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# Factors influencing employees' motivation in implementing 5s system

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### ABSTRACT

This study attempts to examine the relationship between the variables (communication for 5S System, training for 5S System, reward and recognition for 5S System and top management role for 5S System) with the employees' motivation in implementing 5S System. The sample size of respondents is 150 and all of them are the employees from Nibong Tebal Paper Mill Sdn. Bhd (NTPM) and Muda Paper Mill Sdn. Bhd. This present study focused on manufacturing firms that are situated in northern area (Penang) and both are manufacturing paper based products. All the respondents are given the questionnaire and their responses are analyzed. In the findings of this present study shows that communication for 5S System and training for 5S System were found to have a positive significant relationship with the employees' motivation in implementing 5S System while not for the other two variables (reward and recognition for 5S System and top management role for 5S System).

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### Introduction

In order to stay competitive in an increasingly global marketplace, increase in customer demands and rapid market changes, companies are forced to rethink their manufacturing and management approaches to lower costs, waste reduction, improve productivity and at the same time increase quality (Heizer & Render, 2010). As a part of management's lean manufacturing effort, 5S System is one of the tools that can help to improve competitiveness in business industry (Rahayu, 2009). Besides that, Ho (2008) mentioned that Lean 5S Business Model play a vital role for the global sustainability and economic development.

Based on Scaffede (2002), lean manufacturing is a process that improves the standards of the organization which require the cooperation among the workers. More specifically, according to Papadopoulou & Ozbayrak (2005) and Heizer & Render (2010), lean is about reducing the time from customer order to manufacturing by identifying and eliminating non-value adding activities in design, production and supply chain management. One tool within lean that can be applied to the waste reduction is Five S (5S) System. It was developed by Mr. Hiroyuki Hirano of JIT Management Laboratory Company Ltd, in Tokyo and his famous book on 5S was first published in 1990. 5S System focuses on five implementations of actions that starts with the prefix letter "S" aimed at the systematic hygiene management. In addition into that, Seiri, Seiton, Seiso, Seiketsu and Shitsuke are Japanese words that summarized 5S, which translates to organization, neatness, cleanliness, standardization and discipline, respectively (Ppheng & Khoo, 2001; Shumin & Xiaoling, 2009).

More than twenty years ago, it is undoubtedly that 5S System has gotten great success in many organizations especially in Japan and is spreading fast throughout the world. 5S is a method or practice management tool that can help everyone in organization to live in a better working environment (Ho, 1999; Ho 1998; Heizer & Render, 2010). More importantly,

it is also to ensure compliance to the standards in the process and to fosters the spirit of continual improvement (Dulhai, 2008; Karkoszka & Honorowicz, 2009). According to Found, Beale and Rich (2006), when the implementation of 5S System is successful in a company, it will bring about amazing changes. The espoused benefits usually associated with a successful 5S System implementation include increase in productivity, quality, safety, maintenance, reduction in cost, achieve customers' satisfaction, lower setup times and improved employee discipline (Hill, 2009; Samsonova, 2007). Besides that, the driving force for 5S System comes from people and requires commitment in all company levels. It can be seen that employees play a vital role whether it is from the management or non management employees in all stages of 5S implementation (Hiregoudar, 2007). It is a dream for many manufacturing companies to build up continuous improvement culture in the plants through total employees involvement and participation especially in implementing 5S System. Unfortunately, they always encounter many barriers while they are chasing this dream.

Most of the manufacturing professionals think that the obstacles in implementing 5S System are there is no all-involvement culture among employees and they think 5S System is equal to spring-cleaning, no good tools, lack of motivation and evaluation system, and lack of top management support (MESC, 2009). According to Albert (2004), the 5S System implementation cannot be successfully done without the involvement, hard work and dedication of the employees. So, participation and commitment is needed from all levels of personnel within the organization. Therefore, it becomes the aim of every organization to find out the factors that can affect the employees' motivation to integrate 5S System in their working field.

