



Assessment on 5S Approach Strategy for Small Medium Enterprise (SME): A Case Study in Sabah

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Abstract: This study aims to assess the 5S approach strategy for SME. 5S in simple terms is a Japanese technique consisting of five 'S' terms namely *Seiri* (sorting), *Seiton* (set in order), *Seiso* (shine), *Seiketsu* (standardize) and *Shitsuke* (sustain) which is always applied to manage the workplace. In this research, a case study will be steered at the packaging section of Fatt Choi Sdn Bhd Company located in Sabah, Malaysia to gather data for analysis. This paper targets the wastes observed in the packaging section of Fatt Choi Company and systematic elimination of them through 5 stages of 5S. Low space utilization, presence of unnecessary items, lack of proper cleaning schedule, obsolete work rules are the major wastes observed in the workplace. Through the implementation of various steps of 5S, the targeted wastes are eliminated, and better space utilization is achieved. The objectives of this paper are to assess the level of understanding for workers to encounter and adapting 5S systems which would enhance their performance, to evaluate the acceptance rate for employees to implement 5S in their work area as well as to relate the effectiveness of the 5S system in improving the worker performance and reducing unwanted waste in the industry. The researcher is able to assist with the implementation of 5S practices in the SMEs which could benefit their organization from the 5S systems, as well as the problem faced in implementation, factors of implementation and benefits experienced after the adoption of 5S lean manufacturing tools were being identified and evaluated. The results reveal that before the implementation of 5S, the survey scores varies from very poor to satisfactory (scoring from 1-3) related to the level of understanding for workers to encounter and adapting 5S systems, the acceptance rate for employees to implement 5S in their work area as well as the effectiveness of the 5S system in improving the worker performance and reducing unwanted waste in the industry but after the implementation of 5S the scores had changed from good to very good (scoring from 3-5). Survey results show a clear change can be seen before and after the implementation of 5S. The result gets positive result from the survey done by the employees after the implementation of 5S in their working area. Employees are more contented with their work environment after the implementation of 5S. This is due to the cleanliness of their workplace is maintained every day, all items and tools are adequately arranged, and they can finish their work without any delay resulting from time waste searching for tools.

Keywords: 5S, 5S implementation, SME

1. Introduction

In recent years, most of Malaysia conventional manufacturing sectors are currently facing rapid changes in consumer demands, raw material costs, and technologies. In most companies, top management may find different ways to reduce the expense of recruiting foreign workers as staff instead of adopting new technology.

However, some industrial issues will impact the companies' experience in terms of loss of profits. This is mainly because the industries could not use the resources efficiently because of wastes from the overproduction of products. Continued improvement of production system processes in the manufacturing industry is becoming essential to

maintaining market share in the global market [1]. Therefore, the industry's top management should implement lean manufacturing to minimize waste. Among standard tools used in lean manufacturing such as JIT, Kaizen, TPM and VSM, lean manufacturing tools such as 5S were typically used as the standard approach to implementing lean manufacturing concepts in the workplace.

This study focuses on the Small Medium Enterprise (SME) in the manufacturing industry in Sabah. This study aims to assess the degree of understanding for workers to encounter and adapt 5S systems to enhance their performance. Apart from that, this study also evaluates the acceptance rate for employees to implement 5S in their work area and relates the effectiveness of the 5S system in improving worker performance and reducing unwanted waste in the industry.

Lean manufacturing (LM) is widely used in the interdisciplinary sector and has different definitions between researchers with diverse views, ideas, and suggestions [2]. Vamsi et al. [3] stated that Lean generally means waste-free production. Apart from that, most scientists have pointed out that Lean is a waste disposal approach. On the contrary, Shah and Ward [4] described lean manufacturing as the approach of eliminating waste by processes and elements of human design to offer customers maximum value. There are concepts based on the total buffer price stated by Hopp and Spearman [5]. The removal of waste throughout the value stream of a commodity Shah & Ward [6] and the detection and disposal of waste by the value stream of the supply chain as stated by Karim [7] are an example of those concepts.

Wilson [8] identify lean origins are associated with the Toyota manufacturer's production system, which was credited to Japanese designers. Toyota has followed this concept by implementing a lean system that focuses on waste reduction. LM consists of several tools and practices that lead to enhancing and improve system performance when appropriately and fully implemented. One of the tools used in LM is the 5S lean tool where 5S is an acronym for sorting, set in order, shining, standardizing and sustaining as explained by Kobayashi et al. [9]. Kobayashi et al. [9] found that 5S was viewed differently through exploratory research by companies in various geographical regions. They also developed that Japanese companies prioritize 5S as an institutional success technique, which is imbued with the private and working life of employees. In the meantime, UK and U.S. companies regarded this only as a tool for the organization of their jobs. Such perspectives indicate that the strategies and ultimate benefits of 5S are established.

