



APPLICATION OF TEAM MANAGEMENT ON IMPROVEMENT OF
THE PERFORMANCE OF THE
REPAIR MEN: A CASE STUDY OF CAR REPAIR CENTER

By
VASUTHIDA SRIANGKOOL

A Final Report of the Six-Credit Course
SCM 2202 Graduate Project

Submitted in Partial Fulfillment of the Requirements for the Degree of
MASTER OF SCIENCE IN SUPPLY CHAIN MANAGEMENT

Martin de Tours School of Management
Assumption University
Bangkok, Thailand

November 2012

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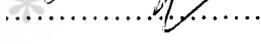
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November 2012

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Master of Science in Supply Chain Management

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Vasuthida Sriangkool

Assumption University

17 November 2012

ABSTRACT

Human resource is important to every business. No matter how big or small the business, human resource is of concern because it makes the business run. To manage employees, the company has to find a method to bring out their effectiveness to perform work efficiently.

Self-directed work teams are a good solution to manage working behavior of repairmen. To build a successful team work, the company has to understand the repairmen's need. Once the business owner realizes the repairmen's mind and increases their motivation, it is easy to make some change in the working environment. Then the company continues with team development in order to collect people from different functions to work together as a team.

The result after applying self-directed work teams was good. In traditional work group, repairmen use around eighteen hours to finish one car, which is not including waiting time. After applying self-directed work team, the company can reduce the working hours to twelve hours which is less than the original working method by 6 hours. Repairmen use less time to complete their work since they help each other in this self-directed work teams. This can shorten the period of working hours and increase collaboration among repairmen to share their knowledge. Hence, repair men use less time to perform their job and this can lead to increase in productivity for the company.

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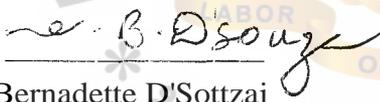
Application of Team Management on Improvement of the Performance of the Repair

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CHAPTER I

GENERALITIES OF THE STUDY

1.1 Background of the Research

Accidents are situations that no one likes. Accident occurs because of uncertain circumstances that cannot be predicted. Even though, people who protect themselves with good care sometimes have accidents because of someone else's carelessness. Car accidents come along with lots of confusion. In the past, the insurance company was not a large part of car accidents. People went to police station to negotiate and deal with repair expenses. These could cause problems, if both litigants agree about the same deal. Those people who cannot meet half way or go along with another on the agreement, it would turn to be complicated situation.

For those people who have not held an automobile insurance policy, have to contact the car repair center to have their car body fixed after a car accident. The center maybe located around their houses or in a convenience area. The car repairing process is mostly not smooth as planned. Complicated repairing methods such as unstable parts price, repaired quality was not good enough, or the period of repairing time that might consume a few months until it is finished are some of the problems. All problems are considered as the main factors for bringing cars to the car repair center because every customer needs the cars to be done as soon as possible.

In the present day, more numbers of car users buy automobile insurance policies to manage their risks from accidents as well as to avoid problems dealing with the repairing price with the car repair center. So, when the car accident occurs the insurance company would take care of the car repairing tasks on behalf of the car owners. The good thing is that it is no need for car owners to deal with many steps

with the car repair center because the insurance company would be responsible for dealing with car repair center instead.

The accident claim and repairing process usually begins with; 1) a call from customers who was involved in the accident to the insurance hotline to inform about what happened. 2) the agent from the insurance company does the survey and primary checking at the accident scene. 3) the insurance company agent has informed the accident center of the insurance company to allocate the damaged car to the car repair center that are the co-partner. After that, insurance company and car repair center are working together to prepare for parts, discussion about the wage inquiry and so on occurs until the repairing steps are completed.

Even though, there is cooperation between the insurance company and car repair center to give services to their customers, the repairing problems still exist. Main problem is delay service in which the car repair center could not finish the repairing job on time. Many car repair centers try to reduce and wipe out this problem to increase the customer satisfaction, avoiding customers' complaints, and maintain their good relationship with the insurance company also.

1.2 Statement of the Problems

SS Co., Ltd. is a car repair center located in the outskirts of Bangkok. It has contacts with many insurance companies and services the damaged cars under those insurance policies. However, as the accident is a situation that cannot be predicted, the number of damaged cars sent to SS varies every month. Currently, the capacity of the SS is insufficient to service those cars on time. The delay problems occur each month while the cumulative numbers of the un- or delayed- serviced cars are increasing dramatically. During some months there may be up to 100 cars but during some month only seventy to ninety cars are sent for. The fluctuation of the number of damaged cars to be serviced, does allowed SS to not prepare suitable numbers of the employees for the services.

Table 1.1: Car in – out Data, year 2012

Week 1	Car In	22	30	22	25	12	25
	Car Out	18	26	20	20	7	24
	Pending	1	4	2	2	5	1
Week 2	Car In	23	25	20	20	30	19
	Car Out	20	21	18	16	27	16
	Pending	1	3	2	4	6	3
Week 3	Car In	20	15	22	18	20	32
	Car Out	17	14	20	14	18	29
	Pending	3	1	2	6	2	7
Week 4	Car In	21	21	23	20	25	21
	Car Out	20	17	20	15	18	19
	Pending	1	3	5	5	2	1
Total of Car IN		86	91	87	83	87	97
Total of Car OUT		75	78	78	65	70	88
Total of Car pending		11	13	20	23	17	22

Source: SS Company

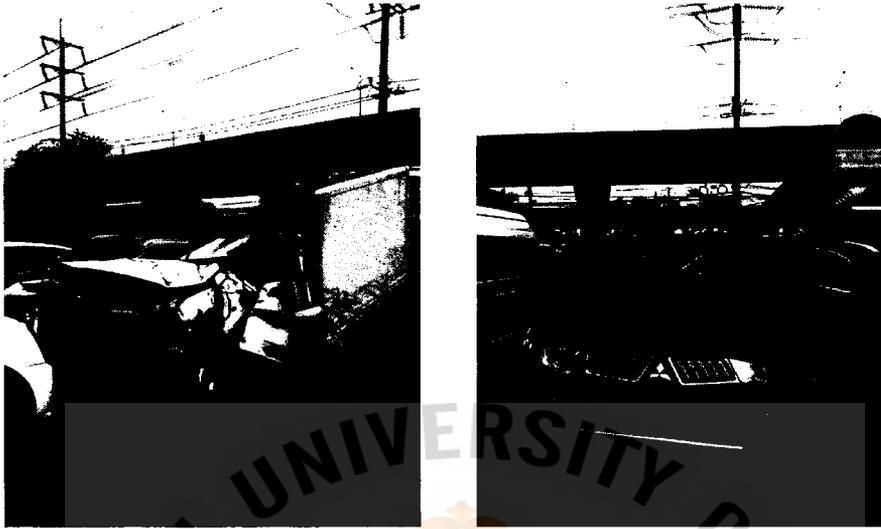
Consequently, problems occur with both serious and heavy scratches or lightly damaged cars. Figure 1.1 and Figure 1.2 show the samples of lightly and heavy damaged cars.

Figure 1.1: Lightly Damaged Car



Source: SS

Figure 1.2: Heavy Damaged Car



Source: SS

Most of the time, delays with repair occurs to heavy damaged cars because several repairing processes are required and those processes also take more time than the lightly damage ones. Delays are the main problems that the insurance companies are concerned with. Some insurance companies apply a speed guarantee policy to gain competitive advantage over their competitors. As such, in case a car repair center like SS could not complete the repairing job on time, the insurance company would fine SS as penalty fee.

For the further detailed process, SS officer estimates the repairing time for each car and notifies the car owner of the date that the customer brings the car to SS. The repairing time is estimated based on the level of damage level which is categorized into class A1, B 1, C1, and D1 (see Appendix A). This category is used to communicate with insurance company also. The customer is informed roughly about how many days it would take to get their car back.

Practically, SS cannot fix every car within the guarantee period because of the unpredicted lead time for the sourcing of some parts as well as the ineffective team management. The employees seem to use less capability than their potentials to handle their jobs. Also, the working process which is not smooth may affect the

overall performance. If there are some production blockings in each repairing step i.e. waiting for the parts then it would affect the next step and the overall process as well. The delay problems are not only caused by the unpredicted number of the damaged cars that arrive but also from the performance of the repairmen themselves. As there are no specific job assignments, they sometimes do not put full effort to have the jobs done as quickly as it should. As such, SS is planning to apply the team management process especially self – directed work teams to enhance the performance of the repairmen which in turn, would reduce the repairing lead time and customer dissatisfaction. Thus, the question, *"How can the car repair center apply team management processes to improve the performance of the repairmen?"* is the focus of this study.

1.3 Research Objectives

The main purpose of this research is to study the management of repairmen by using team management especially in self – directed work teams. The research can enhance company performance, by maximizing repairmen efficiency through the following objectives:

1. To identify the current problems of the working process.
2. To design the self-directed work team of the car repair employees.
3. To determine the possible advantages and limitations of the self-directed team working.

1.4 Scope of the Research

This study is focuses on the method to manage the ability of the repairmen. Currently, repairmen do their work by supervisor's order, and they work as individuals. So, this study aims to improve the process of working at SS from individual to team work. This study will focus on one insurance company which is the biggest partner of SS. SS uses a number of cars in and car out in 6 months to analyze the total output of its performance. Only 6 months is enough to make an analyzes because the number of

cars in and cars out do not fluctuate much. The studying designed to apply the concept of team management in real situation to see the further results.

1.5 Significance of the Research

The project emphasizes on managing repair men because they are core function of SS. The expected outcome that SS should get from implementing team management with the repair men is to reduce fixing time for each car and to improve work flow. Moreover, it can increase customer satisfaction due to the queuing management which can shorten the period of waiting. Car in queues would know the estimate of time that the repairmen are going to use for each car. SS would have chance to increase its productivity since repairmen can do the job faster. So, when the jobs done, it means the cycle for billing is also fast as well and SS would get paid from car insurance faster and higher.

1.6 Limitation of the Research

The limitation of this research is about the repairmen behaviors and habits. This is what SS cannot control. Work behaviors are inherited from characteristics. Some repairmen perform good behavior while other creates problems for the company. If one worker is missing then it would affect the rest of the performance as well.