As a conclusion, Beale (2007) mentioned that, employee motivation is reported to be essential for successful implementation of lean manufacturing practices especially in 5S

System. Effective employee motivation has long been one of the management's most difficult and biggest tasks. Success in this endeavor is becoming more challenging in light of pressures to increase productivity and customer satisfaction while reducing costs. Motivating employees is essential to ensure an organization can get the best from everyone working in the business, achieves goals through the work of both individuals and teams, establishes a high standard of performance and provides first class customer services on a consistent basis.

#### **Problem statement**

As many organizations attempt to become "World Class Manufacturing" operations, where to begin their lean journey is the first question facing management. The answer is simple which is by implementing 5S System (Auja & Khamba, 2008; Ansari & Modarres, 1997; Czabke, 2007; Wong, Wong & Ali, 2009).

The effectiveness of 5S System is shown by its popularity in Japan where the concept has been introduced mainly in the manufacturing industries (Pheng, 2001). Additionally, 5S System can influence quality improvement without incurring high costs in their implementation that is needed by every manufacturing firm which have been awarded by ISO compliance (Low, 2000a; Low, 2000b; Low 1999).

A company that has implemented 5S comprehensively displays a level of orderliness and clarity that other company have not considered (Galsworth, 1997). On the other hand, a half-hearted commitment to 5S is doomed to fail (Albert, 2004). Most of the manufacturing firms carry out 5S System however it is not an ongoing process and inconsistency (Bamber, Sharp & Hides, 2000; Pillet & Maire, 2008). As all knows, employees at all levels are the main part of implementing 5S System.

Reviewed by Samsonova (2007) summarized results from a number of interviews which indicate that lack of motivation is one of the factors that hinders successful implementation of 5S System.

Other than that, the importance of 5S System was not being fully utilized and it had been abandoned by employees (Gomez, Byers, Stingley, Sheridan & Hirsch, 2010). Additionally, they think that it only involves 5S committee in the workplace and has nothing to do with them, even consider it as burden and resist it (Bo, 2008). Furthermore, it is difficult to promote 5S practices as a culture in an organization especially in manufacturing firm due to the fact that employees lack understanding on the meaning of 5S System (Rahman, Khamis, Zain, Deros & Mahmood, 2010).

There was a lot of literature on the 5S System implementation in manufacturing firm. However, there was a little awareness of employees' motivation in implementing it. So, what should management do? Does the management motivate their employees in implementing 5S System? This has caused the organizations to identify the important factor needed to ensure the successfulness of 5S System with the involvement of all workers. The present study has selected communication for 5S, training for 5S, reward and recognition for 5S and top management support for 5S to be examined as determinants or factors in influencing employees' motivation in implementing 5S System.

#### **Objectives**

This research was conducted to analyze which 5S implementation factors (Communication, Training, Reward and Recognition and Top Management Role for 5S) that will influence employee motivation.

## **Literature Review**

### **Lean Manufacturing**

Lean manufacturing is a concept and philosophy of waste reduction in process, which enjoys popularity in manufacturing company (Bullington, 2005) resulting in shorter production lead times, more efficient and cost effective manufacturing (Czabke, 2007), and significantly enhanced profitability (Wong & Whitman, 1999). Additionally, most of them are striving to increase their output and productivity of their operations. In fact, it is a complete manufacturing system affecting the entire organization in every function (Scaffede, 2002) which has undergone and still is undergoing process of continuous and never-ending evolution (Papadopoulou & Ozbayrak, 2005).

According to Tapping (2002) as coded in Tinoco (2004), lean manufacturing refers to a manufacturing improvement process based on the fundamental goal of Toyota Production System in order to minimize or eliminate waste while maximizing production flow.

As stated by Wong et al., (2009) and Heizer and Render (2010), the objective of lean manufacturing is to plan and create a better, quicker and less expensive way of producing sustainable products that fulfill the customers, employees and shareholders needs and wants of a company.

### **5S System Housekeeping**

5S is a set of techniques providing a standard approach to a good housekeeping (Imai, 1997 as coded in Aoki, 2008) within lean manufacturing (PHS Management Training, 2004). The Five S System, or simply called as 5S, are a structured programme to systematically achieve total organization cleanliness and standardization in the workplace. The 5S philosophy focuses on effective workplace organization and standardizes work procedures. Moreover, the implementation of 5S is positively related to the increase in quality and productivity (Alberto, Alejandro & Javier, 2010; Hutchins, 2007).