5S is a working philosophy that permits users to create a structured plan to maintain the classification, order, and cleanliness regularly, allowing profitability, health, environment operation, personnel morale, reliability, performance, and therefore competitiveness of the company to be improved instantly. The original philosophy of the Japanese words "*Seiri*", "*Seiton*", "*Seiso*", "*Shitsuke*" and "*Seiketsu*" is classification, order, cleanliness, standardization, and consistency and has already been defined by Hiroyuki Hirano [10] as 5S.

Table 1 - 5S phases and descriptions

5S	Description
<i>Seiri</i> (organization, sorting).	To remove all unnecessary tools and parts and keeping only the essential items.
<i>Seiton</i> (setting order of flow).	To arrange the work, employees, parts, equipment, so that everything is sorted into its proper place.
<i>Seiso</i> (shining, cleaning)	To clean all the workstation and all the equipment and apparatus, keep it clean and tidy so the next user will have an easier time doing their job.
<i>Seiketsu</i> (standardize, visual control).	To ensure procedures and setups throughout the operation are followed by the employees.
<i>Shitsuke</i> (sustain, discipline, and habit).	To make it a way of life and as a culture so that it can be a habit in a worker's daily work routine.

2. Research Methodology

This section will discuss the research approach to the data collection after the successful implementation of 5S tools. Questionnaire survey and interview are used to obtain essential data from the company before and after the implementation of 5S tools. Gustafsson [11] stated that a case study is a typical research methodology used in social sciences study where the definition of case study analysis is not well defined in the literature. Nevertheless, an extensive case study can be defined as a person, group of individuals, or unit that is intended to spread across multiple units an intense comprehensive case study was also described by one single individual, team, community, or other units in which a researcher analyses detailed information concerning several variables [12]. The researchers are interested in the analysis. A case study was conducted at Fatt Choi Sdh Bhd Factory. The result of a case study is mainly the success of implement the 5S system in the packaging section of the company workplace. After that, selected employees will be given a survey question to get their response.

The structure of the survey consists of two sections, understanding of lean development and lean implementation problems. The survey was updated and tested on companies in Sabah, Malaysia, specifically. The purpose of the survey is to collect data and distribute it to the related department of the company. The survey question will be focused more on

the satisfaction of workers towards the working environment cleanliness, tidiness, safety, tools, and machines in the area of the workplace.

Interviews are essential and helpful for gathering information on the research study issue. Roger and Carl [13] explain that interviews can range from unstructured, unresolved, and unresolved interviews with pre-arrangement issues to highly structured conversations with specific questions in a specific order [14]. A structured interview with the top management of the company was performed throughout this study. The purpose of the interview is to collect data from the upper management on their understanding of 5S Lean Manufacturing tools. Below are questions that prepared for the supervisor of the workplace:

- Do you know what is lean manufacturing? (YES/NO)
- Do you have ever heard about 5S? (YES/NO)

2.1 Research Sample

This project starts with the implementation plan of 5S in the selected company. The implementations of the 5S plan are carried at the packaging section of Fatt Choi Sdn. Bhd. Company. Before the implementation plan begins, an interview will be carried out with the company supervisor in order to collect data from the upper management on their understanding of 5S Lean Manufacturing tools. Ten workers from the packaging section are selected and involved in the implementation plan of 5S in their workplace. The survey questions will be distributed to them before and after the implementation phases are carried out.

2.2 Collection of Data

The questionnaire and interview were used as the primary method for data collection from the company after the successful implementation of 5S tools. The questionnaire survey was conducted to get the response from the worker on their satisfaction towards working environment cleanliness, tidiness, safety, tools, and machines in the workplace area before and after the implementation of 5S. The survey is set up on a five-point Likert Scale to measure the satisfaction of the respondent. Table 2 represents the scale range and their respective description used in the survey measurement.

The set of questions were as follows:

1. Evaluate your understanding of 5S lean manufacturing?
2. How often is the final product finished within the deadline?
3. In your opinion, is the working area fully utilized?
4. Are all the things (tools, instruments, other elements) which can be found in the workplace necessary?
5. Are there any unnecessary things that are causing the mess in the workplace?
6. How would you evaluate the overall cleanliness of the working area?
7. Are there instructions available in working units, where instructions are required?
8. Are all workers doing the cleaning job after work?
9. How would you evaluate the safety in the working area?
10. Are you happy with your working environment?

