customer satisfaction	Supported

2.3 Supply Chain Management

Supply chain consists of supplier, manufacturer, distributer and consumer where the materials and information flow from suppliers to the customers (Hugo, 2003). The basic purpose of Supply Chain Management is to provide optimum customer service and minimize cost compared to competitors. Supply Chain Management pays great deal of attention on marketing, product development and customer service which reveals that one of the classified characteristics of SCM is to establish an approach that obtains customer satisfaction (Hugo, 2003). In this context, SCM performance has a significant impact on a company's overall achievements that leads a company to create value for customers by fulfilling their expectations and gain greater operational efficiency (Mentzer, 2004).

2.4 Performance Measurement in Supply Chain

Performance measurement is one of the most significant tools for managers to gain control over events by implementing certain measurement metrics. Tangen (2003) pointed out that performance measurement should focus on organization's strategy, short-term and long-term results and explain the strategy understandably. In this regard, performance measurement is associated with a broad set of the metrics used by managements in order to monitor organizational process and to have a desirable supply chain outcome (Morgan, 2004).

Flexibility in reacting to changes in the market environment has been increasingly necessary for business organizations. In the business environment where nearly all the circumstances regarding organization constantly changing, researchers believe that tools for measuring organization's need and ability to develop agile business strategy are important (Weber, 2002). In this concept, significant attention has been paid on performance measures and metrics both in literature and practice (Kaplan and Norton, 1997).

Performance measurement provides the necessary information to companies' management that facilitates decision-making process. Without measurement, improvement may be interrupted and it is important for firms to measure right things at the right time in a supply chain to take timely action (Kaplan, 1990). The main purpose of measuring organizational performance is to identify firms' success, identify whether the firm meets the customers' expectations and explore where the problems exist (Parker, 2000). Generally, companies pay significant attention on financial measurement and the major drawbacks of this traditional approach are to include qualitative factors

(Parker, 2000).

2.5 Supply Chain Qualitative Performance

Qualitative performance basically refers whether customer needs and expectations are met in terms of product and service quality. The term quality plays critical role for firms to generate greater revenue and expand customer base (Kaplan&Norton, 1997).

It is very difficult to measure qualitative performance of the supply chain numerically. Beamon (1999) categorized supply chain performance in three main types, which are resource, output and flexibility. Some of the metrics can be measured numerically but some of them such as customer satisfaction and product quality cannot be measured numerically. Aramyan (2007) presented a performance measurement of agri-food supply chains which dealing with food quality and supply chain efficiency.

Chan (2003), identified a performance measurement metrics and divided all metrics into qualitative and quantitative performance by providing sub-factors of each category. The sub-factors of qualitative metrics are categorized as quality, flexibility, visibility, trust and innovativeness. Chan suggested that qualitative factors should be used as an interpretation of supply chain qualitative performance in order to have full picture of actions (Kam, 2010). In this study, Chan's qualitative performance metrics are employed.

The definitions of the quality factors that are examined in this study, namely, on-time delivery, accuracy and customer satisfaction are shown in Table 2.1 below. Table 2.2: Supply Chain Qualitative Performance Factors (Chan, 2003)

Factor	Definition
On-time Delivery	The percentage of orders delivered on time or before the due date
Accuracy	Percentage of accurate goods delivered to clients.
Customer Satisfaction	The number of customer complaints registered

2.5.1 On-time Delivery

Delivery performance basically is an indication of which reveals level of the service and product provided by company that meets the customer expectation. It provides deep insight of potentiality of supply chain capacity related to products delivery and customer services. This metric is deemed as one of the most important aspect of the supply chain as it affects the whole value chain from the supplier to the end customer (Rao, 2011).

A strong interdependency between companies that deals with globally distributed production networks, has been one of the remarkable aspects of the supply chain. The operation of such global networks has been enabled by recent developments in computer networking (Rupp&Ristic, 2004). Mostly companies are utilizing information exchange systems that creates trade-off between supply and demand as well as production progress information in order to gain competitive edge over its rivals in terms of creating high level of delivery reliability (Rupp&Ristic, 2004).

Product life cycle of new products has been much shorter than earlier due to technological innovations and altering customer needs and demands (Karim, 2008). Therefore, creating value for customers and reducing cost have been dependent on ontime delivery (Mahmoud-Jouini, 2004). In the highly competitive market of the recent world that contains rapid technological and product innovations, on-time delivery has gained significant dimension among many other supply chain applications (Karim, 2008).

There are several issues connected to the delivery such as delivery reliability (Garg et.al, 2003; Michael & McCathie, 2005), faster delivery times (Bowersox et, al., 1999; Liu et.al., 2005), delivery speed etc. (Mason et.al, 2003). Organization must focus on on-time delivery in every aspect, which is a major concern of the manufacturing as well as the distribution functions (Rao, 2011).

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2.5.2 Accuracy

One of the critical considerations of quality measurement is the accuracy of products delivered which poses vital role in creating and maintaining reliable perception of the company (Chan, 2003). The measurement of the accuracy can be viewed as the percentage of correctly provided products and the errors occurred are used to calculate ratio of accuracy (Elrad, 2013).

According to Chan (2003), inaccurate delivery likely to result in reducing customer confidence for the next purchase of the goods. In order to avoid this serious mistake that can cause loss of companies' reputation, cross-checks must be included to minimize the risk of any inaccurate delivery.

2.5.3 Customer Satisfaction

Customer satisfaction basically refers the customers reaction toward the transaction took place and the value received from the particular purchase of goods or service utilization. The indication of the customer satisfaction can be attributed to the customers' reaction regarding the value received as a result of using a particular product or service (Barve, 2010).

The level of customer satisfaction ought to be considered as one of the most important component of the operation and managers must pay great deal of attention on satisfying customers (Gunasekeran, 2001).

As a result of the goods and service provided, customer satisfaction has been determined as the ultimate goal by the managers (Anderson, Fornell and Lehhman, 1994). According to this conventional approach, the customer's expectations related to the product or service package provided by the companies determine the level of satisfaction and effect the customer perception toward the company. (Oliver, 1980; Spreng et al., 1996).

Customer satisfaction has been increasingly important in terms of marketing perspective (Luo, 2007; Szymanski and Henard, 2001). It can also be used as one of the quality metrics of supply chain performance (Chan, 2003; Beamon, 1999). Customer satisfaction has also been generally accepted as a positive aspect of the loyalty creation (Oliver and Swan, 1989) and customer willingness to re-purchase certain goods and services. Therefore, customer satisfaction is crucial aspect for every management practice (Anderson, 1996).

2.6 Human Performance in the Context of Supply Chain Management

In the supply chain context, human performance is considered employee performance quality in fulfilling supply chain-related task and activities, meeting expected levels that facilitating the achievements of organizations goals.