Based on a research conducted by Ansari and Modarres (1997), in order for an organization to ensure continued competitiveness and market growth, they have to develop a safety improvement process which is 5S System. He also mentioned that, it is useful for the transition to world-class safety performance. A well-organized workplace will come out in a safer, more efficient, and increased in service, employee attitudes (Hutchins, 2006) as well as social responsibility (Withanachchi, Handa, Karandagoda, Pathirage, Tennakoon, Pullaperuma, 2007). The name 5S stands for five Japanese words Seiri, Seiton, Seiso, Seiketsu and Shitsuke (Osada, 1991). For English words, it is known as organization, Neatness, Cleaning, Standardisation and Self-disciplines (Bryar & Walsh, 2002).

### **Motivational Theories**

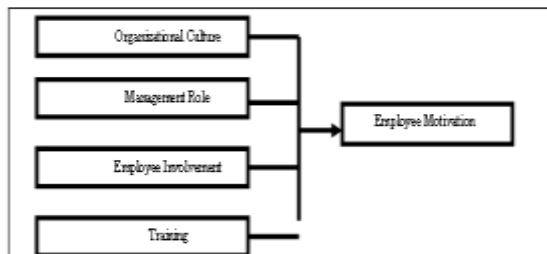
Employee motivation is a major factor in the success or failure for any organization (Barrs, 2005). Besides that, without motivated employees, profits, products, services, morale and productivity suffer. Jassim (1998) and Latt (2008) and Fawcett, Rhoads and Burnah (2004) mentioned that, employees as the bridge to competitiveness. Hence, organizations must invest in effective strategies to motivate employees. Managers today complain that their employees are no longer motivated to work. However, it is often the managers and organizational practices that are the problem, not the employees. When there is lack of motivation, the problem usually lies in one of the following area: unsatisfactory reward and recognition, manager's inability to communicate their goals, poor training program, poor feedback

and appraisal from organization and lack of top management support (Robbins, 2003; Fried & Slowik, 2004; Locke & Latham, 1990).

For this present study, the theory that had been chosen is Need Theories (Maslow's Need Hierarchy Theory and Alderfer's ERG Theory) and Herzberg Two Factor Theory. The reasons of choosing these theories to be referred because firstly, reward and recognition, training, top management support and communication in workplace are some of the needs that employee required. Besides that, the needs that makes a person motivated is about what a person wants and about his or her emotional state, which drives him or her in the direction to achieve organizational goals (Freemantle, 2001). The second reason is that the motivation is highly related to the satisfaction of an employees' in implementing any activities or system in an organization (Locke & Latham, 1990). Satisfaction occurs when needs are fulfilled, and motivation is the attempt to satisfy need (Aldag & Kuzuhara, 2002).

#### The Framework of Employees' Motivation

Lukman, Aziz and Zakaria (2009) have developed a theoretical model of employees' motivation in implementation of 5S System. The proposed model will help to understand the factors that contribute to the success of 5S implementation. In this framework, there are four independent variables that influence employees' motivation in implementing 5S System-organizational culture, management support, employee involvement and training. The results of the study revealed that organizational culture for 5S, management role for 5S and training for 5S have a significant relationship with employee motivation but insignificant for the employee involvement for 5S.



**Figure 2.3. The Relationship of Implementation of 5S and Employee Motivation**

Sources: Lukman, Aziz & Zakaria (2009)

Later, the second theoretical framework regarding employees' motivation was developed by Govindarajulu and Daily (2004). This research provides an overview of the current management literature regarding increasing employee motivation for environmental improvement efforts. The model focuses on the integration between top management commitment, employee empowerment, rewards, feedback and review and environmental performance. It also has outlined the crucial steps that need to be taken by an organization when implementing any activity in organizations to ensure employee motivation can be enhanced. They researcher also stressed that all the factors proposed are not stand alone but relate with each other to ensure continuous improvement.