Table 2 - Likert Scale range and description

Description	Value
Very Poor	1
Poor	2
Satisfactory	3
Good	4
Very Good	5

2.3 Data Analysis

The data collected are then analyzed and discussed based on the provided responses to get an overview of how interviewees respond to the given questions. The survey question is analyzed and presented using Statistical Package for the Social Sciences (SPSS) and Microsoft Excel software in the form of graphic standard charts. This part is essential to provide an overview of how the respondents respond to the given questions.

3. 5S Implementation Planning

The design of the project took these ideas, using the 5S steps described in the Literature Review beforehand. As with most lean concepts, the steps are easy and straightforward to follow, but maintaining those ideals is the challenge. For 5S implementation planning in the packaging section of Fatt Choi Sdn Bhd. The company will start with the step-by-step implementation; each process must be thoroughly evaluated and discussed using the following approach P-D-C-A Cycle:

a) PLAN

- Preparation
 - Form 5S council.
 - Determine 5S zones or scope areas for implementation.
 - Determine 5S objectives, goals, and implementation phases.
 - Plan 5S action plan and 5S Launch Schedule.

b) DO

- Sort:
 - Identify what is necessary to be sorted, for example, anything that is needed to be separated in a different area apart from the unneeded things.
- Set in Order
 - Determine what and how to arrange it.
 - Sort and organize all tools
- Shine
 - Identify dirt source.
 - Identify the root cause.
 - Take action in order to eliminate dirt sources and root causes.
- Standardize
 - Engage the employee to systematically perform previous steps to maintain the workstation in perfect state as a standard process.
 - Start scheduling and set expectations for adherence.
- Sustain
 - Everyone obeys, understands and practices the rules and procedures that have been set.
 - Develop 5S as a habit.

c) CHECK

- Assessment:
 - Guarantee the established 5S procedures are followed through by the worker.
 - Conduct internal 5S Audits once a month to check their performances.

d) ACT

- Continual Improvement:
 - Make 5S as a culture in the workplace.
 - Compare results before and after the implementation 5S process.

4. Interviews Result

Two questions were given to the supervisor of Fatt Choi Sdn Bhd to test the level of understanding and awareness of lean manufacturing. The interview revealed that the level of awareness about 5S is still low, and the company did not practically use any of the lean tools in their company. However, they are interested in 5S after knowing the benefits when practicing 5S practices.

4.1 5S employee survey results

The researcher carried out four surveys with a survey given out to the employees before the introduction of 5S and the remaining three surveys were distributed at the end of the month for three consecutive months. The respondents were mainly workers working in the Manual Packaging Department. The project seems to have been a success after analyzing the results of the surveys. Figure 1, 2, 3 and 4 show the results for the survey where the orange bar represents the total number of respondents, and the other colors represent the respondents' answers. The bar chart on the right side shows a visual presentation for each survey question and their mean score.

Figure 1 shows the survey result before the implementation of 5S. Questions 1, 2 and 3 were asked to evaluate the workers' degree of understanding when encountering and adapting 5S systems to enhance their performance. Question 1 revealed the lowest score of only 1.2, which indicates a poor understanding of 5S lean manufacturing. Question 2 investigates whether the employees know if the product is finished within the deadline. The survey result shows that question 2 return a 2.2 score which indicates that the employees usually need more time to finish the product because delay that happens due to unsystematic workplace conditions. Question 3 was given to determine whether the working area is fully utilized. A 2.7 score was recorded indicating a below satisfactory condition due to the unnecessary obstacle occupying the available area in the workplace.

The question of the effectiveness of the 5S system in improving worker performance and reducing unwanted waste in the industry will be asked on questions 4, 5 and 6. Question 4 asks employees about the tool, instrument and other elements availability in the workplace. The survey result shows the score is 2.4 is recorded for question 4 which indicate a poor level of organization in the workplace. This happens due to the workplace is not being organized and cleaned

where there are many unnecessary objects are blocking the tools. This will leads to a problem where employees were wasting time searching for essential tools. Next, Question 5 asks if there is a thing that causing the mess in the workplace and the score for this question is 1.5 that lies between the level of very poor and poor. This is due to the workplace is not cleaned every day, and broken machine or tools is not removed or stored in another place. Question 6 asks the employees about their opinion on overall workplace cleanliness, and the survey result records a 2.0 score for this question. Most of the employees answer the poor level of cleanliness because cleaning is rarely done in their workplace.