1.7 Definition of Terms

Assembling Repair process

It is the process of car repairing in which require repair men to do the job according to their skills.

Automobile Insurance Policy

Legal protection that the insurance company give to car owner or victim when the car accident occurs.

Paint repair	The process of painting or spraying the color on car body or part.
Paint mixing repairing process	The process of mixing primary colors with other liquid ingredients such as thinners to create the real color. Color that is got from this process has to match with the other body parts of that car.
Putty repairing process	The process of making a foundation before painting or spraying the real color on car parts or car body.
Rap repair process	The process of rebuilding the damaged parts. This process uses only the light damaged accident parts or the car body that which is old. Normally, automobile insurance will decides which one to rebuild or change.
Reward system	It is the system that the company uses to motivate its employees. Normally, refers to all monetary, non – monetary, and psychological payments (Koala Consulting and Training, 2008).
Rub repair process	The process of rubbing some drying masks or rough on the surface of new inject parts to furnish the color.

CHAPTER II

REVIEW OF RELATED LITERATURE

This chapter is composed of five main topics which are; 1) Teams 2) Self – directed work teams, 3) Team development, 4) Reward system, and 5) Team performance. All related literature reviewed here is used for discussing and solving the problem of **"How can the car repair center apply team management processes to improve the performance of the repairmen?"**

2.1 Teams

Teams are a group of people who share common interest, specialty skills to work together to achieve common goals. Teams can be found among group of people such as in schools, universities and work places (Smith, 2004)

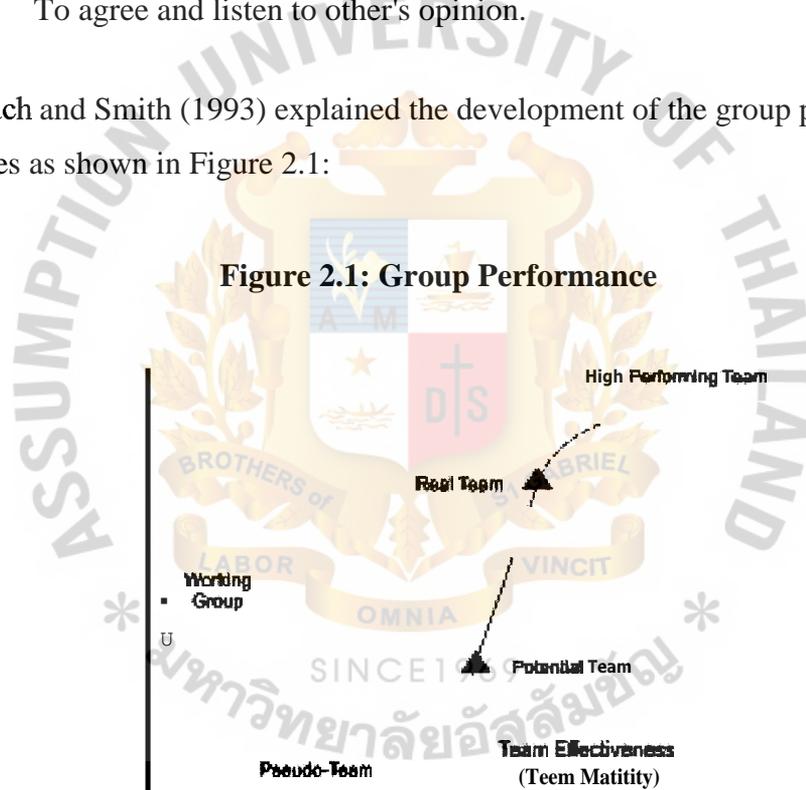
This research will focus on the work place which is the place that gathers many people who share lot of skills, talents, expertise, experiences and knowledge. People in teams come from different backgrounds in terms of education, gender, age and ideas. So, it is necessary to know and understand what team are and how to build a good a teams in a work place.

There are some basic issues to think about when a company would like to set up teams (Smith, 2004).

1. Learn skills for working with all kinds of people.
 - Learn to working with other people whom came from difference backgrounds.
2. Stress that effective teams are diverse.
 - Understand that the effective teams do not include people of the same character but consist of different people who come along together to reach the same goals.

3. Stress the importance of requirements.
 - To realize about the importance of setting up teams.
4. Emphasize performance.
 - Focusing on the results that would come about from setting up teams.
5. Develop perspective – taking skill.
 - Try to change the member attitude to be the same direction.
6. Respect and appreciate alternative perspectives.
 - To agree and listen to other's opinion.

Katzenbach and Smith (1993) explained the development of the group performance in four stages as shown in Figure 2.1:



Source: Katzenbach and Smith

Stage 1: Pseudo – Team

People in this group are assigned to work together but actually, they did not want to work together. They think of others' as their rival and compete with each other. It will be better if people in this team work alone.

Stage 2: Potential Team

If you have done your job then the manager will evaluate your performance based on your output in this category. It means that the output of this team came from individual performance not the total teamwork. So, if there is some reward offered in this stage, not all people will get rewarded. In this category people supply little help to each other in team. People who work hard and put an effort to do their job will perform better if they work alone.

Stage 3: Real Team

In this category people know that working together is a key to success. They promote each other's success by helping, sharing, assisting, explaining, and encouraging (Smith, 2004). In this category gives precedence to continuous improvement the processes of making a team.

Stage 4: High Performing Team

In this category, employees will get closely involved among their groups. Employees trust each other and share everything even if some personal issues. The level of commitment is very high in this category. This relationship can enable high performance which is beyond the company's expectation.

In recent years, another style of work organization has emerged, giving greater responsibility to employees with the emphasis on teamwork (Mack Consulting Group Pty Ltd, 2007). Working as a team is widely used in many organization. Employees in teams share knowledge, common interest, skills and goals together. They have a task of responsibility and should do those jobs effectively. When problems occur, it is not that the team leader or the manager solves the problems alone, but everyone in the team has to take responsibility and try to find a way to fix problems together.

2.2 Self – Directed Work Team

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Self – directed work team has a function to align workers to work in the same direction in order to reach the same goal. Nowadays, most businesses are conducted with many people working together in one company. Employees believe that working alone is more easy and fast but they not think as a whole picture. The project or task that they are responsible for might not be a hundred percent success. People who lack skills may not perform good if they work alone, but when they work together as a team then the result will change into better performance like "Imperfect people can make perfect terms" (McGreevy, 2006).

Self – directed work teams are a group of people that work together to perform a function or produce a product or service (McGreevy, 2006). It is the way to organize employees into teams. Responsibility in each tasks are of concern to everyone not just the manager or team leader, employees feel involved with their jobs more than just being told to do and waiting for the results. Moreover, employees take part in managing and designing how they work.

Managers or team leaders are act like coaches to advise employees about the tasks that they have to do. Self – directed work teams are capable of organizing themselves, requesting support from the necessary function units, and accomplishing the task without seeking departmental or higher administrative approval (Mears & Voehl, 1994) Employees are associated with the tasks due to their working skills, and those skills can help to complete work.

Since employees have the same goal, the company has to distinguish its employees' skills and put them into the right function or job. Many effective skills from team members will create a complete work, and it leads to the company's goal. By giving them work in accordance with their skill, it can increase high performance, and help to build relationships with people and jobs. Employees have a feeling that they know how to manage their task and know how to fix it when some problems occur because

they are the persons who have knowledge about this in this function more than others. Moreover, they also have power to plan, implement and control all tasks by their own.

2.2.1 Advantages of Self – Directed Work Teams

Due to employees have an opportunity to share their ideas, and feel more relax to working as a self – directed work team unlike the hierarchy style. They can perform well result which brings advantages to the company.

The advantages or benefit that company can get from working as a self – directed work team are cost saving, innovative, effective decision making, increased productivity, improved customer satisfaction, commitment, motivation and increased compatibility between employers and employees (Howell, 2001).

2.3 Five Stages Model of Team Development

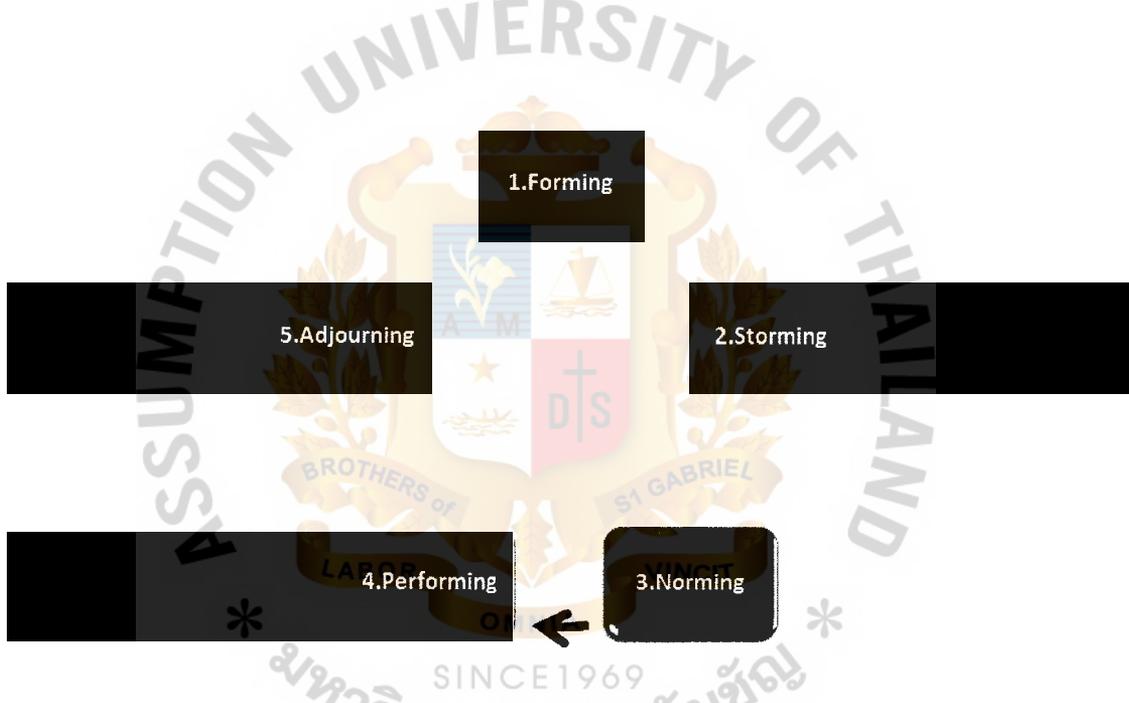
When people gather together to form a team, it is necessary to know how to develop a good team work. Tons of amazing workers with high skill in one team might be useless if they cannot show their full efficiency in the right way. It is a nature of every human that living or working with others needs time for adjustment. The adjustment among a group of people in a team requires time since workers cannot get along well with others since the first day that they come into team.