#### Dependent Variable

There is only one variable for this present study which is the employees' motivation in implementing 5S System.

#### Employees' Motivation in Implementing 5S System

Discovering what motivates employees is one of the most challenging aspects for management in implementing 5S (Bryar & Walsh, 2002). Unfortunately, there is little research on how to

motivate employees in practicing 5S System as their work culture. Employees' motivation is influence by the management, environment and the employee himself or herself (Govindarajulu & Daily, 2004). According to Lukman, Aziz and Zakaria (2009), employees should be motivated to participate in any activities related to 5S System in the organization.

Motivation derived from the Latin word 'movere', which means 'to move' (Kretiner, 1998 in Ramlall, 2004). Motivation has been defined as: is an inner drive and intention that causes a person to do something or get a certain way (Fuhmann, 2006); psychological forces within a person that determine the direction of that person's behavior in an organizations, effort level, and persistence in the face of obstacle (George & Jones, 2008); individuals navigate their own career paths and strive for an overall sense of success (Quigley & Jr, 2006); probability that person will enter into, continue, and adhere to a specific change strategy (National Association of Social Workers, 2003) and a psychological process that cause the arousal, direction, persistence of voluntary actions that are goal directed (Kreitner & Kinicki, 2004).



**Figure 2.4. Motivating Employees for Environmental Improvement**

Source: Govindarajulu & Daily (2004)

#### Independent Variable

There are four independent variables of this present study which are communication, training, reward and recognition and top management support.

#### Communication

Poor communication is one of the most common criticisms employees have about the organizations they work for. Employees complain that they are given poor instructions, they feel uninformed about what is happening within the company and often feel that their views are unheard, unacknowledged, or even ignored (Galashi, 2009). According to George and Jones (2008) have defined communication as the sharing of information between two or more individuals or groups to reach a common understanding. An effective communication in organizations is important because it affects practically every aspect of organizational behavior. Likewise, employees are motivated to perform at a high level when someone communicates clearly what is expected of them (Malhi, 2004). When an organization experience problems such as unmotivated employees or excessive highly turnover, poor communication is often partially to blame (George & Jones, 2008). Good communication prevents many problems and serves many important functions.

Many communication regarding 5S systems in organizations, business and industry have evolved over time in an uncontrolled fashion. As a result, 5S systems may be complex, cluttered and confusing. According to Oheocha (2000), the main barriers or distractions in the implementation for the 5Ss is relate to communications and limited resources.

She added effectiveness and methods of communication methods in 5S System rarely assessed and evaluated so that results in wasted resources, time and money, lower employees' motivation. Based on Khamis, Rahman, Jamaludin, Ismail, Ghani and Zulkifli (2009), their research findings had identified the most significance barriers in implementing 5S System are lack of communication, training and top management support.

Each department will be assessed on the level of the implementation of the 5S. The benefits of auditing are to recognize, improve, and communicate the weaknesses that involved in the 5S system practice by the firms so that corrective actions can be made. With effective communication, an organization can maintain a good human relation (Goris, 2007; Sadus, 2007) by encouraging ideas or suggestions (Neilson, Martin & Powers, 2008) from employees or workers and implementing them whenever possible (Vuuren, Jong, Seydel, 2007). By communicating in workplace, it helps organization to inform people on what people have to be aware their target, and what they should achieve especially regarding 5S System.

### **Training**

In recent years, training has become increasingly vital to the success of organizations (Hughes & Mussnug, 1997) and it becomes a formal process for some companies. The topic of training also has generated a lot of excitement in many companies. Training usually begins with awareness in quality management principles and is followed by particular skills in quality improvement (Hashim, 2001). He also mentioned that, training of employees has gained much attention over the years mainly because companies have come to realize the importance of employees training as a factor for organizational growth.