The evaluation of the acceptance rate for employees to implement 5S in their work area will be asked in question 7, 8, 9 and 10. For question 7, the employee was tested to check whether there is instruction available in the workplace. The result shows a below satisfactory score of 2.7, which indicate that instructions were given in a particular department while others did not receive instruction. Some employees tend to conduct work based on experience rather than taking instruction, thus making them exposed to accident risks. By implementing the 5S system, instruction for each work will help an employee to work using the correct procedures reducing any risk of an accident. Question 8 asks if the employees cleaned their workplace every day after working hours. The survey score indicates a very poor level score at 1.8 due to unavailability of cleaning schedule in the work area. Next, question 9 in the survey evaluates the respondent perception towards safety in the workplace. The result shows that the employee scores a below satisfactory level of 2.8 for workplace safety. Safety is an important thing that needs to be more emphasized in the workplace environment. Any unnecessary objects left unattended in the packaging section area can be a potential hazard causing a fatal accident to the employees. Lastly, question 10 will evaluate employees' opinions on their working environment before the acceptance of the 5S plan. Most of the employees are not satisfied with their work environment scoring only 2.9 mean scores. This is because their workplace is not well organized and appropriately cleaned. The remaining survey results for implementation after the introduction of 5S are given in Figure 2, 3 and 4.