Team development is a term to describe the moment when employees are work together as a team that has the same goal. Teams need some method to form to become an effective team. Before reaching the team goal, team leader and members have to find the way to make the structure better and stronger.

Team development reinforces the atmosphere to make people in team feel happy. Once members committed to a team then they will have effective performance for the company.

When people gather to forming a team, one thing that they should understand is how to develop or building a team. This research uses 5 stages of Team Development (Tuckman, 1965) to explain how to develop an effective team. Firstly, four stages which are Forming, Storming, Norming and Performing were introduced. Later as self – directed work teams became common in business, the fifth stage of Adjourning / Transforming was added (Tuckman & Jensen, 1977).

Figure 2.2: Stages of Team Development



Source: Adopted from Tuckman's Concept.

Stage 1. Forming

This is the primary step to a develop team. Team members are ambiguous and not familiar with each other. So, this is the time to identify the similarities of people in teams and try to find scope, goals and purpose of the project or tasks. Team leaders have to simplify the team member's processes.

Stage 2. Storming

Competition and conflict occurs in this stage. Team members tend to show their ideas, thoughts and feelings regarding their responsibilities about the tasks. When there is conflict or misunderstanding in the team, team leaders need to act like coaches to guide and organize its team members to align toward the common goal.

Stage 3. Norming

Team members start to work like a team in this stage. After getting to know each other from the previous stage, members start to adapt their behaviors to support teams. For majority of team members agreement occurs in this stage. The beginning of the relationship among team members start here. Team leaders tend to give full support and continue to reinforce participation among team members.

Stage 4. Performing

Members have a chance to share ideas, thoughts and feeling in stage 2. Moreover, they have an initiated level of relationship in stage 3. Some agreement and consensus also exist in teams during this stage. Stage 4 is concerned with strengthening of each others' participation, decision making, sharing knowledge and experiences, and common vision. Team members an objective and develop skills to reach team's goal. Team leader stay aside and are ready to help if some problems occur or the team has a tendency to move back to the earlier stage. Team leaders will look at the whole process as a big picture but do not stand out and interfere with team members.

Stage 5. Adjourning

This is a stage of dissolution stage after the team reaches its goal. Team members leave or there is a changing the team structure, team members or goals. And since team members have a relationship, it will be a moment of restraint in member's mind. They might feel sad or attached to the old times. So, team leaders have to show appreciation and thankfulness to team members.

2.4 Reward Systems

Building employees motivation requires some compensation or reward. For example; sales representative will get commission when he or she reaches sales goals. The company uses reward systems as a tool to create working motivation for its employees.

In this research, building team work has its own benefit for the company. When the situation has to deal with people, the company should have some tool to align them.

When a situation occurs to stimulate people, they will perform some behaviors and these behaviors will lead to some consequences. If employees feel satisfied with their rewards, then they will give something in return to the company such as high performance, commitment to the job and loyalty.

Working in the same place in the same job and same surrounding increases conflict among people in company. It is normal for employees to feel bored and want to change their job. This problem is important because if employees did not feel committed to their job and organization, they can easily switch to a new company because they do not feel united with the place that they are work for. The company has to think of the solution to bind its employees and build motivation within the work place.

Since employees have to survive in the real world, sometime salary or wages is not enough for them to take care of their families. The company has to find another way to fulfill their employees needs by giving them some rewards.

Reward refers to all of monetary, non – monetary, and psychological payments that the company provides for its employees (Koala Consulting and Training, 2008).

2.4.1 Types of Reward

There are two basic types of reward (Koala Consulting and Training, n.d.).

1. *Extrinsic Reward* – it refers to basic need for everyone. Employees do not work for free, they have burdens and also need four factors survive. So, money is very necessary for them. Another basic need is job security. Employees need stability and consistency in their career to guarantee that they are not get fired. After putting hard effort in the company, acceptance from the work place and colleagues is what employees need. It shows that those employees have value for the company and because of them, the company still runs its business.

2. *Intrinsic Reward* – this type of reward refers to the inner feeling of employees toward the workplace, such as job satisfaction, completing challenge, pleasure in job function and colleagues. These feelings are not tangible because they occur in an employees' mind

2.4.2 Objectives of Reward System

There are three main objectives to implement the reward systems in the organization which are attraction, great performance and commitment (Koala Consulting & Training, n.d.).

1. *Attraction* – it is a tool to attract and keep good employees. If company's image is more likely to look cheap to employees' perception, they will move and find a better place to stay. It is not worth to work with company that does not have some motivation to work for.

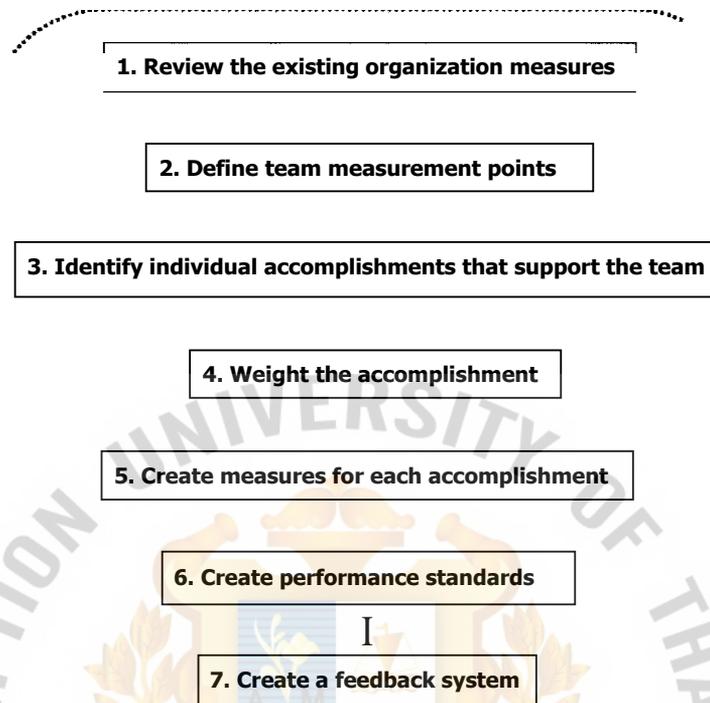
2. *Great Performance* – rewards can stimulate employees to bring about great performance. Many companies offer compensation, allowances and bonuses to motivate its employees. This method can drive employees to do their best and produce good performance to get high rewards.

3. Commitment – this objective is concerned with employees' feeling and perception towards their company. When employees put all effort to the job, it is normal that they would like to get attention and feedback from the company. If the company values and shows how important they are for the company. It can create some good feeling inside employees' mind. A company that never show kindness or give value to its employees will get poor performance from them in return.

2.5 Team Performance

Effectiveness is measured by results (Mears & Voehl, 1994). Skills and experiences from team members is one factor that can increase performance. So, it is normal that people will expect good things as a result. In an effort to get high performance and effectiveness from employees, a company needs to have a team measurement. Team effectiveness can be developed based on its performance. The knowledge on team performance would help the team to become aware of its effective and ineffective work and cooperation. As such, measurement of team performance would be beneficial for the teams and the organization as well. Team performance can be measured in several ways such as, how much outputs can employees produce per week or customer satisfaction regarding after sales service. Within the organization, some of those questions might show how well employees work together as a team, the ability of the team to reach consensus and how do they deal with problems. Here is the seven - step process for creating team performance by Zigon (1995)

Figure 2.3: Seven – step Process for Measuring Team Performance



Source: Adopted from Zigon’s Concept.

The details of the seven - step process for creating team performance are as follows:

Step 1. Review the existing organizational measures

It is concerned with the whole organization not just only one department. This step refers to the company's goal and how the team must get or support to accomplish that goal. Team members should know and understand the measurement above and around their team.

Step 2. Define team measurement points

It would be easy for team measurement if they know about the consequence of what they are going to do. Team should select the best alternative to identify the point of measurement. Then, use that alternative to gain the team's accomplishment.

Step 3. Identified individual accomplishments that support the team

The two mentioned steps above talk about the team's measurement but in this step the focus is on individual measurement. Teams be not success unless each member shares its performance.

Step 4. Weight the accomplishment

Team members should use percentage to weight the important of each process. Those percentages will represent the proportion of each process. So, member will know what the first priority to focus upon. Weights can avoid confusing among groups in case the period of time to do the job is short because it states a high percentage of importance that is given to each process already.

Step 5. Create measures for each accomplishment

In this step teams to find out what is important to measure. Not everything can be measured in numbers so this method will separate factors into two types which are general measures and specific measures.

General measures are about how good a team is at performing each outcome or result. There are four general measures that a team can use (Zigon, 1995) which are quantity, quality, cost and timeliness.

Specific measure can be explained in numeric and descriptive terms (Zigon, 1995) Numeric shows the unit that will be tracked while descriptive will use word to evaluate the accomplishment.

Step 6. Create performance standards

Team leaders and team members have to set the level of performance according to the expectation of each identified measurement. Teams should define how well at team and individuals' performance can meet expectation or not.

Step 7. Create a feedback system

Teams have to collect the information to stay on track. This step needs to create a feedback system to collect and summarize the data for future purpose. Feedback will be very useful for teams because teams can know what is the right or wrong when compared with the standard.

Team performance measurement provides teams with information that they can use to identify strengths and weaknesses in their performance (Jones & Schilling, 2000) Team members know what goal to accomplish because they have information and understand which derived from the performance measurement as steps mentioned above.

Katzenbach and Smith (1994) also defined a way to increase team performance by establishing urgency and direction and selecting members based on skills and potential, not personalities. The company has to pay attention to first meeting and actions by setting clear rules of behavior and some immediate performance – oriented tasks and goals. The company needs to challenge the group regularly with fresh information to boost up members. Moreover, team members should spend a lot of time together and to exploit the power of positive feedback, recognition and reward.