The term 'training' is often used casually to describe almost any effort initiated by organizations to foster learning among its members (Bohlander, Snell & Sherman, 2000). Based on Mathis and Jackson (2003), training is a process whereby people acquire capabilities to aid in the achievement of organizational goals. According to Hashim (2001), training refers to a planned and systematic effort to modify or develop knowledge and skill to achieve effective performance in an activity or range of activities. Other than that, training can provide employees with specific, identifiable knowledge and skills to perform their jobs. In the implementation of 5S in an organization, every employee, from lower to top management requires training in 5S philosophies and techniques.

Research findings identified that there are two ways in providing the 5S System training, which are internal and external training (Khamis et al., 2009). Based on their research, there are four methods of providing internal training, which are from other experienced individuals, having commitment in the project, job sharing and task rotation and individual guidance in the 5S System. Additionally, for the external training, organizations send their employees to 5S System seminars and workshops. By sending them to seminars and workshops, the person involved become valuable to the organizations and will benefited organizations in long term. According to Mak and Sockel (1999) and Ranft and Lord (2000) as coded in Acton and Golden (2002), company commitment to the training needs of its employees positively influences employee satisfaction, which leads to an increase in employee motivation. As stated by Oheocha (2000), the 5S training plays an importance role to introduce and to promote its used as primary technique to enhance continually improve housekeeping, quality, health and safety and environmental performances. Besides that, the 5S

training must target the participation of all employees to ensure they understand, implement as well as able to produce visible results. Additionally, it is useful to an organization because the image of poorly equipped, low morale among employees and badly maintained organization can be reduce (Negros Oriental Provincial Hospital, 2001).

### **Reward and Recognition**

A successful and well-designed reward and recognition program in an organization is useful in motivating, attracting and retaining (Harder, 2006) employees to participate in environmental practices such as 5S System (Parrie, 2007). It can be used systematically to motivate employees to perform desired behaviors so that both the company and its workers can benefit from the program. Furthermore, rewards and recognition have traditionally been used to motivate employees to increase performance (Wignaraja, 2006; Amir, Hassan, Ariffin & Rehman, 2009; Khan, Farooq & Ullah, 2010).

According to Bo (2008) has stated that in order for an organization to sustain the 5S System, employees should be rewarded and recognized according to their outstanding performance. Presently, there is a significant research has shown that reward and recognition systems can motivate and reinforce employees to be an environmentally responsible (Laabs, 1992; Patton & Daley, 1998 as cited in Govindarajulu & Daily, 2004). For example, Dow Chemical, a leading environmental firm, motivates its employees by awarding plaques to employees that involved in waste reduction (Denton, 1999). Good reward and recognition has been found over the years to be one of the policies the organizations can adopt to increase their employees' motivation and thereby increase the organizations productivity and efficiency (Kumar & Harms, 2004).

Studies that have been conducted indicate that the most common problem in organizations today is that they fail to notice the important component of reward and recognition. According to London and Higgot (1997), the failure of reward and recognition systems in an organization tends to diminish employee's instrumentality and valence. Increasingly, organizations are now realized that they have to establish an equal balance between the employee's contribution to the organization and the organization's contribution to the employee. Establishing this balance is one of the main reasons to reward and recognize employees. According to the research conducted by Ali and Ahmed (2008), there is a statistically significant, direct and positive relationship between rewards and recognitions with work satisfaction and motivation. He added if more focus is placed on rewards and recognition, it could have a resultant positive impact on motivation and thus result in higher level of performances.

### **Top Management Support**

Management research has found that the support of top management has been identified as a critical factor to the success of any effort aimed at changing the operational philosophy of the organization (Nathan, Apigian, T.S & Tu, 2004). Without the top management support, employees in the organizations are unlikely to change. Besides that, Chrusciel and Field (2003) stated that top management not only support their employees, but also need to deal with values, expectations, communication and review. Furthermore, according to Puvanasvaran et al. (2008) management should show their support by creating interest in the implementation of lean process and communicate the change to everyone within the organization. According to the research done by Calisir (2007),

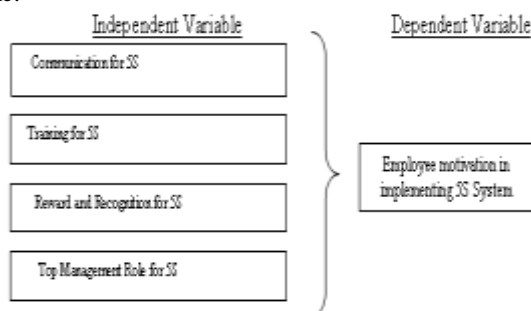
the obligation of the top management is to enhance company's reputation, create inter personal relations and motivate employees.