Swart and Duncan (2005), have firstly developed human performance concept in general context that specified the expected performance in workplace could be achieved through proper education and set of valid and appropriate process. When the actual workplace performance consistent with behavioral expectations, then the excellent human performance is achieved. When human performance deflect from expected performance, then the reason behind performance discrepancy must be investigated and appropriate corrective action must be taken in order to minimize organizational disruption (Swartd&Duncan, 2005).

The definition of human performance tells the difference between situations in which an individual may not be performing given task as it is required due to lack of skill and when there is a lack of appropriate performance due to inadequate compliance with the given task to perform (Karoly, 1993).

Employees are key drivers related to the execution of supply chain strategy. In this regard, managing human assets effectively by focusing attention on employee engagement, helps firms to improve their performance toward given task and therefore, human performance is vitally important for every organization in creating value for both the company and customers (Arthur, 1994).

Human failure in meeting ideal performance expectation is likely to result in reduction of quality of goods and services. A firm may have solid supply chain strategies to be implemented, but unexpected performance from workers can easily distort the achievement of goals (Selby & Lucas, 2002). In order to meet customer requirements and expectations, firms may develop an extensive process for quality of goods and services.

However, if the employee has been assigned to perform given task cannot or choose not to perform as trained, the desired service level or product quality may still be in danger (Arthur, 1994). It is vitally important to take into account that supply chain is not only about set of strategy or process design, but it is also strongly related to human performance that has to be managed effectively (Selby & Lucas, 2002).

Firms' assets, information skills and knowledge have generally been defined as a resources of firm to develop unique capabilities that can be used to gain competitive edge over competitors (Amit & Schoemaker, 1993; Barney, 1991; Grant, 1991).

According to Barney (1991), a strategic resources must be valued by consumers, it must be limited in supply, must be difficult for other firms to imitate and resource must have a few close substitutes. Scholars in the field have defined the employee skills as a core resource of organizational asset that distinguish firms among others (Barney, 1991; Lepak & Snell, 1999; Porter, 1985). In the supply chain context, human performance plays important role for firms to improve supply chain efficiency and effectiveness that can add value to the companies. Consequently, human performance is valuable resource in terms of enabling firms to perform supply chain-related strategies in better way and facilitating the process of organization's goals (Lepak & Snell, 1999; Masakowski, 1991).

SCM generally requires cross-functional teams and highly organized operational procedures and process (Lepak&Snell, 1999). Obtaining better human performance in all kind of supply chain activities involves the implicit development knowledge that will strengthen the uniqueness of a firm's human capital.

Achieving a unique knowledge and skill involves long-term learning process and firms are not likely to find them in the open market (Lepak&Snell, 1999). Therefore, human performance is unique resources. The nature of SCM determines that human performance in a supply chain context contains the characteristics of social complexity. Due to all the complementary component of supply chain human management practices, it is very difficult for other firms to imitate the strategic elements that are being implemented (Lepak&Snell, 1999).

2.7 HRM Practices for Achieving Supply Chain Human Performance

It is difficult for a firm to gain control over external factors to prevent organizational disruption. Therefore, it would be more beneficial to improve internal areas that are directly under the firm's control. Achieving higher-level human performance regarding their task requires a unique set of HRM practices to produce better responses from employees (Capelli&Singh, 1992).

2.7.1 Selection

Human Resource Managements plays critical role in recruiting capable talents that can be utilized for achievement of companies' goals. It is basically process of selecting appropriate candidate to assign specific task. Managements are required to develop the workforce that proficient in using emerging global technological resources and also meeting companies' expectations (Snow, 1992). This helps mitigating high turnover of employees that is likely to cause organizational performance reduction (Arthur, 1994). Selection consists of two connected process. Firstly, firms are generating a pool of capable people to apply for a particular position of an organization. Secondly, it is processed with selecting most suitable candidates for the job by taking into account management goals and the legal requirements (Bratton&Gold, 2003). Various of techniques can be employed during the selecting process which include various forms of interviews in order to analyze whether job applicant is met the requirements, curriculum vitae, references among others and assessment centers (Bratton&Gold, 2003)

2.7.2 Compensation

This is the strategic application of recognition regarding employee performance that firm provides for its employees' contribution (Pagel, 2004). In order to achieve superior human performance, well-managed reward system is crucial (Swart and Duncan, 2005). Reward system also can be used as a motivation tool within firm to increase employees' effectiveness (Pagel, 2004).

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Payment strategies within firms can be managed based on performance, based on production, based on skill and based on knowledge related payment (Brown, 1989). This strategy helps obtaining the superior performance provided by employees in order to achieve specific task by motivating the staff members.

2.7.3 Training

According to Swart and Duncan (2005), expected output from staff members can be achieved through relevant training programs and effective performance can be ensured if employees pose better knowledge. Supply chain has a complex structure that involves high amount of understanding of the whole process. Therefore, training is used to attain better employee performance and solid control over the process.

Training is the formal and systematic model of behavior that can be gained through learning, which derived as a result of proper education and instruction (Armstrong, 2001). In order to solve organization-related problems, to advance employees performance and to enable continuous development of human resource, appropriate training program is a must for every organization that pursue performance excellence and it is required to keep organizations ahead of their competitors (Hilb, 1992). Koch and Mcgrath (1996) demonstrated that firms, which are executing systematic training program for their workforce, are more likely to be productive.

2.7.4 Evaluation

Evaluation is a system that is developed to monitor employees' performance associated with the given task to perform for a certain assignment. It is basically a process of examining the employees' contribution in fulfilling the given task within a defined time period (Bogicevic, 2004). This system helps companies identify the performance differences between expected level and actual performance to enable continuous performance improvement and gain an acceptable level of utilization of employees' performance (Swart and Duncan, 2005).

The most crucial aspect of performance evaluation is to identify appropriate measurement items because the chosen measurement scale will lead employees' behavior. In practice, to prevent potential misleading performance evaluation, different aspect of performance measurement must be taken into account (Bogicevic, 2004). The characteristic of performance evaluation system is likely to create a positive employee reaction and, which in turn, motivation to produce better performance (DeNisi and Pritchard, 2006).

2.8 Conceptual Framework

Conceptual Framework of this study assumes that HRM practices and SCQP are significantly interacted. Based on literature review, conceptual framework is developed as following.

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CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The primary purpose of this study is to identify the relationship and the overall impact of Human Resource Management (training, selection, compensation and evaluation) over Supply Chain Qualitative Performance (customer satisfaction, accuracy and on-time delivery). In this study, quantitative method is employed in terms of its appropriateness to measure whether there is a relationship among variables and in-depth interview is conducted to gain confirmatory results. Prior to main distribution, five experts in fields reviewed the questionnaire to check content validity. The results shown that all those experts agreed upon validity of content and construct with the issues at hand. Following the content validity, fifteen questionnaires are distributed for reliability checking purpose with fifteen samples and the results shown the validity to do further analysis. The questionnaire is used in order to collect the primary data from respondent related to jewelry business employees that dealing with wholesale business and manufacturing. The Human Resource Management items in the questionnaire are adopted from the study of Chew (2004), in terms of its appropriateness and the similarity of the framework of the study. However, Supply Chain Qualitative Performance items are developed through existing literature. The questionnaire is presented both in English language and Thai language in order to collect optimum response and prevent potential misunderstanding that might occur. All items are based on five point Likert Scale, from strongly disagree to strongly agree.