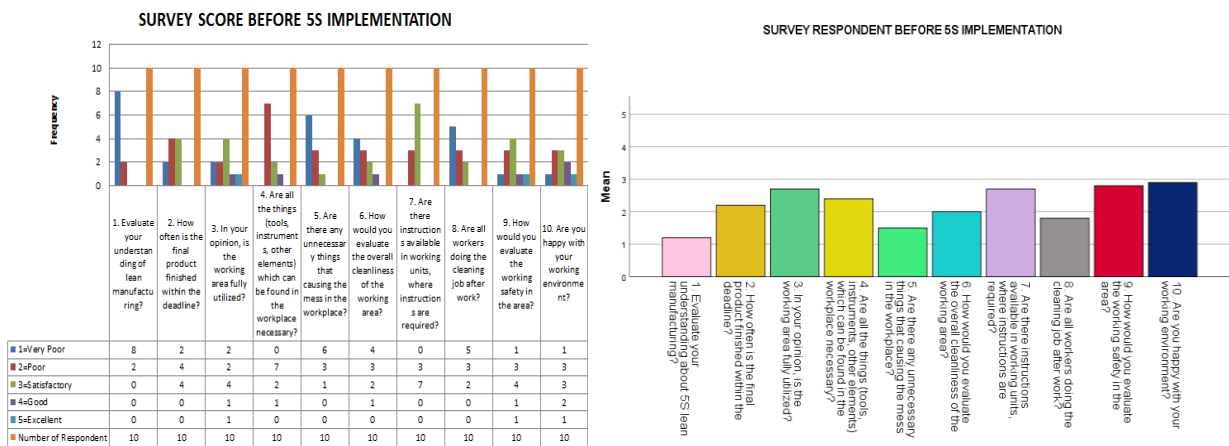


Fig. 1 - Survey Score for each question before 5S implementation

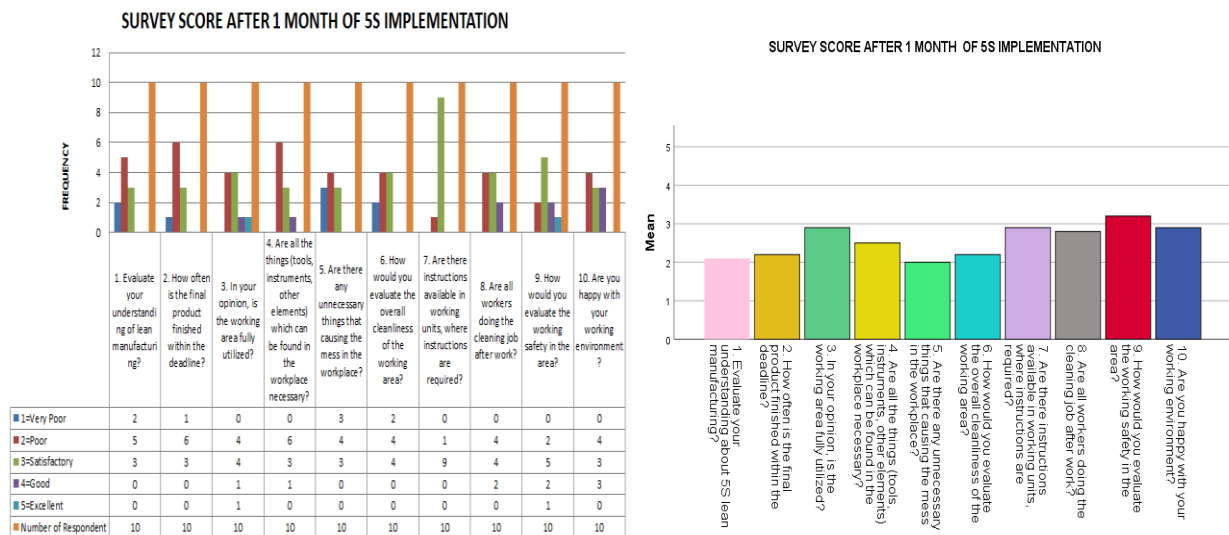


Fig. 2 - Survey Score for each question after a month of 5S implementation

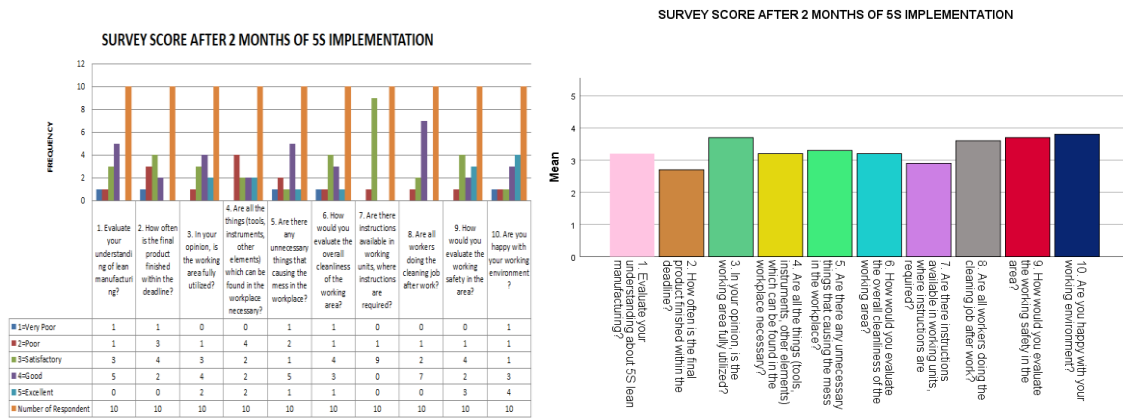


Fig. 3 - Survey Score for each question after two months of 5S implementation

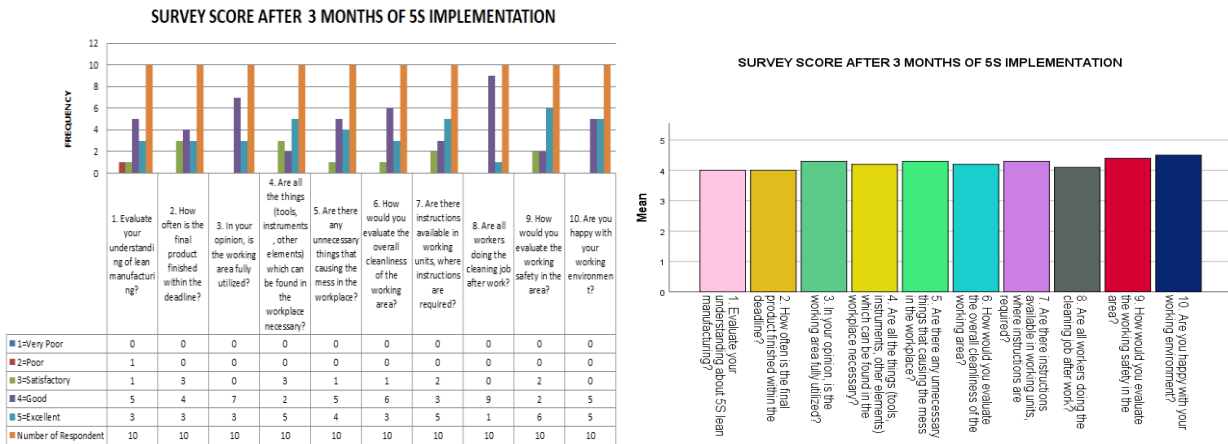


Fig. 4 - Survey Score for each question after three months of 5S implementation

4.2 Discussion

The survey is focused on three aspects which include assessing the degree of understanding for workers to encounter and adapting 5S systems enhance their performance, To relate the effectiveness of the 5S system in improving the worker performance and reducing unwanted waste in the industry and to evaluate the acceptance rate for employees to implement 5S in their work area.