A case study specifically on one of the lean tools by Oheocha (2000) at Cooke Brothers Ltd focus on effective implementation of 5S depends upon commitment by management at top level and total involvement of staff at all levels within firm. However, his study also shows that a firm's culture, communication and employee attitudes are the factors that influence success or failure in the use of the 5S System. According to two researchers conducted by Govindarajulu & Daily (2004), employees always follow management's direction. In addition, based on his study stated that whatever management does, in what direction they push and how hard they push dictates where a company actually goes.

However, it becomes a major issue, which many organizations failed to accomplish their goals especially in implementing 5S System because of the reluctance of top management in delegating some authorities and empower employees (Minjoon, Shaohan & Hojung, 2006). Thus, when a firm attempts to implement a planned change, employees at all levels are more likely to invest time and effort in the change program if that program has the full and credible support of top management (Rouibah, Handy & Al-Enezi, 2009). In order to make the 5S work the top management has to give its full support to practice this activity in their company. Based on the observations conducted by Khamis et al., (2009), top management of this company is not supporting the 5S practice and the reason given by them is the amount of the time and money that would be required to implement the proposed. Rogovsky and Xubiao (2007) has cited that top management responsible for formulating 5S implementation objectives, evaluates implementation results and can guide company in implementing 5S system.

### Methodology

This research study will focus on the relationship between dependent variable and independent variables. The independent variables for this research study are Communication, Training, Reward and Recognition and Top Management Role employee's motivation in implementing 5S System is the dependent variable.



**Figure 1: Theoretical Framework**

### Population and sampling

The target population for this study is the employees from Nibong Tebal Paper Mill (NTPM) Sdn. Bhd. and Muda Paper Mill Sdn. Bhd. Both which both are located at Penang area and manufacturing paper based products. The sample is based on a non-probability convenience sampling method because it was a viable alternative and due to the constraint of time, cost and manpower in conducting the present study. To determine the sample size, general rule was used, that is to have at least five times as many variables to be analyzed, and the more acceptable

size would have a ten-to-one ratio (Hair, Anderson, Tatham, and Black, 1998).150 respondents had been chosen to answer the questionnaire and the response rate was 100%.

### Study instrument

In this research study, self-administered questionnaire was used as an instrument for data collection. All items comprise of the statement followed by five Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). There are 2 sections in the questionnaire which include; Section A - Respondent Profile, Section B – Communication for the 5S, Training for the 5S, Reward and Recognition for 5S, Top Management Role for 5S and Section C - Employee motivation in implementing 5S System.

### Statistical analyses and finding

The data was entered and analyzed with the Statistical Package for Social Sciences (SPSS) software programme (version 17.0). The findings comprised of four main sections. The first section provides the first objectives in data analyses that are getting a feel for the data. For the feel of data, the analyses used are Frequency Distribution and Descriptive Statistics. The second section is testing the goodness of data. While, for the testing of the goodness of data, the analyses used are Factor Analysis and Reliability. The third section is testing the hypothesis which the analyses used are Pearson Correlation Matrix and Regression Analysis.

Table 4. has a listing of the demography of respondents in this study. This study has identified seven factors to be concluded in this part. The first factor, gender has showed that most of the respondents are female which is 57.3%. With regards to age, which is the second factor, proves that the age between 15 to 25 years old is bigger with 59.3%. Respondents of Malay dominate this research it was conducted as noted in third factor with 47.3%. This table also indicates 38.7% of the respondents have at least secondary education level. With respects to work areas, the major respondents are among the production department which is contributing 36.7% of the responds. Next factor is regarding the monthly income. Most of the respondents are categorized into RM1, 001-RM3, 000 which are 52%. For the last factor which is working experiences, it showed that 36% of the respondents have been working between 4 to 6 years.