3.2 Reliability Testing

In this study, Cronbach's Alpha is employed to measure internal reliability of the items that are used within study. The term reliability deals with the concern of whether accuracy and internal consistency of scale performance exist (Cooper and Schindler, 1998). Even though the internal reliability poses vital power for the continuous of further analysis, it is not indicated that the construct is necessarily valid (Hair et.al, 2010) and a small portion of error can be considered to be reliable (Nunnally&Bernstein, 1994). Cronbach's alpha is a commonly used tool of measuring and assessing internal consistency reliability. In order to enable acceptable instrument for data collection and analysis, the alpha value should be greater than 0.7 (Sekeran, 2005). The alpha value of 0.7 and greater is considered to be acceptable and reliable (Hair et.al. 2010). In this study, Cronbach's alpha is used to measure internal reliability of the items used. The alpha scores are given in table 3.1.

Constructs	Number of Items	Cronbach's Alpha
Training		0.703
Selection	3	0.706
Compensation	3	0.709
Evaluation	3	0.750
Supply Chain Qualitative Performance	3	0.757

Table 3.1: Reliability Coefficients of the Variables $(n = 400)$	Table 3.1:	Reliability	Coefficients	of the	Variables ((n = 400)
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Constructs	Number of Items	Cronbach's Alpha
Training	3	0.727
Selection	3	0.794
Compensation	3	0.731
Evaluation	3	0.703
Supply Chain Qualitative Performance		0.747

Table 3.2: Reliability Coefficients of Pilot Test (n=15)

3.3 Data Collection

In this thesis, mixed methods are used to generate confirmatory results that consist of the process of conducting self-administered questionnaire and in-depth interview. Despite methodological differences, this method is used to obtain deep insight of the participants and create better understanding (Harris&Brown, 2010).

Akbayrak (2000), stated that, there are several advantages and disadvantages among methods which appeared to be one advantage of questionnaire can be considered one disadvantage of interview. In some certain way, one technique poses greater feasibility than other and researcher should determine which way to be utilized depending upon the purpose. However in some cases, both techniques can be integrated to produce clearer research results.

Interview is a kind of conversation and process of obtaining research-related information, which can be utilized in answering the research questions (Cannel&Kahn, 1968).
In this study, structured method is used to obtain deep insight of the participants which information gathered fifteen of participants.

Structured interviews are implemented in a way that poses minimum flexibility and freedom that basically indicates the wording of the question has to be consistent with the pre-determined questions (Akbayrak, 2000).

Questionnaire is basically a set of questions to which presented in order to gather data in a simplest form. However, many ways of presenting data have been developed in order to prevent potential misunderstanding and minimize ambiguous meaning among questions (Dyer, 1995). In this thesis, self-administered questionnaire is employed in order to collect primary data. The self-administered questionnaire is implemented by distributing the questionnaires to the respondents through researcher. When the questionnaire presented to the respondent, the purpose of the questionnaire is explained and respondent is left alone to go through questionnaire. After completion, the questionnaire may be sent by respondent or be collected later on by the researcher (Holroyd and Harlen, 1996).

3.4 Sampling Strategy

In this thesis, the impact of human resource management practices over supply chain qualitative performance is investigated at jewelry companies. According to Storey (2006), every single industry has different supply chain strategy, which vary depending upon kind of business. Due to level of impact of the jewelry industry over Thai economy, Jewelry industry is chosen to examine.

In this study, due to difficulty of surveying senior position workers, four hundred questionnaires are distributed to the jewelry company employees that work at

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the front-level and mid-level position (Erdogan & Tagg, 2003). Senior executives may experience lack of time for filling the questionnaire as well as possibility of having a little eagerness to expose their companies' activities (Cycyota & Harrison, 2002).

Apart from previous studies, employee level workers are requested to fill questionnaires to see differences between results. In addition to questionnaire, structured interview is conducted with fifteen up-level managers to clarify to organizational structure and produce better understanding.

3.5 Content Validity

Although several of content validity definitions have been made, generally accepted definition can be deemed as following; Content validity is a level of relevance of assessment instrument with targeted construct (Nunnally & Bernstein, 1994). When the items in a scale are generated, it is expected for items to reflect the defined construct (DeVellis, 1991).

In general, it is important to establish content validity before actual investigation begins (Nunnally & Bernstein, 1994). It plays vital power to establish content validity and expert validation are generally used in refining items to be used in the particular assessment purpose (DeVellis, 1991). This procedure is used in this thesis and five experts, academicians in discipline, assessed the content validity and agreed upon its feasibility regarding the issue at hand.

In this study, Chew's HRM practice's items are used. However, supply chain items are developed through existing literature. Chew (2004) presented extensive

items which can be used for analyzing the impact of human resource management (Khan et al, 2013).



CHAPTER 4

FINDINGS

4.1 Introduction

In addition to qualitative method through survey questionnaire, in-depth interview is used to gain greater insight of the studies' results. Even though there has been a slight difference between the responses, the overall results of interviews have shown the parallel between the main questionnaire-based data analyze. In fact, the analyses have provided clearer and detailed interpretation of the quantitative data.

4.2 In-depth Interview

According to the analysis, respondents stated that gaining customer satisfaction is the most important aspect of doing business. In order to evaluate whether satisfactory service is provided, customer loyalty is being taken into account. Customer loyalty has been considered as the most effective indication in measuring customer satisfaction. In addition to customer loyalty, recommendations among customers also considered as the essential part of evaluating customer satisfaction.

In order to gain control over accuracy and on-time delivery performance, the answers of what and when is clearly established by the both parties. According to interviewers, continues of doing business highly depends on on-time delivery and accuracy of performance. Consequently, managers pay great deal of attention on meeting their responsibilities at the scheduled time and providing what is demanded.

This two performance metrics basically play crucial role in developing companies' reputation among other competitors in the market.

The mostly used performance evaluation regarding accuracy and on-time delivery is whether the answers of what and when are met without discrepancy. General concept of implementing the human resource management practices is deemed as the essential element of achieving high level of business performance. Mostly, training, evaluation and compensation are being used to motivate employees, improve their capabilities and produce better outcome. However, selection is the least used part of human resource practices among others. According to respondents, even though the company hires mostly experienced employee and conduct certain recruitment process, the level of employees' comprehensive skill is taken into account among the less experienced employee candidates.

As discussed in chapter 3, mixed methods are used in this study and the quantitative data's collected are presented at the following pages.

4.3 Descriptive Statistics of Main Variables

The descriptive statistics of the main variables of the study are following; selection, training, compensation, evaluation and supply chain qualitative performance, given in table 4.1.