2.5.1 Development of Working Team

Working as a team increases expertise and resources to solve company's problem. Agreement from a team is more reliable than an individual because members share ideas, thought and recommendation. This is a good reason to develop teams working in the company.

Here is five critical methods to success (Center for Creative Leadership) to build a successful team.

- a. Set a clear direction – giving clear reason why the company has to form a team to unite team members. Employees will understand functions and promptly to give contributions to the team.
- b. Build organizational support – it will be effective if the team gets more support. Team members need support because they are willing to do more.
- c. Create a team structure that empowers team members – give clear explanation about the position or duty that team members have to deal, so as to gain more responsibility
- d. Identify key relationships – to build and hold relationships among team members, or even some other teams to gain cooperation.
- e. Monitor extent factors – things surrounding your team or past experiences are useful because team members will learn from it and know the way to defend themselves before problems occur.

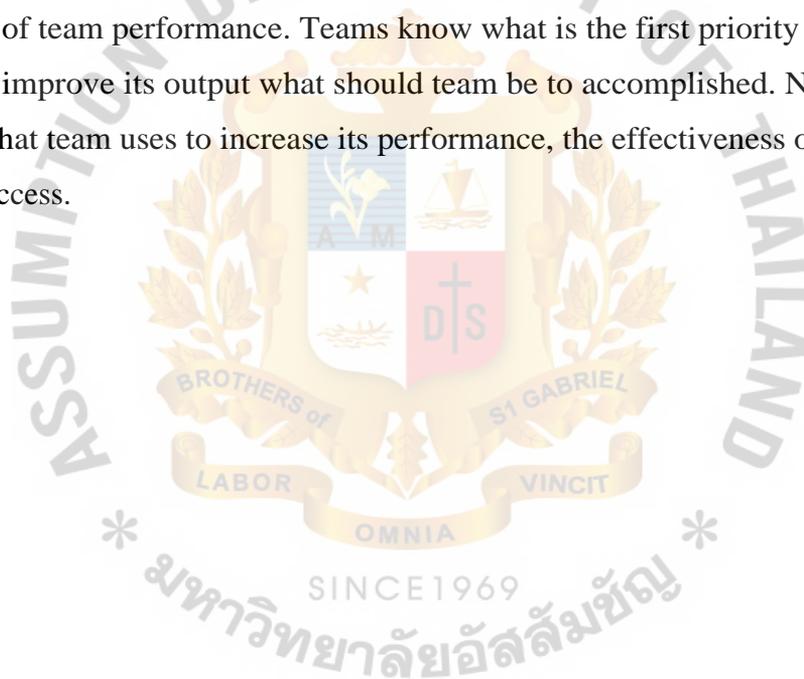
Teams that high performance do not occurs by chance or accidentally. They are managed and created by all team members. Cooperation among team members leads to success.

2.6 Summary

Everything has its own advantages and disadvantages. Individual performance might be good to the company but it will not be as good as team performance. All employees need to be somebody not nobody, they put effort to earn something such as money, recognition, promotion or job security. Building teams bring out efficiency from each employee. Those set of employees work as team. Before the company has a high performance teams it have to work through many steps to reach that point. These company has to understand the structure of team work because there are many people stay together, conflict arises. The way to organize and align them together to reach the common goal is necessary because if the structure of that team is strong enough then it can go on.

Only team development is not enough. The company has to increase motivation of team members or employees. Some compensation or rewards play an important part for team building. Employees feel happy if they have good living. Since nothing comes for free, employees work hard to get wages or salary. On the other hand, if the company wants to get more productivity or annual sales growth every year then the company has to pay for this as well.

When teams are ready to do a job, the results are expected. Before getting a masterpiece, there are processes to measure the performance of each team. Two types of measurement which are numeric and descriptive help team to realize the reason and function of team performance. Teams know what is the first priority or if company wants to improve its output what should team be to accomplished. No matter what method that team uses to increase its performance, the effectiveness of results is the key to success.



CHAPTER III

RESEARCH METHODOLOGY

This chapter presents required repair processes, data and expected outcome after implementing all these strategies. The process of giving service to customers is related to damaged car repair and delivery to customers. The required data is a paper record from one insurance company showing the number of customers that bring their cars to get service per month. The methodologies of repair processes and data analysis are discussed in this chapter.

3.1 Required Data and Data Collection

The data that is used in this study is collected from the real number of damaged cars sent from the insurance company to get services at SS. As accident cannot be predicted, the number of damaged cars during each week are not the same. Some weeks up to thirty cars while some week has only ten cars come for service. The data shows the productivity of the company. Productivity here means the output of finished cars.

At present, like mentioned in Chapter one. SS has a problem due to working processes of its repairmen. Self – directed work teams are used for improving the ability of repairmen to create effectiveness. Once SS brings out the maximum ability of repairmen, it can lead to increase productivity.

To develop the self-directed work teams, the current operation process together with the numbers of the light and heavy damaged cars that come to the SS as well as the average, maximum and minimum lead time for car repairing must be gathered. Moreover, the current working performance of the repairmen should also be obtained. These data can be collected via three major data collection methods, which are documentary reviews, personal interviews, and observation. The details of each method are discussed as follows:

3.1.1. Documentary Review

The documentation to review in this study is the data of "Car IN" and "Car OUT" that is collected from January 2012 to June 2012 by the car receiver at SS (as shown in Table 1.1). SS records this number to know how many damaged cars (or customers) that the insurance company gives in each week. Besides, SS can also get the number of output data to determine company performance as well.

3.1.2 Personal Interview

The interviews will be done with SS's officers and repairmen to see if they need some more change.

For officers, the interview will focus on the car receiver. The officer is the person who collects all information about the damaged car first, such as discussions with customers about how seriously the car is damaged, taking damaged pictures, collecting claimed paper from customers and informing roughly about the time to fix the car to the customer. So, this person is responsible for basic information about the car that comes to SS and fills records about the date that the customers bring their car to get services.

Repairmen are the core function of SS. The company is concerned a lot about their needs. Interviews will discuss about their needs and job details. Interviews will conclude about the feeling towards their job, their opinions about current operations at SS and what they would like from the company.

3.1.3 Observation

An observation on the working styles and process onsite is conducted. SS working days and hours is Monday to Saturday, starting from 8.30AM to 17.30PM. Mostly, the working style and effort of the repairmen are individually different. Some

repairmen work six days a week while the other may come to work only four days a week. Those repairmen do not care about working hours and regulations of the company since they know that the company needs their expertise and contributions. Some days if they want to come, they will come, but the next day they will not come or may be absent for 2 to 3 days without prior notice. This behavior affects the effective working performance of the SS.

The repairmen offer to work over time if there is an urgent case or they cannot finish on time. SS has to pay overtime wages which in accordance to the labor rules and regulations. Sometime SS has to give them some allowance or money to please them such as food and drinks to motivate them to work harder in some urgent cases. Cooperation among repairmen is not obvious. They work as individuals because of their skill for each station. No cross – functional work team occurs in SS because work is done step by step with no interfere from others.

3.2 Pre-analysis Data

The current operation of the car repairing process can be identified based on the interviews and observation data. The process can be drawn graphically as seen in Figure 3.1 which is as follows:

Figure 3.1: Current Operation of Car Repairing Step

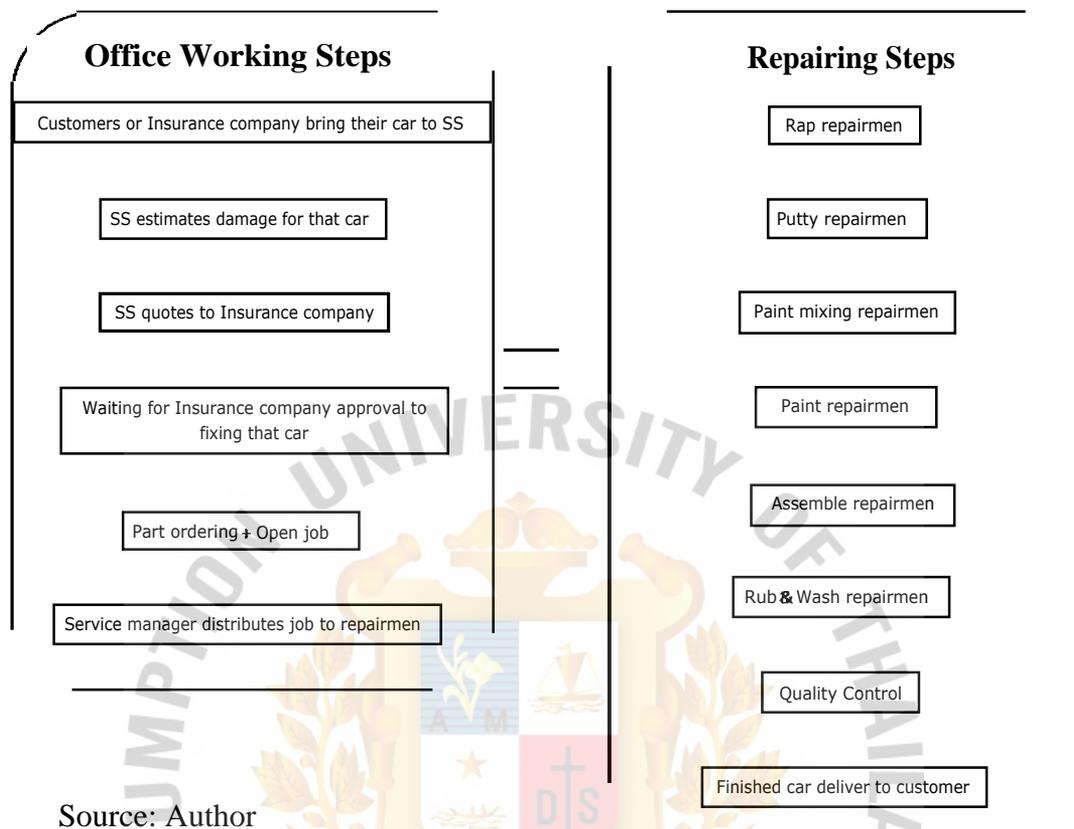


Figure 3.1 explains the current operation of car repairing which can be categorized into two steps i.e. office working and fixing steps. The details are as follows:

The office working step, starts when a customer or insurance company brings a damaged car to SS with a claim document. Then, the level of damage is checked and the price quotations are prepared and the car is sent. The car repair companies then have to wait for the approval from the insurance company to process the fixing step. After the agreement on the regulated car parts, between the car repair and insurance company, i.e. whether to change or to repair, the car repair companies can open the new job and start to order parts from its suppliers. Then the service manager or supervisor distributes the job and functions to the repairmen. Then, the fixing step by step starts.