4.2.1 To assess the degree of understanding for workers to encounter and to adapt 5S systems enhance their performance

Figure 5 shows the graph analysis for Question 1 based on employees' understanding of 5S lean manufacturing. The survey is done before and after the 5S implementation plan. A score of 1.2 is recorded for the first survey which indicates a very poor level of 5S understanding. Most of the workers in the packaging section have no prior knowledge about 5S with some workers only have little knowledge about 5S from their previous job. The workers understanding of 5S concept increased from 2.1 in the first month to 3.2 and 4.0 for the next consecutive months after 5S implementation. The increased in the level of understanding is expected from the worker as several months of 5S implementation and practices.

1. Evaluate your understanding of lean manufacturing?

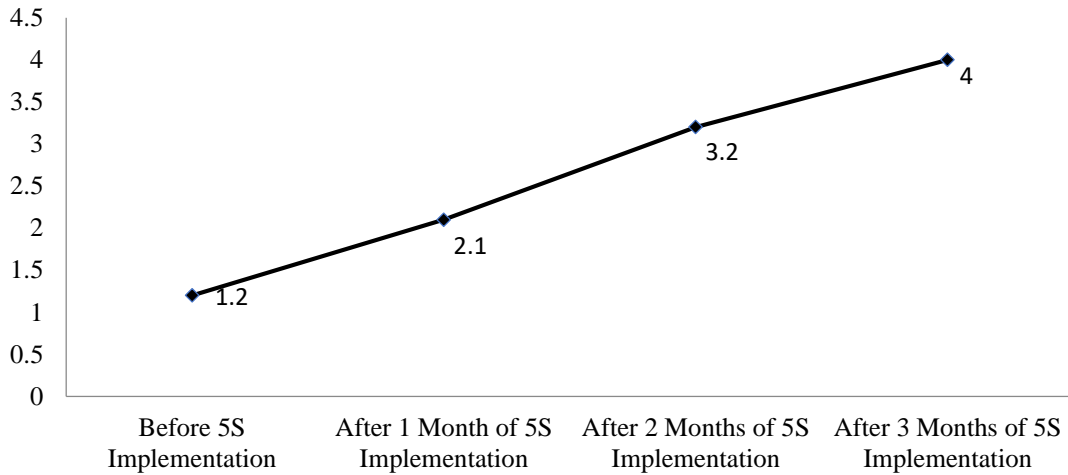


Fig. 5 - Survey Score Comparison for Question 1

Figure 6 shows the survey result that identifies the amount of time needed by the employee to complete the packaging product as directed by the employer. Whether the product can be completed before the allocated time or not depends on the speed of the employee to complete the task. Most of the time, workers have a hard time looking for missing items and tools which introduce a delay in completing the tasks given. Before the 5S implementation, the worker response suggested that the final product cannot be finished within the deadline, as indicated by the low-level score of 2.2. Most of them need to sacrifice their resting day on weekends because the work needs to be finished within the deadline. After three month duration of adapting the 5S system to their daily work routine, the graph shows a flat line for the first month of 5S implementation before the score increasing to 2.7 after two months of implementation of the system. The result shows that when the 5S procedures of 'sort', 'set in done' and 'shine' is practically done every day in the packaging section, it can facilitate employee works because all the tools and equipment were ready at their specific location making them easier to find. The graph trend increased rapidly after three months of adopting the 5S system at a score of 4.0, which indicates that more employees perceive that more product can be finished within the deadline after the implementation of 5S. The positive results achieved shows that if the worker has a good understanding of the 5S system, the performance of employees can be increased in meeting the company target.