### Descriptive Statistics

Descriptive statistics involve transformation of raw data into a form that would provide information to describe a set of factors in a situation. It also measures the central tendencies and dispersion. As stated by Sekaran and Bougie (2010), descriptive statistics as maximum, minimum, means, standard deviations and variance were obtained for the interval-scaled independent and dependent variable. The result of analysis is presented in Table 4.2. From Table 4.2, it showed that, the entire mean for dependent variable and independent variable are range between 4.0567 to 4.7593.

### Factor Analysis

Factor Analysis attempts to identify underlying variables or factors that explain the pattern of correlations within a set of observed variables. Factor analysis is often used in data reduction to identify a small number of factors that explain most of the variance observed in a much larger number manifest variable. There are 50 items measures the independent variables that used for this analysis. The result showed four factors solution with eigenvalues greater than 1.00 and the total variance explained was 78.365% of the total variance. The KMO

of sampling adequacy was .892 indicating sufficient inter-correlations and the diagonal entries of the anti-image correlation ranged from .826 to .946. While, for the Barlett's test of sphericity indicated significance of overall correlations within the correlation matrix ( $p < 0.01$ ). These results confirm that each of these constructs is unidimensional and that all items to measure a particular construct loaded on a single factor.

#### Reliability Analysis

The reliability of the questionnaire is tested according to Cronbach's Alpha measurements. Reliability analysis was performed for all the selected significant items within the factor. The closer the reliability coefficient gets to 1.00, the better. The alpha over .80 is considered good, whereas range of .70 is considered acceptable. Reliability coefficients for the variables are presented in Table 4.4. The detailed are attached as appendix E.

According to the Table 4.4 above, the Cronbach's coefficient alpha values of all variables are well above 0.80, which indicate 0.967 is for communication, 0.973 is for training, 0.958 is for reward and recognition, and 0.971 is for top management support. Based on Cronbach (1946), reliability coefficient of above 0.80 is considered good indicator of internal consistency reliability that is used in this study. In addition, the reliability coefficient of employees' motivation in implementing 5S System, as dependent variable in this study, is 0.864, which also well above 0.80.

#### Hypothesis Testing

Hypothesis testing is the process to analyze the hypothesis generated in this study test whether it is acceptable or not. As mentioned by (Sekaran & Bougie, 2010), the objective of hypothesis testing is to test each of the hypotheses using relevant statistical test. It is useful for the researcher to determine whether the hypotheses are substantiated or not. The results of this test and their interpretation are discussed below.

##### Test for Hypothesis 1

Hypothesis 1 suggested that communication would be positively related to employees' motivation in implementing 5S System. The results highlighted that communication was positively related to employees' motivation in implementing 5S System ( $\beta = .670$ ,  $p < .00$ ). Therefore, hypothesis 1 is supported.

##### Test for Hypothesis 2

Hypothesis 2 suggested that training would be positively related to employees' motivation in implementing 5S System. The results highlighted that training was positively related to employees' motivation in implementing 5S System ( $\beta = .677$ ,  $p < .00$ ). Therefore, hypothesis 2 is supported.

##### Test for Hypothesis 3

Hypothesis 3 postulated that reward and recognition would be positively related to employees' motivation in implementing 5S System.

The results revealed that reward and recognition did not show significant and negatively relationship with employees' motivation in implementing 5S System. Thus, it did not support hypothesis 3. Consequently, hypothesis 3 is rejected.

##### Test for Hypothesis 4

Hypothesis 4 proposed that top management support would be positively related to employees' motivation in implementing 5S System.

Based on findings indicate that top management support was found to be negative relationship with employees' motivation in implementing 5S System. Thus it not support Hypothesis 4. As a result, hypothesis 4 is rejected.

#### Correlation Analysis

The correlation matrix displays correlations coefficients between the four independent variables (communication, training, reward and recognition and top management support) and the dependent variable (employees' motivation in implementing 5S System). The correlation coefficients indicate the strength of the association between the variables. The result of this analysis is presented in table 4.5.