The repair step starts when repairmen get the job order from the service manager. It starts with the rap process. Rap is the way to rebuild a part forming process. This step normally is used with lightly damaged cars. For heavy damaged cars, SS has to order new parts from the suppliers and will pass this step in order to go to the putty process. The putty process is necessary for the fixing step, no matter if the parts are new or rebuilt.

Putty is the process of doing a foundation before repairmen start to paint cars. Repairmen grind car parts with the grounding product to create a base color before they put real colors to those car parts. Then paint mixing is done. Paint mixing is very important for the fixing step because this step requires repairmen with high skills to mix primary colors and other materials such as thinner to create colors that are exactly the same as original car body color. If the repairmen do not mix the color well, then will be the problem at the assembly step since two different colors will show in one car body.

After mixing the color, the paint repairmen start to spray or paint color onto the real car parts. This step needs to use spray booth rooms to separate some dirt and dust in the air because dust can damage the color surface of car parts. Then the car is moved to the assembly process. The assembly repairmen will put all car parts together. This process need repairmen who know details of every car part which includes a single screw, little pieces of car component that hold parts together right to the car door or bumper. The last step in fixing and rebuilding damaged cars is the rub and wash station. After painting the car, new colors still leave some drying marks or some rough surface which is not smooth when the repairmen touch those car parts. The rub repairmen use tools and medicinal liquid to rub those areas until it is smoothen like other areas. The next steps are washing the car and quality control. After everything is completed the car is ready to be delivered to customers.

Moreover, the numbers of Car turning in and turning out from the SS in the first half of the Year 2012 is obtained from the SS documents as seen in Table 1.1

This data shows the number of car in and car out during the last 6 months which start from January 2012 to June 2012. The number of car in is not closed to car out, and it creates a number of pending cars during each month also.

At present, the repairmen do their task individually based on job orders. Cars at each station requires varied time. Some take 1 or 2 days while other take 10 to 13 days to complete. Beside this reason, repairmen's behavior is a factor that creates a delay in the working process. Lack of motivation in doing their task, lot of absent and quitting their job easily are the factors that SS is concerned about.

3.3 Data Analysis

The root cause of a delay problem will be analyzed based on the data obtained from the data collection stage. Details of the working process and lead time of each fixing activity (as shown in Figure 3.1) will be analyzed. The motivation problem of the repairmen and its causes which obtained from the interviews of the repairmen and analyzed

3.4 Designing the Self-directed Work Team

Self-directed work teams will be designed based the seven - step process for creating team performance proposed by Zigon's Concept (1995). The details of the seven stages team development are as follows:

Step 1. Review the existing organizational measures

Step 2. Define team measurement points

Step 3. Identified individual accomplishments that support the team

Step 4. Weight the accomplishment

Step 5. Create measures for each accomplishment

Step 6. Create performance standards

Step 7. Create a feedback system

To set up self-directed work teams and check if efficiency occurs, the process goes through the seven – step process for creating teams performance which is as follow:

- At present, repairmen work individually not in teams.
- Inform all repairmen about the consequence that SS intends.
- Select qualified repairmen to support teams. Put the right man to the right job.
- Give clear explanations about the repair step. After all parts arrive at SS, the repairmen start fixing step by step. After one step is completed next step has to start right away.
- Once one step is completed the repairmen can move to another car waiting in queue to start their work. This could help in reducing lead time for some steps. Such as Paint mixing repairmen can prepare the color to spray the next car even if the putty step is not completed.
- When teams are set up, the number of car waiting queue should reduce. Repair men can produce more pieces of work.
- The supervisor has to collect data and needs time for each car (in initial team). This is compared with the cars that do not joins self-directed work teams. The number of hours that is used for fixing at each step is calculated until the whole car is ready to be delivered to customers.

3.5 Determining of the Possible Advantages and Limitations of the Self-directed Work Team

The working style of repairmen at present cannot fulfill SS's achievement. So, this study aims to implement self – directed work teams to create benefits for SS.

Possible advantages that SS might get from self – directed work teams are reducing lead time in fixing each car, increase productivity, customer satisfaction and increasing relationship with insurance companies.

However, the limitation of this study is repairmen's behavior. Repairmen would not like to work as teams as because the culture is to work in individually. Some repair men like to work alone because they think it is easier for them to get things done without being concerned about other steps. SS should put effort to create motivation and try to make them commit to both company tasks and their task.

3.6 Summary

The methodologies that are used in this study are current operation of car repairing steps. The required data and data collection was obtained from the real number of damaged cars, personal interviews and observations. Data analysis indicates the problem that the company is faced with. Because of the repairmen issue, this study tries to apply team management, especially self – directed work team to fulfill the question of "How can the car repair center apply team management processes to improve the performance of the repairmen?"

CHAPTER IV

PRESENTATION AND CRITICAL DISCUSSION OF RESULTS

The concept of team management was applied. The results were observed and compared with that of the traditional work process in this chapter. The consequences of the self-directed work teams has analyzed to check whether it could improve the performance of repair men or not and would it affect the management of SS to make strategic decisions on how to improve the company performance in the short future. The contents are divided into 4 sections i.e. 1) Building work environmental motivation 2) Current Operation Process 3) Creating Self – directed Work Teams and 4) Comparison of the performance of traditional and self-directed work teams. The details are as follows:

4.1 Building Work Environmental Motivation

Regarding the interview and observation with the repairmen, the two major requests were proposed as follows:

1. Repairmen would like to get paid twice a month, i.e. every fifteen days, instead of monthly pay
2. Besides the social insurance, the repairmen would like to get more fringe benefits such as living allowance, compensation, commission, and so on.

After discussion with the business owner and management teams, it was agreed to respond to those two requests. Since SS is a family business with the small number of employees, changes and flexibility in the working system can be done easily. To satisfy and increase motivation of all employees, not only for repairmen, SS agreed to change the wage payment date from every thirty days (monthly basis) to be every fifteen days (fortnightly basis). Regarding the second request, SS agreed to spend one and half percentage from the total revenue after paying all expenses and taxes of each month to all employees. Business owners and managerial people agreed to spend this amount of extra money. The average of total revenue after paying all expenses and taxes per month is two million baht. The average salary of all employees is fifteen

thousand baht. So, 1.5% from the total revenue will equal thirty thousand baht. After that, SS calculates the amount of thirty thousand baht dispensed to each employee in equal. So, employees will get thousand baht per month which is around 6.7% of their average salary.

This extra money is appropriate for employees because it can increase the money that they receive each month. This amount does not effect to company cash flow. SS still has money to use for its business. As such, the 1.5% revenue will be given to each employee including the repairmen, as extra money. However, the share for each employee would be dependent on their working performance. Working performance means how many damaged cars a repairmen can complete and send out in each month.

As each process of car repairing is not the same, some stages take several hours to be completed while other stages may take less than an hour to complete. SS plans to reward the employees based on the completion of the job i.e. the finished car that is ready to be delivered to customers. Repairing one car requires the work of all stages no matter hard or easy the process. If some stages are missing or undone, the car repairing process is not complete. Every stage and every repairman requires different skills to complete such collective tasks.

This amount of money is used as a reward to build motivation among repairmen. This extra money is different based on the performance of the repairmen. If during a month the repairmen perform well for SS then the extra money will increase but if during the next month they cannot perform well then the extra money will decrease. So this could motivate employees and repairmen to fulfill their efficiency and perform effectively for the company. Instead of working as individual and showing no interest in other functions, repairmen participate in their colleague's work and have closer relations with each other. They shared information and listened more to each other, and have the same goal.

4.2 Current Operation Process

This part discusses the existing work process at SS. At present, each repairmen works individually based on the job assignment allocated by supervisor. There are six repair steps. Every damaged car that arrives at SS has to go through these steps as discussed in details as below:

The process of repairing begins with the queuing step. The cars must wait in the queue until the corresponding repairmen is available. Waiting time depends on the workload of the queue in the waiting cars. The person who receives the damaged car from the customer and does the insurance paper works is called "car receiver". Then it is passed to next step which is the evaluation of the damage and assigning repaired tasks to repairmen. This steps is performed by the "supervisor". Then, the cars are passed to the "rap station" which is the beginning of the repair process at SS. Figure below shows the real picture and real working process at SS.

Figure 4.1: Rap Station



Source: SS

Rap is the first stage to repair the damaged part. This station handles the case when the new parts are not needed. Normally, this stage takes two to three and half hours to complete the job. Then the cars are passed to the next station which is the Putty Station.

Figure 4.2: Putty Station



Source: SS

Putty is the process of doing the foundation before the painting cars. This stage is important because if repairmen do not do it well, it will affect the painting quality such as the color does not adhere to the surface or drops in some area of the damaged part. This stage takes two to two and half hours to complete.