2. How often is the final product finished within the deadline?

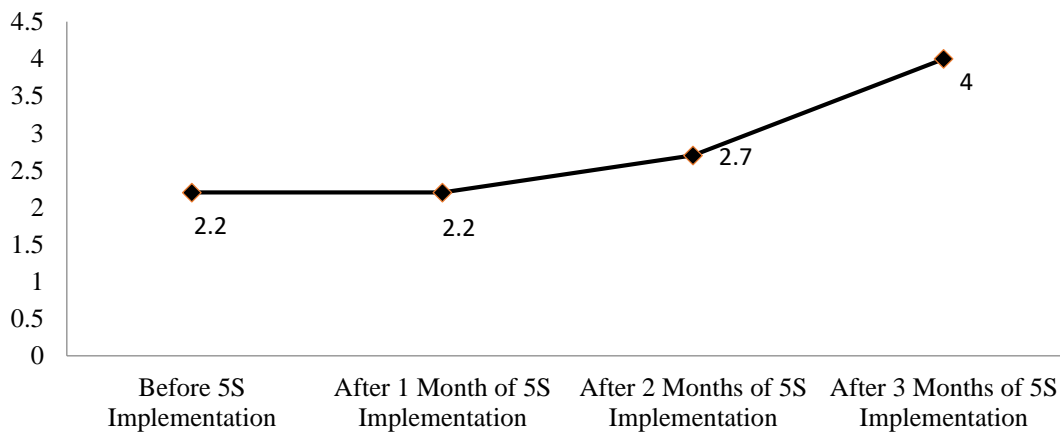


Fig. 6 - Survey Score Comparison for Question 2

Figure 7 shows the employee's satisfaction with their working area. Before the 5S implementation plan begins, the survey result shows that the employee record a below satisfactory level score of 2.7. The result shows that many employees complain because their working area to be crowded with unimportant items, making their movement in the work area difficult. Objects such as unused boxes, pallets, packaging plastic, or a broken machine usually block the worker's pathway because of the unsystematic working system. After introducing the 5S plan, the working area is now fully optimized. Horrevorts et al. [15] highlighted the impact of workplace cleanliness on the productivity of employees. A clean work area can boost employees' morale to do their job and ultimately increase their work performance. Based on the survey result, the score on the first month of the 5S implementation plan increasing from 2.9 to 3.7 and 4.3, respectively, after the second and third month of successful 5S implementations. Employees are now becoming more aware of the advantages of 5S in their everyday work routine.

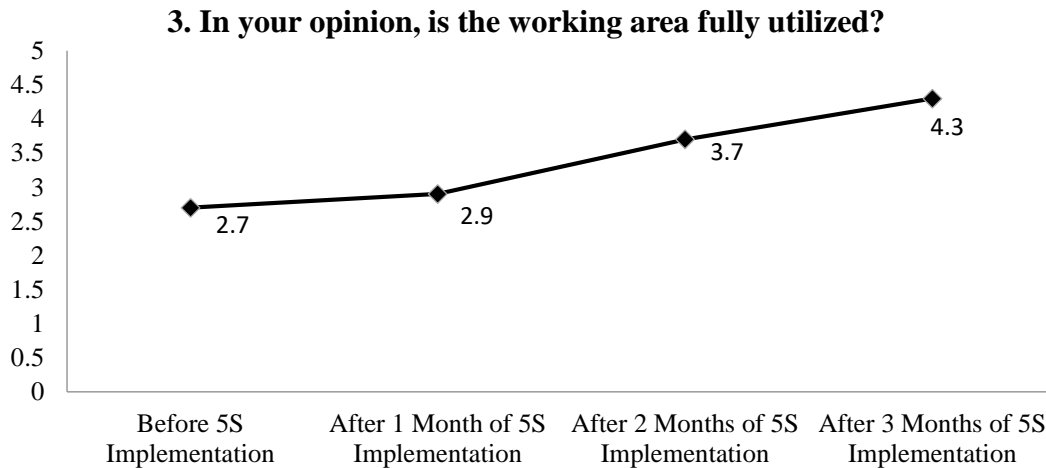


Fig. 7 - Survey Score Comparison for Question 3

4.2.2 To relate the effectiveness of the 5S system in improving worker performance and reducing unwanted waste in the industry

Figure 8 shows the graph for tool, instrument and other elements availability in the workplace. The most common problem that employees encounter during work is time-wasting searching for tool and instruments. Before and after one month of the 5S implementation plan begins, the mean score was recorded at 2.4 and 2.5 which is at the very poor level of employee acceptance. This happens due to the workplace is not being sorted and cleaned where many unnecessary things were sometimes blocking the tools. Diamantidis [16] mentioned that tool availability could affect workers' performance during work. Hence, if the employees had an understanding of the 5S system, they can quickly get rid of this problem. After two and three successful months of 5S implementation done in the packaging section, the survey scores increased from "satisfactory" to "good" at 3.2 and 4.2 scores, respectively. This increasing trend explained the effectiveness of the 5S system that could improve worker performance and reduce unwanted waste in the industry.