 Table 4.1: Descriptive Statistics of Main Variables

Constructs	No. of items	Mean	Standard Deviations
Selection	3	3.318	.575
Training	3	3.344	.596
Compensation	3	3.482	.651
Evaluation	3	3.599	.647
SCQP	3	3.542	.610

4.4 Descriptive Statistics of Variables' Items

4.4.1 Selection

Out of the three items of selection, '#1 Our company conducting a sufficient recruitment process that ensure employee capabilities can be utilized at required position' obtained the highest mean score which followed by '#2 The values and believes of this organization are discussed in interviews with the potential employees' obtained the second highest mean score and lastly '#3 When the new employee hired , they must go through an extensive hiring process in which they are interviewed number of times, obtained the lowest mean score. The descriptive statistics of the selections are given in table 4.2.

Selection	Mean	Standard Deviation
#1	3.510	.769
#2	3.460	.787
#3	2.985	.604

Table 4.2: Descriptive Statistics of Selection

4.4.2 Training

Out of three items of training, '#1 People are properly oriented and trained upon joining this organization' obtained the highest mean score, followed by '#2 Our company provides training system for employees to learn new ways to do their job'. Lastly '#3 Our company ensures regular opportunities for personnel and career development' obtained the lowest mean score. The descriptive statistics of training are given in table 4.3.

Training	Mean	Standard Deviation
#1	3.413	.773
#2	3.370	.724
#3	3.250	.760

Table 4.3: Descriptive Statistics of Training

4.4.3 Compensation

Out of three items of compensation, '#1 Employees are given positive recognition when they produce high quality of work' obtained the highest mean score, followed by '#2 Our company offers good opportunities for promotion'. Lastly, '#3 Our company provides sufficient salary to employees based on related business sector' obtained lowest mean score. The descriptive statistics of compensation are given in table 4.4.

Compensation	Mean	Standard Deviation
#1	3.603	.892
#2	3.443	.811
#3	3.403	.746

Table 4.4: Descriptive Statistics of Compensation

4.4.4 Evaluation

Out of three items of evaluation, '#1 The measurement of an employee's performance on the job is a priority in this organization' obtained the highest mean score, followed by '#2 The measurement of turnover and absenteeism is a priority in our organization. Lastly, '#3 When evaluating the employees for promotion, seniority is one of the criteria taken into account' obtained lowest mean score. The descriptive statistics of evaluation are given in table 4.5.

Table 4.5: Descriptive Statistics of Evaluation

Evaluation	Mean	Standard Deviation
#1	3.735	.807
#2	3.605	.771
#3	3.458	.799

4.4.5 Supply Chain Qualitative Performance

Out of three items of supply chain qualitative performance, '#1 Customers perceive their money's worth when they purchase our product' obtained the highest mean score, followed by'#2 Our company capable of providing our product at the promised time'. Lastly, '#3 Our company provides an accurate service that meets customer request' obtained lowest mean score. The descriptive statistics of supply chain qualitative performance are given in table 4.6.

Supply Chain Q. P.	Mean	Standard Deviation
#1	3.588	.747
#2	3.538	.751
#3	3.503	.732

Table 4.6: Descriptive Statistics of Supply Chain Qualitative Performance

4.5 Correlation Matrix

In this study, Pearson correlation matrix is employed to determine the relationships among the variables. Analysis indicated that all Human Resource Management variables have shown a positive and strongly significant relation to Supply Chain Qualitative Performance. The level of correlation is remarkably high that differentiate itself from the previous studies in terms of clarifying the volume of interaction between Human Resource Management and Supply Chain Management. This can be interpreted that HRM practices of training, selection, compensation and evaluation have high tendency for supply chain qualitative performance. The results are shown at the table 3.2 below.

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HRM Practices	Training	Evaluation	Selection	Compensation	SCQP
Training	1				
Evaluation	.913**	1			
Selection	.908**	.905**	1		
Compensation	.906**	.923**	.911**	1	
SCQP	.918**	.935**	.898**	.929**	1

Table 4.7: Pearson Correlation Matrix (n=400)

4.6 Regression Analysis

4.6.1 On-time Delivery

According to analyze, all variables are having significant impact and R square is .607. This means that 60 percent of the variance of on-time delivery has been significantly explained by the four factors of Human Resource Management practices. Table 4.8: Regression Analysis of On-time Delivery

R	R square	Adjusted R square	Std. Error of the Estimate
.779	.607	.603	.4737

According to table 4.9 below, the highest impact of human resource management factors over on-time delivery is evaluation, followed by compensation.

			Standardized Coefficients		
Model	В	Std. Error	Beta	t	Sig.
-					
TRAINING	.075	.114	.059	.660	.510
EVALUATION	.469	.111	.404	4.233	.000*
SELECTION	.123	.117	.094	1.050	.294
COMPENSATION	.281	.110	.243	2.552	.011*

Table 4.9: Coefficients of On-time Delivery

4.6.2 Accuracy

According to analyze, R square is, 572. This means that 57 percent of variance

of the accuracy can be explained by all four factors of the human resource

management practices.

Table 4.10: Regression Analysis of the Accuracy

R	R square	Adjusted R square	Std. Error of the Estimate
.756	.572	.567	.481

According to table 4.11 below, the highest impact of human resource management

factors over accuracy is training, followed by evaluation.

Table 4.11:	Coefficients	of the	Accuracy
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	Unstandardized Coefficients		Standardized Coefficients		
Model	В	Std. Error	Beta	t	Sig.
_					
TRAINING	.415	.115	.338	3.592	.000*
EVALUATION	.277	.113	.245	2.460	.014*
SELECTION	.013	.119	.011	.113	.910
COMPENSATION	.208	.112	.185	1.859	.064

4.6.3 Customer Satisfaction

According to analyze, R square is .673. This means that 67 percent of variance of the customer satisfaction can be explained by all four factors of the human resource management practices.

Table 4.12: Regression	Analysis of the Cust	omer Satisfaction

R	R square	Adjusted R square	Std. Error of the Estimate
.821	.673	.670	.4294

According to table 4.13 below, the highest impact of human resource management factors over customer satisfaction is compensation, followed by

evaluation.

	Unstandardized Coefficients		Standardized Coefficients		
Model	В	Std. Error	Beta	t	Sig.
TRAINING	.276	.103	.220	2.680	.008*
EVALUATION	.316	.100	.274	3.150	.002*
SELECTION	007	.106	005	065	.948
COMPENSATION	.408	.100	.355	4.090	.000*

Table 4.13: Coefficients of the Customer Satisfaction



CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Discussion

As discussed in chapter 2, in this era of globalized world, the level of technological replication has been rising dramatically. Therefore, it has been very difficult for firms to stay competitive. However, it is a must for every managerial position to deal with creating strategy that helps gaining competitive edge that cannot be easily replicated (Becker&Huselid, 1998). And this is where Human Resource Management comes in the scenario. The main focus of human resource is to obtain talented people that cannot be attained by its competitors. This thesis grabs attention of the practitioners revealing that improving operational functionality of Human Resource Management helps creating a remarkable contribution that achieve high level of Supply Chain outcome.