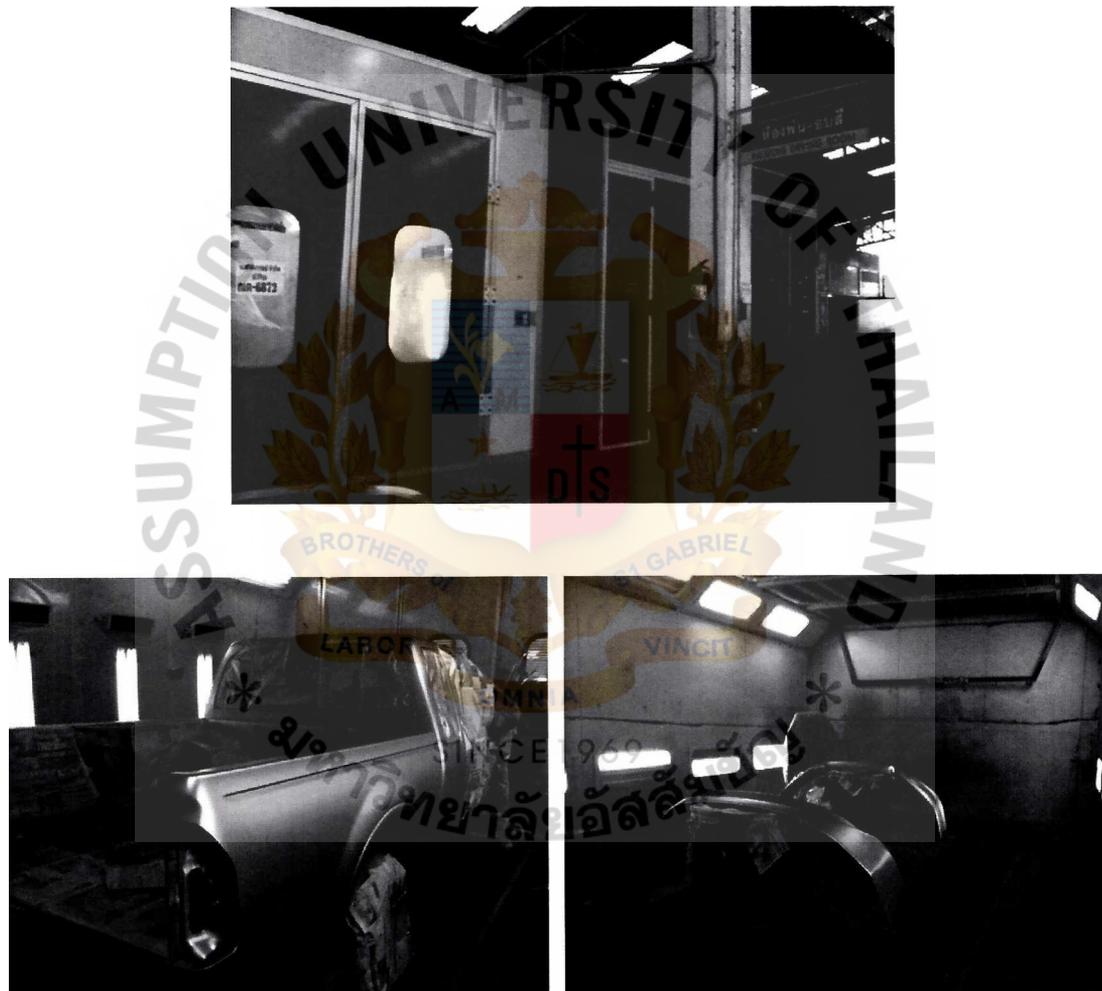
Figure 4.3: Paint Mixing Station



Source: SS

Paint mixing is the process that requires short period of time to complete. SS has paint mixing machines to produce the color that matches to the car. So, this is easy to create the color but it does require highly accurate skills for mixing the color otherwise the color that appears on car body be different from other car body parts. This stage takes only half hour to complete. Then, the car is moved to the Paint-Spray Station.

Figure 4.4: Painting- Spray Station



Source: SS

The painting process requires a drying room to paint the color on car body or parts. The drying room prevents dirt and dust that may touch with real parts and leave some damage on the surface. This stage takes three to four hours to complete since repairmen with high painting skill are needed and painting is delicate. After that the car is sent to the Assemble Station.

Figure 4.5: Assemble Station



Source: SS

This is the station where all repaired parts are composed of the car body. Assembly repairmen have to know about the engine and car body as well. This stage could take several hours to complete since there are so many car components. Moreover, the repairmen have to be very tidy and the car has to look- similar to the old one before the accident occurred to make customers satisfied with the quality. Repairmen spent three hours or four hours at the assembly station to complete their job. Then, the car goes to the last step, Rubbing and Washing Station.

Figure 4.6: Rub and Wash Station



Source: SS

This is the last step before delivery of the repaired car to the customer. Rub and wash is the process to check and clean. Every car has to go to the rub station to clean tiny dirt on the surface. Repairmen use tools and medicinal liquid to rub those areas until it as smooth as other areas. The next step is to wash the car and quality control. This station takes three or four hours to complete the job.

After the first stage at the rap station, completed car number one is passed to the second step, then the rap repairmen can proceed to car number two. So, car number two has to wait to until the rapping men finished their job with the car number one. From the observation, the second car waited 3 hours because car number one took three hours at rap station. The waiting time of each car is dependent on the time provided for the previous cars while the repairing time at the rap station is dependent on the severity of the damage to that particular car.

Each step, it takes different working time to finish and pass to the another station. The observation on the work performance and the time spent on each station is recorded. The details can be seen in Table 4.1 in the next section.

4.3 Creating Self – directed Work Team

One self-directed work team was initially developed on a voluntary basis. SS has twenty two repairmen, which does not included back office employees. After discussing about the delay problems and selling ideas about the self-directed work teams with all involving employees, eleven repairmen volunteered to join the new working team. The new working team consists of two rap repairmen, three putty repairmen, one paint mixing repairman, two painting repairmen, two assemble repairmen and one rub and wash repairman.

Regularly, each repairman has to handle different interdependent tasks. Rap repairmen have to rebuild the damaged parts before being sent to the putty station. Putty repairmen are people who do foundation of the damaged parts in order to move

to the paint station. Paint mixing repairmen have the duty of mixing colors to use at the paint station, and these men require accuracy mixing skill. Paint repairmen have the duty of painting on parts or car bodies. Assembly repairmen are the people who combine repaired parts to the car body. The last one is rub and wash repairman. He has to clean and check some drying marks or roughness on the surface of new paint parts. However, the job sharing policy is applied to this work team. The total of five damaged cars were assigned simultaneously to the team while all members had to discuss about how to have the job done on their own. As such, the repairmen from one station may help doing other jobs that are not in their stations.

The capability of the workers in self-directed work teams and traditional work team is similar as the condition of the damaged cars. To create it consistency between the new self-directed work teams and the rest of the repairmen who work on the traditional procedures, another five cars were assigned to these people. The damage size of these cars was about the same as those assigned to the self-directed work teams. Two black, two white and one silver colored cars were assigned to each group. This is to control over possible discrepancies that may affect the research results. Parallel works were created by both traditional and self-directed work teams. The observations and records of the time spent on each station were done for both teams.

The development of the new work team proceeds. At the forming stage, repairmen identified the similarities in what they are doing, such as the working scope and team's goal. Then they move to the storming stage. At this stage, conflicts occur. Some repairmen had a question about why they have to help others instead of working like before. So, team leader explained the benefits of working as a team to them. The reason that SS came up with self-directed teams was to reduce delays of repairing problem. After they had finished with their argument at the storming stage, in the norming stage, the repairmen understood more and started working as a team. They knew what was the truly purpose of creating this self-directed work teams and were willing to help the company more in their duty. The repairmen had more participation, decision making and sharing knowledge in this performing stage. They helped their

team members even when it was not their duty. Paint mixing repairman help paint repair men paint the damaged parts. Team leaders just guide and tell them what the first priority is only.

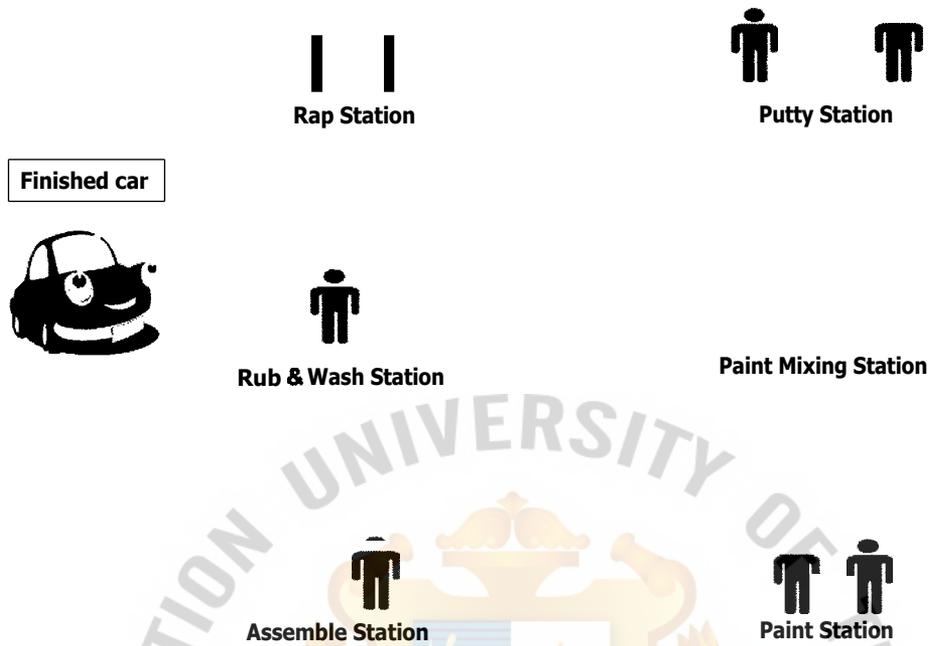
So, development of teams using those four stages was successful in creating self-directed work teams. To get the results of setting up a self-directed work teams, SS chose five damaged cars for this team and observed the result that company can get from applying those volunteer repairmen.

4.3.1 Comparison of the Performance of Traditional and Self-directed Work Team

The process of working in a self-directed work team was a bit different from the current operation. The team moved the paint mixing station to be the first step as its task is independent and does not depend on other stages. Moreover, job sharing was applied. The repairmen from different stations help each other to handle the tasks of the previous stations before moving to the next station when the tasks are mostly done. Discussions and work adjustments were done throughout the working process. The time spent on each car at all stations were recorded. Table 4.1 shows the working time spent by the repairmen who work using the traditional process while Table 4.2 shows that of the self-directed work team.

The process of traditional work is done step by step, starting from the rap station until the rubbing and washing station respectively as shown in figure 4.7

Figure 4.7: Process Flow for Traditional Work Group



Source: Author

Repairmen in this traditional work group did not help each other. They work individually without collaboration. The putty step cannot start unless the task at the rap station was done. So, this is the actual process of traditional work groups which might take a long time at each station to complete the whole process.