#### Linear Regression Analysis

Based on table, the value of  $R^2$  is 0.951 which means explaining 95.1% of the variation in the independent variables that can be explained by the variation in the dependent variable. While, another 4.9% remain unexplained and it may be explained by other factors. It means that there are others factors that might influence the dependent variable (employees' motivation in implementing 5S System). The communication and training for 5S have highly significant with the employees' motivation in implementing 5S System. The table also showed that, the reward and recognition and top management support for 5S have no significant relationship with employee's motivation in implementing 5S System.

#### Conclusion

The present study concludes that there are significant and positive relationships between communications and training with employees' motivation in implementing 5S System while negative relationship for the top management support. Besides that, based on the findings, reward and recognition have no significant relationship with the employee's motivation in implementing 5S System. As a conclusion, it is hoped that the results of the present study have contributed valuable information to the future researchers. Besides that, it is hope that companies especially in manufacturing can gain benefit and make use of the results to improve policies and programmes regarding 5S System. It is expected that the feedback of the present study will give an actual scenario on the problems faced by manufacturing firms regarding employees' motivation in implementing 5S System. In addition, researchers can use the study's findings as their future reference on employees' motivation. Although there are some limitations, it is hoped that the first step taken in studying the factors influencing employees' motivation in implementing 5S System is significant for further justification.

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**Table 4 : Frequency Count and Percentage Distribution of Respondents on Demographic Information**

Demographics	Frequency	Percentage (%)
Gender		
Male	64	42.7
Female	86	57.3
Age		
15-25 years old	29	19.3
26-35 years old	89	59.3
36-45 years old	23	15.3
Above 45 years old	9	6.0
Race		
Malay	71	47.3
Indian	14	9.3
Chinese	50	33.3
Others	15	10.0
Education		
Secondary	58	38.7
Diploma	37	24.7
Bachelor	51	34.0
Master	4	2.7
Work Areas		
Customer Service	8	5.3
Financial	13	8.7
Administration	31	20.7
Information Technology	11	7.3
Sales and Marketing	14	9.3
Production	55	36.7
Logistics	12	8.0
Research and Development	6	4.0
Monthly Income		
Below RM1,000	29	19.3
RM1,001-RM3,000	78	52.0
RM3,001-RM5,000	21	14.0
RM5,001-RM10,000	12	8.0
RM10,001-RM20,000	9	6.0
Above RM20,000	1	0.7
Working Experience		
1-3 years	53	35.3
4-6 years	54	36.0
7-10 years	28	18.7
Above 10 years	15	10.0

N=150

**Table 4.2 Descriptive Statistics of Independent and Dependent Variable**

	N	Minimum	Maximum	Mean	Std.Deviation
<i>Motivation</i>	150	3	5	4.3027	.39203
<i>Communication</i>	150	3	5	4.3527	.50310
<i>Training</i>	150	3	5	4.1907	.53937
<i>Reward and Recognition</i>	150	2	5	4.7593	.36749
<i>Top Management Support</i>	150	3	5	4.0567	.51153

**Table 4.4 Reliability coefficients of the study variables**

	Total Number of Items	Items Deleted	Cronbach's Alpha Value
Motivation	10	-	0.864
Communication	10	-	0.967
Training	10	-	0.973
Reward and Recognition	10	-	0.958
Top Management Support	10	-	0.971

**Table 4.5 Intercorrelation of Variables**

	Motivation	Communication	Training	Reward & Recognition	Top Management Support
Motivation	1				
Communication	.711(**)	1			
Training	.708(**)	.059*	1		
Reward and Recognition	-.097	-.024	-.105	1	
Top Management Support	.240(**)	-.030	.415(**)	-.213(**)	1

**Table 4.6 Summary of Linear Regression Analysis****Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df 1	df 2	Sig. F Change	
1	.975 <sup>a</sup>	.951	.950	.08799	.951	703.156	4	145	.000	2.009

a. Predictors: (Constant), IVTM, IVCOM, IVRR, IVTRA

b. Dependent Variable: DVMOV