Much has been written from the perspective of SCM on many aspects of operations and manufacturing process regarding improvement of SCM functionality (Derrouiche, 2008). Especially, the relationship between quality management and supply chain management was investigated to improve supply chain process (Matthews, 2006).

Additionally, Beamon and Ware (1998) developed a process quality model for analyzing, improving, and controlling the supply chain systems. In order to improve supply chain performance, Forker (1997), and Brah and Lim (2006) investigated the use of total quality management. Impact of selecting a quality supplier on supply chain functionality is investigated by Braglia and Petroni (2000). Kogan (2007) used game theory to provide a quantitative and comparative economic and risk approach to gain strategic control in a supply chain process. Researchers have argued the importance of the collaboration of both disciplines and there is a raising trend related to the integration of human resource management and supply chain functionality (Gowen & Tallon, 2003).

The findings of this study have shown that improving supply chain qualitative performance as well as other supply chain capabilities rest on different management process. The analysis have shown that the functionality of supply chain can be improved and stabilized in collaboration with human resource management practices which reveals the importance of combination of two management process.

In this thesis, the results that we reached are in the same line with the supply chain theory and previous studies as stated in chapter two, indicate that the integration of both human resource management practices and supply chain process have a high tendency in creating better supply chain outcome. The human performances are highly affected by the set of predetermined human resource management practices and it is more likely to create desirable supply chain outcome. This is suggesting that, in order to increase the level of supply chain achievements, the correlation between two management processes has to be taken into account.

5.2 Conclusion

This study investigated the influence of Human Resource Management practices (selection, training, compensation, evaluation) over Supply Chain Qualitative Performance (accuracy, on-time delivery, customer satisfaction). 40

Apart from previous studies, this study is conducted by requesting employees to fill the questionnaire and in-depth interview is carried out to gain better understanding associated with the issue at hand. In addition to previously mentioned differences of this study, qualitative factors are used to evaluate supply chain performance as a major difference.

The analysis is carried out based upon the data that we collected. Four hundred front level and mid-level employees are requested to fill questionnaire in addition to fifteen in-depth interviews with company managers. In order to evaluate the data collected, SPSS 23 software program is used for analyzing purpose.

The results have shown that Human Resource Management practices have strongly significant impact on overall Supply Chain Qualitative Performance. Human Resource Management has extremely important effect on supply chain functionality. The results and analyzes have suggested that HRM provides vital contribution to SCQP that helps achieving certain goal of the firms and the set of human resource management practices ought to be used to push supply chain management in order to generate strong relationship among managements and better outcome.

The results that we reached are partly in the same line with the previous studies showing that Human Resource Management practices have significant positive impact over Supply Chain. Similar research carried out by Kam, Tsahuridu and Ding (2010), found that HRM practices have positive impact on Logistic and Supply Chain capabilities. Similarly, Khan, Taha, and Ghouri (2013) have shown HRM's significance toward Supply Chain Management Success. However, selection wasn't found as a significance factor in that study.

5.3 Managerial Implications

It is expected that the results that we have reached and discussion we made in this study will be practical for both academicians and practitioners in terms of not only extending the scope of the study that leads to future research opportunities, but also creating awareness for managers to comprehend the relationship between variables and the role of the HRM on Supply Chains' functionality so that they can focus on real issues to take right action.

The recent circumstances of modern business environment is tend to create a pressure for every company to create better business operation which unlikely to be replicated and poses competitive advantage when compared to rivals. Enhancing business performance is pretty much involves such business actions that creates new ways of operating companies.

The findings of this research suggest that acquiring better-operated supply chain performance can be gained in collaboration with the properly implemented human resource management practices. Cooperation of management process helps increasing possibility of achieving better outcome (Storey, 2006).

One of the most effective tools that improving employees' capabilities and relevant skill is adequate implementation of training program (Harel&Tzafrir, 1999). It has influential power on organizational commitment and the knowledge of participants (McEvoy, 1997). Additionally, training programs help increasing the level of performance regarding specific task (Burke, 1986). In this study, it is found that training have the most impactful effect over accuracy of product delivered. Accuracy of product delivered is one of the most important aspects of supply chain to keep companies' reputation high and trustworthy (Chan, 2003). In this thesis, it is found that compensation has very high tendency in creating customer satisfaction. Employees are most important component of the firms and compensation creates positive working environment when employees receive a positive recognition (Huselid, 1995). Firms ought to deal with a strong reward management to keep employees' performance and motivation in an expected level (Shahzad, 2008). Analyze shown that there is a strong relationship between customer satisfaction and compensation due to positive effect of compensation in creating better working environment and higher employee performance (Fulmer, 2003).

The analysis has shown that delivery performance of the structural supply chain operation rely on highly implemented evaluation program of the company. Evaluation program basically helps improving employee performance by identifying which room to be improved regarding performance provided (Swart&Duncan, 2005). It plays critical role in terms of grabbing employees' attention on what is measured and expected from employees and powerful evaluation of job performance should be implemented to improve employee's performance and meet companies' performance expectation (Swart&Duncan, 2005).

Actively managed human resource department can provide a great source of competitive advantage to the firms (Pfeffer, 1994). Regardless of how well the companies' strategy is, the implementation of such strategies would be easily disrupted without a set of talented employees to perform given specific task (Arthur, 1994). In this study, analysis showed that achieving superior supply chain performance rely on specific human resource management practices. Implementing the right practices helps gaining better understanding and better out come in terms of supply chain operation.

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5.4 Future Recommendations

Despite the contributions, this study leaves certain parts to be improved and can be used as a future research opportunity. According to Boxal (2007), there is no agreement on what constitutes Human Resource Management practices. Hence, other HRM practices should also be integrated to analyze their significance over Supply Chain Qualitative Performance.

Due to high level of globalization, the number of multinational cooperation's has been increasing constantly. Therefore, it would be beneficial and attractive to include cultural diversity to see how it is influencing the organizational structure and its outcome on supply chain functionality.

The relationship between Human Resource Management and Supply Chain Management has been realized recently and there are more gaps to be filled in the perspective of supply chain. Supply Chain Management is general concept and it has a comprehensive structure that can be categorized under different management process, namely, quality management, distribution management, warehouse management and so on. It would also be beneficial to examine the impact of HRM practices over different aspects of Supply Chain Management.

Finally, due to divergent structure, the relationship between human resource management and supply chain performance must be investigated in other industries in order to clarify interaction between two management processes and obtain ultimate the results among different industries.