Table 4.1: Working Hour per Car of Traditional Work Group

No.	Job Description	Working Hour per Car					Number of Employees
		CAR 1	CAR 2	CAR 3	CAR 4	CAR 5	
1	Waiting Time	0	3.5	6.5	10	13.5	0
2	Rap Station	3.5	3	3.5	3.5	3	2
3	Putty Station	3	3	3	3	3	3
4	Paint Mixing Station	0.5	0.5	0.5	0.5	0.5	1
5	Paint Station	4	4	4	3.5	3.5	2
6	Assemble Station	3	4	4	3.5	3	2
7	Rub & Wash Station	4	4	4.5	4	5	1
Total Hours per Car		18	22	26	28	31.5	11

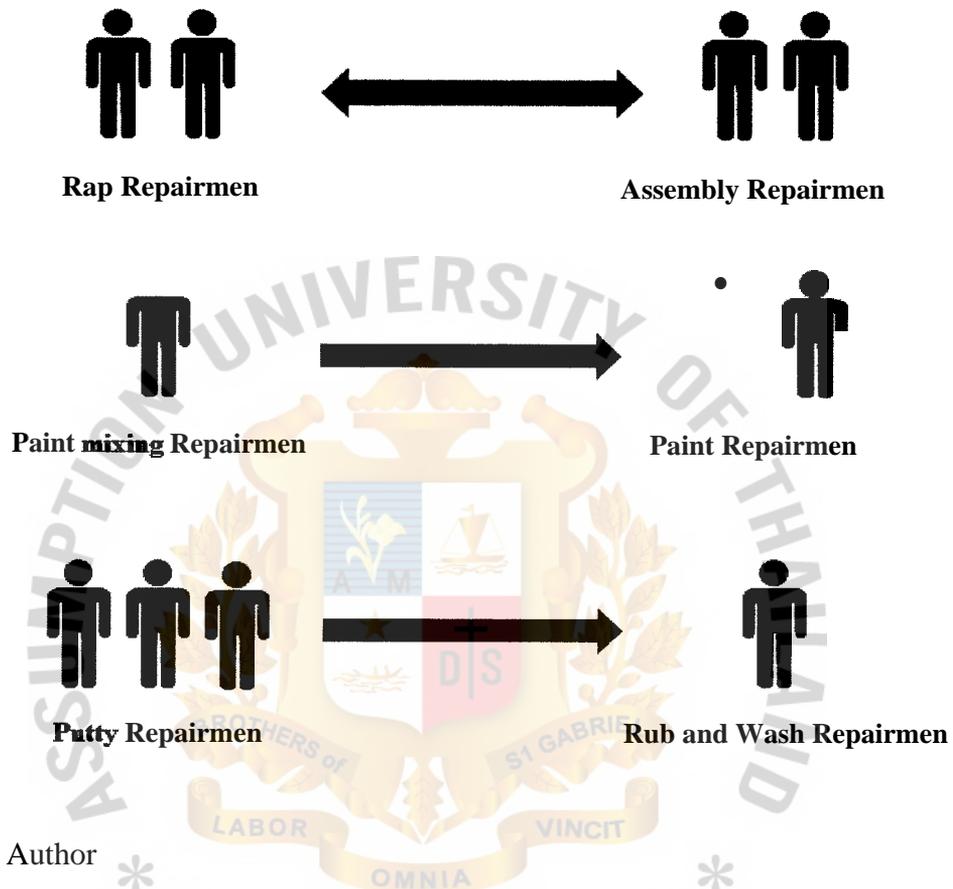
Source: Author

Table 4.1 shows the actually time spent in repairing process made by the traditional work group which is currently use to fix the damaged parts or cars. SS chose five cars as a sample group study. Those cars can represent the flow of working when there are other cars in waiting queue. Five cars were enough to show the sample event. Working hour in this table referred from light to middle damaged cars. If there is a heavy damaged car arrives at SS, it would require more time to finish repairing. Working hour that use in each station was record by the time stamping card. When repair men start doing their job, they have to record starting time and finishing time. SS's officer use this method to calculate the working hour of each car and to see how many hour that repair men used to complete their job, so this card can show the total time that one car need to be done.

This table describes the working hour in each station. The number of employees shows the amount of repairmen that need to spend in each station. This number is the data that SS collect from the sample study group in real situation. The working flow is first in – first out and done step by step. The first car here took around eighteen hours to finished all processes, the working time is not pure job, it was the job plus with loafing time such as rest time and gap time between one stage to another stage.

The total time increased respectively because of the waiting time at rap station. Every car done step by step without cut in line.

Figure 4.8: Process Flow for Self-directed Work Team



Source: Author

Figure 4.8 shows the working processes of self-directed work teams. Assembly repairmen could help working at the rap station to finish the job faster. Likewise, when rap repairmen finished their jobs, they can help at assembly station as well. Rap repairmen and assemble repairmen can help each other finish their jobs because they have similar skills so, the team leader uses this as an advantage to cut the working time. Some repairmen like paint mixing repairmen can help paint repairmen. Putty repairmen can help rub and wash repairmen after they finished their job. The repairing process had to be done step by step respectively as shown in Table 4.2.

Table 4.2: Working Hour of Self-directed work Team

No.	Job Description	Working Hour Per Car					Number of Employees
		CAR 1	CAR 2	CAR 3	CAR 4	CAR 5	
1	Waiting Time	0	1.5	3.5	5.5	7	0
2	Paint Mixing Station	1.5	0	0	0	0	1
3	Rap Station	1.5	2	2	1.5	2	2
4	Putty Station	2	3	3	2.5	2.5	3
5	Paint Station	3	3	2.5	2.5	2.5	2
6	Assemble Station	2.5	2.5	2.5	2.5	2	2
7	Rub & Wash Station	1.5	1.5	1	1.5	1	1
Total Hours per Car		12	13.5	14.5	16	17	11

Source: Author

This is not a cut in line style. This is working in collaboration among team members. Instead of working alone and passing step by step, repairmen in this self-directed work team help each other finish one car with less time.

Since self-directed work teams move the paint mixing station to be the first stage of car number one, it can reduce time for the rest in this sample group. Paint mixing repairman and rap repairmen started to do their jobs at the same time because those stations did not rely on each other.

Self-directed work teams used rotation style to manage its member. Assemble repair men helped rap repairmen at the rap station, so instead of spending three hours like in the traditional work, car number one in this self-directed work team used one and half hour to complete the job. So, waiting time for car number two was less. Rap repairmen had chance to start doing their work at car number two faster. Moreover, assembly repairmen in car number one still had chance to help car number two at the rap station because putty and painting station of car number one took around five hours until it moved to the assemble station. So, assembly repairmen and rap repairmen work well together in these self-directed work teams.

After finishing his job, paint mixing repairman moved to the painting station to help the team members. Normally, painting was the process that the repairmen avoid working fast because the color that is painted on the part surface will be damaged. But the paint mixing repairman can switch his function to become a paint repairman, so in this self-directed work team, there is one more paint repairman included. Many paint repairmen decreased working time in this station from four hours to two and half hours only as seen in Table 4.2.

The only station that no other repairmen can help was the putty station. Working time at this station was high because repair has to be done it by their own. This stage spent three hours to complete the job. But once they finished their job, they can get help at the rubbing and washing stations. So the working time for rubbing and washing station is less because it has more repairmen to do the job.

Total working hours for each car did not fluctuate much because repairmen helped each other. The highest number in this self-directed work team was waiting time for car number five. At first, car number two had to wait one and half hour until it can start at the rap station. Luckily that it had repairmen from the assembly station help in this stage. Actually, the rap station does not require long time to it finish but this occurred because of the accumulative waiting time since car number one to car number four. The total working hour that every car spent at the rap station was car number one; one and half hour, car number two; two hours, car number three; two hours and car number four; one and half hours. The total was seven hours.

The first car in self-directed work team went through repair step as mention in Table 4.2. If the repair men in some station finished their task then they can move to another car in waiting queue. In the paint mixing station, it was not necessary to wait for the first whole car done. It can start whenever team leaders placed a job order. And in this sample group, the team leader assigned it at the first step. It took only one and half hour to finish. So, the painting repairmen will have the body color ready to complete the job faster.

Besides, teams also used the rotation method, since in some stations, repair men can help each other do the job. Once they finished their job, they can help other assembly repairmen and rap repairmen. Thus repairmen will be occupied and have something to do.

They do not have to waste their time waiting for one whole car done like in the current operation. This is done step by step and is still aligned in the queue. Total working hours per car in self-directed work teams is car number one; twelve hours, car number two; thirteen and half hours, car number three; fourteen and half hours, car number four; sixteen hours and car number five; seventeen hours.

Total working time that is used in traditional work was around one hundred twenty five and half hours (as collected from all cars) to complete five cars while in self-directed work teams under the assignment and guideline of team leaders the time spent around seventy three hours (as seen in Table 4.2).

Lead time in both sample groups was only half hour at rap station and not much different. Every car started at the rap station then moved to the putty station respectively. The good thing is when repairmen finished the rap stage at car number one, they moved to car number two in the waiting queue, so this can move the flow easily. Repair men had something to do and reduced the undone part waiting in the queue also.

Working time spent by the self-directed work teams was fifty two and half hours less than the current operation and equal to 42% reduction. Even though, the time in self-directed work teams may not look like much, when considering the eighty to one hundred or the whole number per month, it can create a reduction in time.

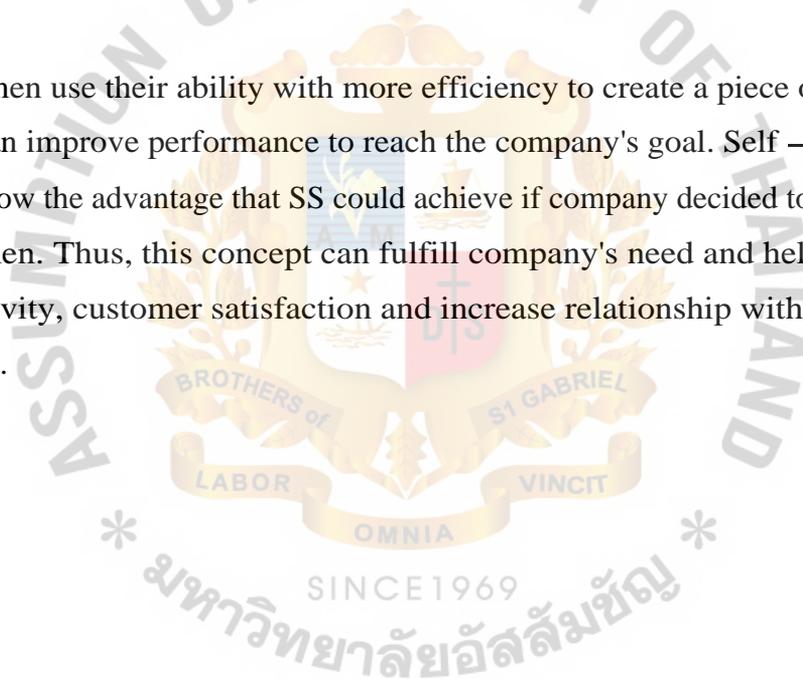
The benefit that SS gained from self-directed work teams was less time to complete the damaged cars and reduction in waiting time from one car to another car. Also, repairmen perform efficiently due to the company's goal which motivation by reward systems. Team leaders observed and made suggestion to the repairmen about their

work so they can follow job orders and create the flow smoothly. Table 4.2 shows that the team leader can use this as a reference to decrease the company's problems.

4.4 Summary

Self – directed work teams increase the individual efficiency since the group work together. The current operation problem is identified and a way to reduce problems that caused less efficiency of repairmen is solved. A team leader can be appointed to make the working process better. Moreover, building motivation of employees is also important. It can improve the relationship between SS and employees as well.

Repair men use their ability with more efficiency to create a piece of work. Good teams can improve performance to reach the company's goal. Self – directed work teams show the advantage that SS could achieve if company decided to apply it to the repair men. Thus, this concept can fulfill company's need and helps to increase productivity, customer satisfaction and increase relationship with the insurance company.



CHAPTER V

SUMMARY FINDING, CONCLUSIONS AND RECOMMENDATIONS

The expected results of the new team management were shown in the previous chapter. This chapter provides three main parts of the results of team management especially in self-directed work teams on the improvement of performance of the repairmen. The first part is conclusion and discussion. The second part describes managerial implication. The last part is the recommendation.

5.1 Conclusion and discussion

The purpose of this research is to eliminate the problem of delay services and ineffective work force by applying the concept of team management especially in self-directed work teams and to check the results. Repairmen seem to use less capability in doing their jobs which affect the overall performance. So, it created problems in delay services which made the cumulative number of un-serviced cars increased dramatically in each month.

Therefore, SS has a discussion with its employees about the problem and listens to their suggestions and opinions. The company came up with building work environment motivation to motivate all repairmen to give more support to the company. Moreover, SS decided to set up a team which is self-directed.

Self-directed work team concept was used to match with the repairmen's culture. The idea and style of this concept can be applied to the repairmen behavior effectively. SS followed the steps which started from asking for volunteers, developing the teams and using the seven-step process for creating team performance. After applying self-directed work teams, not only the working style of the repairmen changed but the working time at each station reduced as well.

New management uses team leaders which are important in self-directed work teams. The team leader manages the work flow and supports team members unlike the traditional work which just distributes the job. Self-directed work teams also change some station to shorten time of each car and help each other in some working stages which is traditional work does not do. Traditional work follows six steps of the repairing process without switching stations and does not have collaboration among repairmen. They just finish one step and move to another step. In the traditional work will start on the next car only when the previous one was done which uses longer time than self-directed work teams. So, when looking at the results of traditional work and comparing with self-directed work team result, it was found that SS can reduce the working time by 43%

5.2 Theoretical Implications

The objective of this research is to understand and improve the repairmen behavior. Repairmen play an important role in this business. Without them the company cannot succeed or given best service to customers. The research shows that SS has chance to improve the company's quality by using self-directed work teams.

To change repairmen's behavior, SS has to ask and listen to their needs and opinions. The first step is to tell the company what can be done to keep repairmen pleased so they are able to perform a good piece of work for the company. Repairmen are quite hard to control. Building loyalty can align them to stay and work for SS. Self-directed work teams may be hard to fit to all employees' behavior but SS tries to find the way to motivate them and build a good work environment with reward systems.

The major theory of this research is to apply self-directed work teams to repairmen for change the ability in car repairing. This concept is able to make a difference in working time which is less than traditional work. The collaboration of repairmen after applying self-directed work teams resulted in working time reduction. SS gained benefit in using less time to complete one car.

In summary, applying self-directed work teams has benefit for SS. SS can reduce the working time this used to repair those damaged cars. When the waiting time from one car to another car is reduced, then company has a chance to produce more. Moreover, the number of pending cars in each week will also reduce too.

5.3 Managerial Implications

Applying self-directed work teams creates a better work flow and reduction in working time at SS. This concept leads an improve work in the delay services.

The amount of reduced time in self-directed work teams was based on five cars only, but if company applies this concept with every damaged car, then it can produce best result. Not only SS gets benefits from this research, but repairmen too. Repairmen do not have to handle so much work load as in the current operation. They can share jobs and help each other and the relationship among team members increases. Besides, if they perform a good job then they will get extra money from the company.

At present, competition in the automobile industry is very high. SS has to please both the insurance company and customers otherwise, the company cannot survive in this business or could just make a little profit. This research expected to improve the repairmen's culture to increase their efficiency and effectiveness because they are the main people that make this business run.

5.4 Recommendations for Future Research

Self-directed work teams is not the only way to solve the problem at SS because can manage the working processes of repairmen only. However, as accidents cannot be predicted, the numbers of damaged cars vary. The company cannot forecast about accidents because the number fluctuates. The limitation of this research is that repairmen behavior could change due to many factors which SS under control such as

laziness, absention or quitting a job without prior notice. All problems effect the repair process and can create lead time for each car.

Moreover, the repairing process still has lead time in some steps. The process also waits for new parts to arrive from suppliers. The repairing process needs to increase improvement by eliminating that waste. Hence, future research should focus on lean management which can reduce lead time which could increase the productivity in the company.



BIBLIOGRAPHY

- Stewart B. & Powell S. (2004). Team building and team working. *Team Performance Management, 10(1)*, 35-38.
- Center for Creative Leadership (2009). *Leadership in Aid, How to Build a Successful Team*. Retrieved on August 19, 2012, from <http://www.allindiary.org/pool/resources/7-8-how-to-build-a-successful-team.pdf>
- Carr, F. (1993). The Significant of Team Working. *Management Research News, 19(7)*, 1-7
- Gladstein, L. (1984). Group in Context: a model of task group effectiveness. *Administrative Science Quarterly, 29 (4)*, 499-517.
- Zigon, J. (1995). Team Performance Measurement: A Process for Creating Team Performance Standards, How to Measure the Results of Work Teams. *Zigon Performance Group*,
- Smith, A. (2004). *Team Work and Project Management*. New York: McGraw Hill. 2nd edition.
- Katzenbach, R. & Smith, K. (1993). *The Wisdom of Teams: Creating the High — Performance Organization*. New York: McGraw Hill.
- Koala Consulting and Training (2008). *Reward System*. Retrieved on August 19, 2012, from <http://www.koalacat.com/archive/016RewardSystems.pdf>
- Mack Consulting Group Pty Ltd (n.d.). *Self – Directed Work Teams Get Result*. Retrieved August 19, 2012, from <http://www.mackconsulting.com.au/downloads/Self%20Directed%20Work%20Teams.pdf>
- McGreevy, M. (2006). Team Working: part 2 – How are teams chosen and developed?. *Industrial and Commercial Training, 38(7)*, 365-370.
- Mears, P. & Voehl, F. (1994). *Team Building, A Structure Learning Approach*. Florida: St. Lucie Press.

Coney, R. (2004). Empowered self— management and the design of work teams.

Personal Review, 33(6), 677-692.

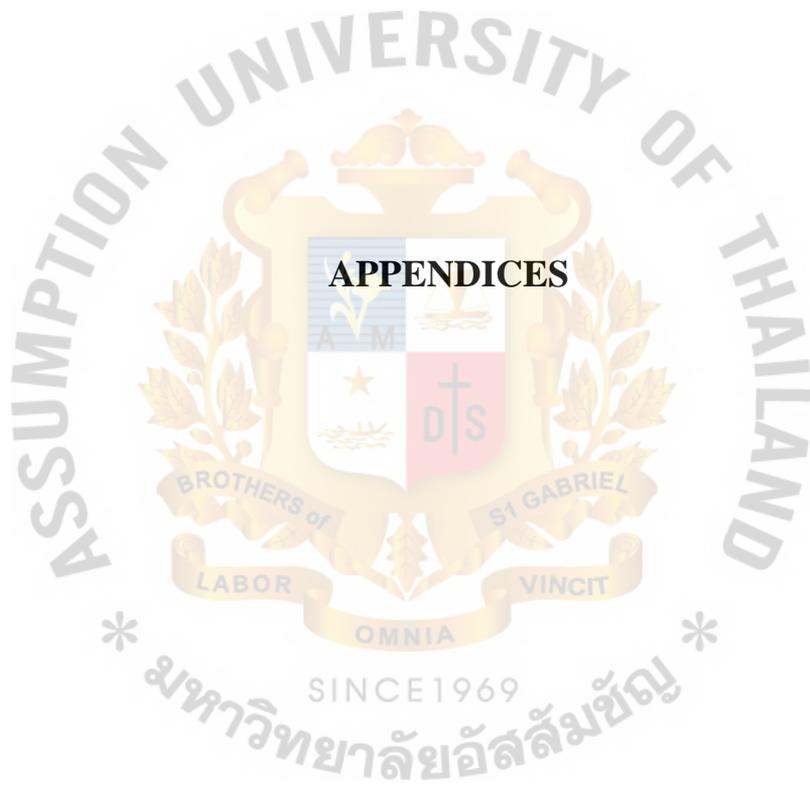
Steven, J. & Schilling, J. (2000). *The Basics of Team Performance*

Measurement, Measuring Team Performance, California, Jossey-Bass Inc.

Tuckman, B.W., & Jensen, M.C. (1977). Stages of small group development revisited.

Group and Organizational Studies, 2, 419- 427.





APPENDICES

APPENDIX A

Damage Level

- A1 Slightly or little damage such as scratch on the color surface.
- B1 Some distort damage on car body. More serious than A1
- C1 Many distort damage on car body but no need to change.
Repair men can fix this damage.
- D1 Heavy damage on car parts or body which cannot fix it.
Company has to change the new one.