BIBLIOGRAPHY

- Akbayrak, B. (2000). A Comparison of Two Data Collecting Methods: Interviews and Questionnaires. *Journal of Faculty of Education, Hacettepe University*, 18 (1), 1-10.
- Amit, R., & Schoemaker, P.J.H. (1993). Strategic Assets and Organizational Rent. Strategic Management Journal, 14(1), 33-46.
- Anderson, E.W. (1996). Customer satisfaction and price tolerance. *Marketing Letters* 7(3), 265-274.
- Anderson, E. W., Fornell, C., Lehmann, D. R. (1994). Customer Satisfaction, Market Share, and Profitability: Findings from Sweden, *Journal of Marketing*, 58 (3), 53-66.
- Arthur, J. B. (1994). Effects of Human Resources Systems on Manufacturing Performance and Turnover. *Academy of Management journal*, *37*(3), 670-687.
- Armstrong, M. (2001). *A Handbook of human resource practice* (8th ed.). London: Kogan Page.
- Barney, J.B. (1991). Firm Resources and Sustained Competitive Advantage. *Journal* of Management, 17(1), 99-120.
- Barve, A. (2011). Impact of supply chain agility on customer satisfaction.
 International Conference on E-business, *Management and Economics*, *3*, 325-329.
- Beamon, B., & Ware, T. (1998). A Process Quality Model for the Analysis,
 Improvement, and Control of Supply Chain Systems. *International Journal of Physical Distribution & Logistics Management*, 28 (9/10), 704-715.

- Beamon, B. M. (1999). Measuring supply chain performance. *International Journal* of Operations & Production Management, 19 (3), 275-292.
- Beaumont, P. (1992). *The US Human Resource Management Literature*. London : Sage.
- Becker, B. E., & Huselid, M. A. (1998). High Performance Work Systems and Firm Performance: A Synthesis of Research and Managerial Implications. *Research in Personnel and Human Resource Management*, 16, 53-101.
- Bogicevic, B. (2004). *Human Resource Management*, (2nd ed.). Belgrad : Cuguraprint.
- Boxall, P., Purcell, J., Wright, P. (2007). *The Oxford Handbook of Human Resource Management*, Oxford : Oxford University Press.
- Bowersox, D. J., Stank, T. P., & Daugherty, P. J. (1999). Lean launch: Managing product introduction risk through response based logistics. *Journal of Production Innovation Management*, 16, 557 – 568.
- Brah, S. & Lim, H. (2006). The Effects of Technology and TQM on the Performance of Logistics Companies. *International Journal of Physical Distribution & Logistics Management*, 36 (3), 192-209.
- Braglia, M., & Petroni, A. (2000). A Quality Assurance-oriented Methodology for Handling Trade-offs in Supplier Selection. *International Journal of Physical Distribution & Logistics Management, 30* (2), 96-111.
- Bratton, J. & Gold, J. (2003). *Human Resource Management: Theory and Practices* (3rd ed.). Hampshire: Pal Grave Macmillan.

Brown, W. (1989). Managing Remuneration' in Sisson. Britain: Blackwell.

- Burke, J. M. and Day, R. R. (1986). A Cumulative Study of the Effectiveness of Managerial Training, *Journal of Applied Psychology*, 71, 232-245.
- Cannell, C. F., & Kahn, R. L. (1968). Interviewing. In G. Lindzey, & E. Aronson (Eds.), *The handbook of social psychology*. Reading, MA: Addison-Wesley.

Capelli, P., & Singh, H. (1992). Integrating Strategic Human Resources and Strategic Management. In D. Lewin, O.S. Mitchell, & P.D. Sherer (Eds.), *Research Frontiers in Industrial Relations and Human Resources* (pp. 165-192).
Madison, WI: IRRA.

- Chan, F. T. S. (2003). Performance Measuring in a Supply Chain. International Journal of Operations and Production Management, 19(3), 275-292.
- Chew, J. C. L. (2004). The Influence of Human Resource Management Practices on Retention of Core Employees of Australian Organization. Unpublished doctoral dissertation, Murdoch University, Australia. Retrieved from http://researchrepisotory.murdoch.edu.au/65612/02whole.pdf
- Christopher M. & Jüttner U. (2000). Developing strategic partnerships in the supply chain: a practitioner perspective. *European Journal of Purchasing & Supply Management*, 6, 117-127.
- Cooper, D. R., & Schindler, P. S. (2003). Business research methods (8th ed.). New York: McGraw-Hill.
- Croom S., Romano P. & Giannakis M. (2000). "Supply chain management: an analytical framework for critical literature review". *European Journal of Purchasing & Supply Management, 6*, 67-83.

- Cycyota, C. S., & Harrison, D. A. (2002). Enhancing Survey Response Rates at the Executive Level: Are Employee- or Consumer-Level Techniques Effective? *Journal of Management*, 28, 151-176.
- DeNisi, A., & Pritchard, R. (2006). 'Performance Appraisal, Performance
 Management and Improving Individual Performance: A Motivational
 Framework, *Management and Organization Review*, 2, (2), 253–277.
- Derrouiche, R., Neuber, G., & Bouras, A. (2008). Supply Chain Management: A Framework to Characterize the Collaborative Strategies. *International Journal of Computer Integrated Manufacturing*, *21* (4), 426-439.
- Dessler, G. & Varkkey, B. (2009). *Human Resource Management*, (11th ed.). India: Dorling Kindersley.
- Devellis, R. F. (1991). Scale *Development: Theory and Applications*, Newbury Park: Sage.
- Dubois, A., Hulthén K., & Pedersen, A. (2004). Supply Chains and Interdependence: A Theoretical Analysis. *Journal of Purchasing & Supply Management*, 10 (1) pp. 3-9
- Dyer, C. (1995). Beginning Research in Psychology, Cambridge: Blackwell.
- Erdogan, B. Z. & Tagg, S. (2003). The Advertising Agency Manager's Response
 Patterns to a Mail Survey and Follow- Ups, *Marketing Intelligence and Planning*, 21 (6), 392–399
- Fisher, C. D. Schoenfeldt, L. F. & Shaw, J. B. (2006). *Human Resource Management*.Boston, MA: Houghton Mifflin.

- Forker, L. B., Mendez, D., & Hershauer, J. C. (1997). Total Quality Management in the Supply Chain: What is the Impact on Performance? *International Journal* of Production Research, 35 (6), 1681-1701.
- Fulmer, I. S., Gerhart, B. and Scott, K. S. (2003). Are the 100 best better? An empirical investigation of the relationship between being a "great place to work" and firm performance, *Personnel Psychology*, 56: 965-993
- Garg, D., Narahari, Y., & Viswanadham, N. (2003). A New Approach to Achieving Sharp and Timely Deliveries in Supply Chain Networks. *Proceedings of the IEEE International Conference on Intelligent Robots and Systems*, 3, 2315 – 2320.
- Gowen III, C.R., & Tallon, W. J. (2003). Enhancing Supply Chain Practices through Human Resource Management. *The Journal of Management Development*, 22 (1/2), 32-34.
- Grant, R. M. (1991). The Resource-based Theory of Competitive Advantage:
 Implications for Strategy Formulation California, *Management Review*, 2 (4), 561-575.
- Guest, D. (1987). Human Resource Management and Industrial Relations. *Journal of Management Studies*, 24 (5), 503-521.
- Gunasekaran, C. Patel, and Tirtiroglu, E. (2001). "Performance measures and metrics in a supply chain environment, *International Journal of Operations and Production Management, 21*, 71-87.
- Hair, J. F., Bush, R. P., Ortinau, D. J. (2006). Marketing research: within a changing information environment^{II}. (3rd ed.). New York: McGraw-Hill.

- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate Data
 Analysis. (7th ed). Upper Saddle River, New Jersey: Prentice Hall.
- Harel, G. H. & Shay S. T. (1999). The Effect of Human Resource Management Practices on the Perceptions of Organizational and Market Performance of the Firm, *Human Resource Management*, , 38(3), 185-200.
- Harris, L. R., & Brown, G. T. L. (2010). Mixing interview and questionnaire
 methods: Practical problems in aligning data. *Practical Assessment Research*& *Evaluation*, 15(1), 1-19.
- Hilb, M. (1992). Management Development in Western Europe, *Journal of Human Resource Management*, 3(3), 575-584.
- Holroyd, C., & Harlen, W. (1996). Primary teachers' confidence about teaching science and technology. *Research Papers in Education*, *11* (3), 323-335.
- Hugo, M. (2003). Essentials of Supply Chain Management. New Jersey: John Wiley and Sons .
- Huselid, M. A. (1995). The impact of human resource management practices on turnover, productivity and corporate financial performance, *Academy of Management Journal*, 38(3), 635-672.
- Juran, J. M. & Gryna, F. M. (1980). Quality Planning and Analyses. New York: McGraw-Hill.
- Kam, B. H., Tsahuridu, E. E., Ding, M. J. (2010). Does Human Resource
 Management Contribute to the Development of Logistic and Supply Chain
 Capabilities? An Empirical Study of Logistics Service Providers in China, 18(2), 726-738.

- Kaplan, R. S. (1990). Contribution Margin Analyses: No Longer Relevant/Strategic
 Cost Management: The New Paradigm. *Journal of Management Accounting Research*, 6, 2-15.
- Kaplan, R. S., & Norton, D. (1997). Why Does Business Need a Balanced Scorecard? Journal of Cost Management, 10, 5-10.
- Karim, M. A., Smith, A. J., and Halgamuge, S. K. (2008). A Comparative Study of Manufacturing Practices and Performance. *International Journal of Production Economics*, 112 (2), 841-859.
- Karoly, P. (1993). Mechanisms of Self-regulation: A Systems View. *Annual Review* of Psychology, 44, 23-52.
- Khan, N. R., Taha, S., Ghouri, A. M., Khan, M. R., Yong, C. K. (2013). The Impact of HRM Practices on Supply Chain Management Success in SME. *Log forum* 9 (3), 177-189.
- Koch, M. J., McGrath, R.G. (1996). Improving Labor Productivity: Human Resource Management Policies Do Matter. *Strategic Management Journal*, 17 (5), 335-354.
- Kogan, K., Tapiero, C. (2007). Risk and Quality Control in a Supply Chain:
 Competitive and Collaborative Approaches. *Journal of the Operational Research Society*, 58, 1440-1448.
- Lambert D. M. and Cooper M. C. (2000). Issues in Supply Chain Management. Industrial Marketing Management 29, 65-83.

- Lepak, D. P., & Snell, S. A. (1999). The Human Resource Architecture: Toward a Theory of Human Capital Allocation and Development. Academy of Management Review, 24(1), 31-48
- Liu, J., Zhang, S., & Hu, J. (2005). A case study of an inter-enterprise work flow supported Supply Chain Management system. *Information Management*, 42, 441–454
- Luo, X. & Homburg, C. (2007). Neglected outcomes of customer satisfaction. *Journal* of Marketing, 71(2), 133-149.
- Mason, S. J. et al (2003). Integrating the warehousing and transportation functions of the supply chain. Transportation Research Part E, *39*, 141 159.
- Mahmoud-Jouini, S. B., Midler, C., & Garel, G. (2004). Time-to-market vs. Time-todelivery: Managing Speed in Engineering, Procurement and Construction Projects. *International Journal of Project Management*, 22 (5), 359-367.
- Matthews, C. (2006). Linking the Supply Chain to TQM. *Quality Progress*, 39 (11), 29-35.
- McEvoy, M. G. (1997). Organizational Change and Linking competitive strategies with human resource Outdoor Management Education, Human Resource Management Practices. *The Academy of Management.* 36, 235-250.
- Mentzer, J. T. (2001). Defining Supply Chain Management. *Journal of Business Logistics*, 22(2), 1-25.
- Mentzer, J. T. (2004). Fundamentals of Supply Chain Management: Twelve Drivers of Competitive Advantage. California: Sage.

- Michael, K., & McCathi, L. (2005). The pros and cons of RFID in supply chain management. *Proceedings of the International Conference on Mobile*, 10, 623- 629.
- Mondy, R. W. (2005). Human Resource Management, Upper Saddle River, NJ: Pearson.
- Morgan, C. (2004). Structure. Speed and Salience: Performance Measurement in the Supply Chain. *Business Process Management Journal*, *10*(5), 522-536.
- Mosakowski, E. (1991). Organizational Boundaries and Economic Performance: An Empirical Study of Entrepreneurial Computer Firms. *Strategic Management Journal, 12*, 115-133.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- Oliver, R. L. (1980). A Cognitive Model of the Antecedents and Consequences of Satisfaction Decisions. *Journal of Marketing Research*, *17* (4), 460-469.
- Oliver, R. L. & Swan, J. E. (1989). Consumer Perceptions of Interpersonal Equity and Satisfaction in Transactions: A Field Survey Approach. *Journal of Marketing*, 53, 21-35.
- Pagel, M. (2004). Understanding the Factors that Enable and inhibit the integration of Operations, Purchasing and Logistics. *Journal of Operations Management*, 22, 459-497.
- Parker, H. (2000). Inter-firm Collaboration and the New Product Development Process. *Industrial Management & Data Systems*, 100 (6), 255-60
- Pfeffer, J. (1994). Competitive advantage through people , *16*: 505-527.. Boston: Harvard Business School.

- Porter, M. (1985). Competitive Advantage: Creating and Sustaining Superior Performance. New York: Free Press
- Rao, C. M., Rao, K. P., & Muniswamy, V.V. (2011). Delivery performance measurement in an integrated supply chain management: case study in batteries manufacturing firm. *Serbian Journal of Management 6*, 205–220
- Rupp, T. M. & Ristic, M. (2000). Fine Planning for Supply Chains in Semiconductor Manufacture, *Journal of Materials Processing Technology*, 10 (1), 390-397.
- Selby-Lucas, J. D. (2002). Aligning Hierarchical Goals in an Organization: The Path from Training to Performance, Unpublished Doctoral Dissertation, Domination University, Norfolk, VA.
- Sekeran, U. (2005). *Research Methods for Business: A Skill-building Approach* (4th ed.). New York: John Wiley & Sons.
- Shahzad, K., Bashir, S. & Ramay M. I. (2008). How business and employees can both win. Washington, DC: Brookings Institution.
- Shub, A. N. & Stonebraker, P.W. (2009). The Human Impact on Supply Chains:
 Evaluating the Importance of "Soft" Areas on Integrating and Performance.
 Supply Chain Management: *An International Journal*, 14(1), 31-40.
- Sink, D. & Tuttle, T. (1989). *Planning and Measurement in Your Organization of the Future*.
- Snow, C., Miles, R., & Coleman, H. (1992). Managing 21st Century Network Organization. *Organizational Dynamics*, 20(3), 5-21.
- Spreng, R. A., MacKenzie, S. B, Olshavsky, R. W. (1996). A reexamination of the determinants of consumer satisfaction. *Journal of Marketing*, *60* (3), 15-32.

- Storey, J., Emberson, C. (2006). Supply chain management: theory, practice and future challenges. *International Journal of Operations & Production Management.* 26 (7), 754-774.
- Supply Chain Forum (2012). *Managing the Human Resources in the Supply Chain*. Retrieved from www.supplychain-forum.com
- Swart, W., & Duncan, S. (2005). A Methodology for Assuring the Quality of Human Performance. *International Journal of Computer Integrating Manufacturing*, 18(6), 487-497.
- Szymanski, D. M. & Henard, D. H. (2001). Customer Satisfaction: A Meta-analysis of the Empirical Evidence. *Academy of Marketing Science Journal*, 29(1), 16-35.
- Tangen, S. (2003). An Overview of Frequently Used Performance Measures. Work Study, 52(7), 347-354.
- Weber, J. (2002). Logistic-und Supply Chain Controlling (5th ed.), Stuttgart: Shaffer Poeschel.
- Wilkinson, A. (1990). Business Strategy and the Management of Labor. University of Durham PhD.

APPENDIX

Human Resource Questionnaire

Training

People are properly oriented and trained upon joining this organization

พนักงานได้รับการฝึกอบรมอย่างเหมาะสมหลังการเข้าร่วมงานกับทางองค์กร

Strongly Disagree__ 1__ 2__ 3 __4 __5 __Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

Our company provides training system for employees to learn new ways to do their job บริษัทของเรามีการจัดการอบรมสำหรับพนักงานเพื่อเพิ่มพูนทักษะในการทำงานที่หลากหลายขึ้น

Strongly Disagree 1 2 3 4 5 Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

Our company ensures regular opportunities for personel and career development บริษัทของเราให้ความสำคัญกับโอกาสในการเติบโตและการเลื่อนตำแหน่งของพนักงาน

 Strongly Disagree
 1
 2
 3
 4
 5
 Strongly agree

 ไม่เห็นด้วยอย่างยิ่ง
 เห็นด้วยอย่างยิ่ง
 เห็นด้วยอย่างยิ่ง

Evaluation

The measurement of an employee's performance on the job is a priorty in this organization

การวัดผลงานของพนักงานเป็นสิ่งที่องค์กรนี้ให้ความสำคัญอยู่ในอันดับต้นๆ

Strongly Disagree__ 1__ 2__ 3 __4 __5 __Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

The measurement of turnover and absenteeism is a priority in our organization

การวัดผลของอัตราการลาออก และการขาดงานของพนักงาน เป็นสิ่งที่องค์กรนี้ให้ความสำคัญในอันดับต้นๆ

Strongly Disagree 1 2 3 4 5 Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

When evaluating the employees for promotion , seniority is one of the criteria taken into account

เมื่อมีการประเมินผลงานของพนักงานเพื่อการเลื่อนตำแหน่ง ความอาวุโสของพนักงานคือปัจจัยหนึ่งที่จะถูกนำมาพิจารณา

Strongly Disagree__ 1__ 2__ 3 __4 __5 __Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

Selection

Our company conducting a sufficient recruitment process that ensure employee capabilities can be utilized at required position

บริษัทของเรามีกระบวนการในการสรรหาพนักงานใหม่ที่ดีพอ ซึ่งทำให้มั่นใจได้ว่า ความสามารถของพนักงานที่ถูกคัดเลือกจะถูกนำมาใช้ในตำแหน่งงานที่ได้รับได้อย่างเหมาะสม

Strongly Disagree 1 2 3 4 5 Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

The values and believes of this organization are discussed in interviews with the potential employees

้ ค่านิยมและความเชื่อขององค์กรจะถูกหยิบยกขึ้นมาพูดกับพนักงานที่มีศักยภาพในขั้นตอนของการสัมภาษณ์งาน

Strongly Disagree 1 2 3 4 5 Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

When the new employee hired, they must go through an extensive hiring process in which they are interviewed number of times.

เมื่อพนักงานใหม่ถูกรับเข้าทำงาน พวกเขาจะต้องผ่านเข้าสู่กระบวนการจ้างงานที่ละเอียดถี่ถ้วน ซึ่งพวกเขาจะถูกสัมพาษณ์ในอีกหลายรอบ

Strongly Disagree 1 2 3 4 5 Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

Employees are given positive recognition when they produce high quaility of work พนักงานได้รับการยกย่องอย่างเหมาะสม เมื่อพวกเขามีผลงานที่ดี

Strongly Disagree__ 1__ 2__ 3 __4 __5 __Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

Our company provides sufficient salary to employees based on related business sector บริษัทของเราง่ายเงินเดือนพนักงานได้อย่างเหมาะสมกับประเภทธุรกิจ

Strongly Disagree 1 2 3 4 5 Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

Our company offers good opportunities for promotion

บริษัทของเราเสนอโอกาสที่ดีในการเลื่อนตำแหน่ง

 Strongly Disagree___ 1___ 2___ 3 ___4 ___5 ___Strongly agree

 ไม่เห็นด้วยอย่างยิ่ง
 เห็นด้วยอย่างยิ่ง

Supply Chain Qualitative Performance

On-time delivery

Our company capable of providing our product at the promised time บริษัทของเรามีความสามารถในหารจัดส่งสินค้าได้ทันเวลาที่กำหนด

 Strongly Disagree
 1
 2
 3
 4
 5
 Strongly agree

 ไม่เห็นด้วยอย่างยิ่ง
 เห็นด้วยอย่างยิ่ง
 เห็นด้วยอย่างยิ่ง

Accuracy

Our company provide an accurate service that meets customer request บริษัทของเราเลือกสรรการบริการที่เหมาะสมกับความต้องการของลูกค้า

Strongly Disagree 1 2 3 4 5 Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

Customer Satisfaction

Customers perceive their money's worth when they purchase our product ลูกค้ารู้สึกได้ถึงความคุ้มค่าของเงินเมื่อซื้อสินค้าของทางบริษัท

Strongly Disagree__ 1__ 2__ 3 __4 __5 __Strongly agree

ไม่เห็นด้วยอย่างยิ่ง

เห็นด้วยอย่างยิ่ง

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