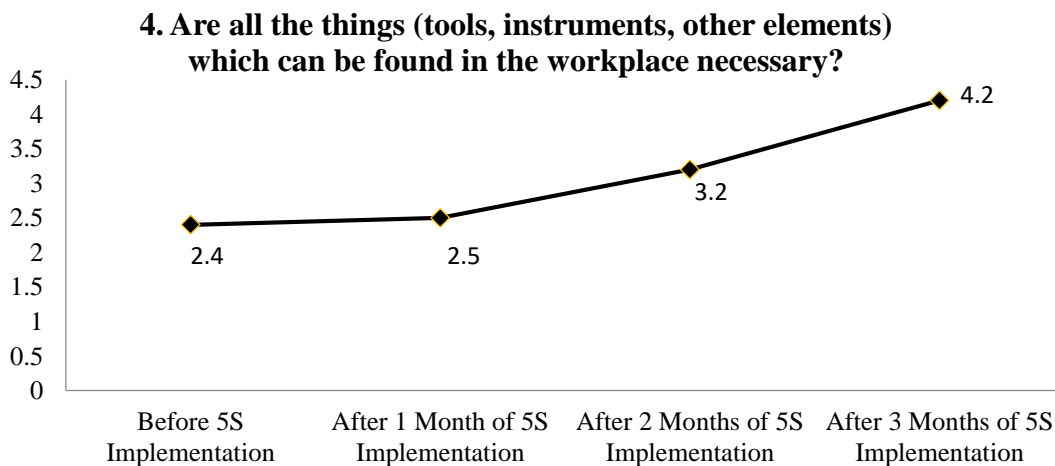


Fig. 8 - Survey Score Comparison for Question 4

Figure 9 shows the graph for question 5 that queries employee on the identification of objects that causing a mess in the workplace. Roelofsen [17] mentions that workplace environments have a significant impact on employee performance. In the manual packaging section, the coffee sachets need to be put into the commercial packaging plastic. This process used a sealing machine to seal the plastic. During that process, there are also pieces of plastic packaging that has been cut and thrown on the floor because of the large size or having defects in the packaging. This causes a mess on the working floor. Before 5S implementations, the score is very poor for the first survey which is only at 1.5. After three months of successful 5S implementations, the score increased from poor to a satisfactory level with a score of 2.0, 3.3 and 4.3 respectively for each month.

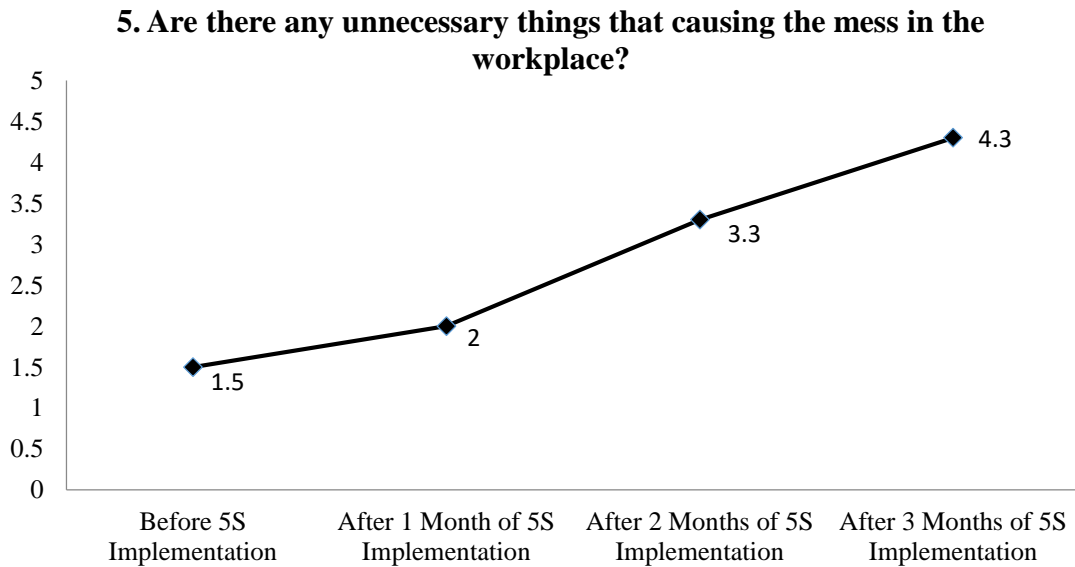


Fig. 9 - Survey Score Comparison for Question 5

Figure 10 shows the graph for the evaluation of the cleanliness of the working area. Before 5S implementation, the survey's score is 2, which indicates poor cleanliness in the working area. This is because of dirt and mess from unwanted things that are not handled properly in the work area. After the introduction of the 5S system, the surveys score gradually increase in the first month of implementations which is 2.2 points before rising drastically after two and three-month duration of implementation which is 3.2 and 4.2 points respectively. Changes from "poor" to "good" in the overall cleanliness of the working area show the effectiveness of the 5S system thus can improve worker performance and reduce unwanted waste in the work area.

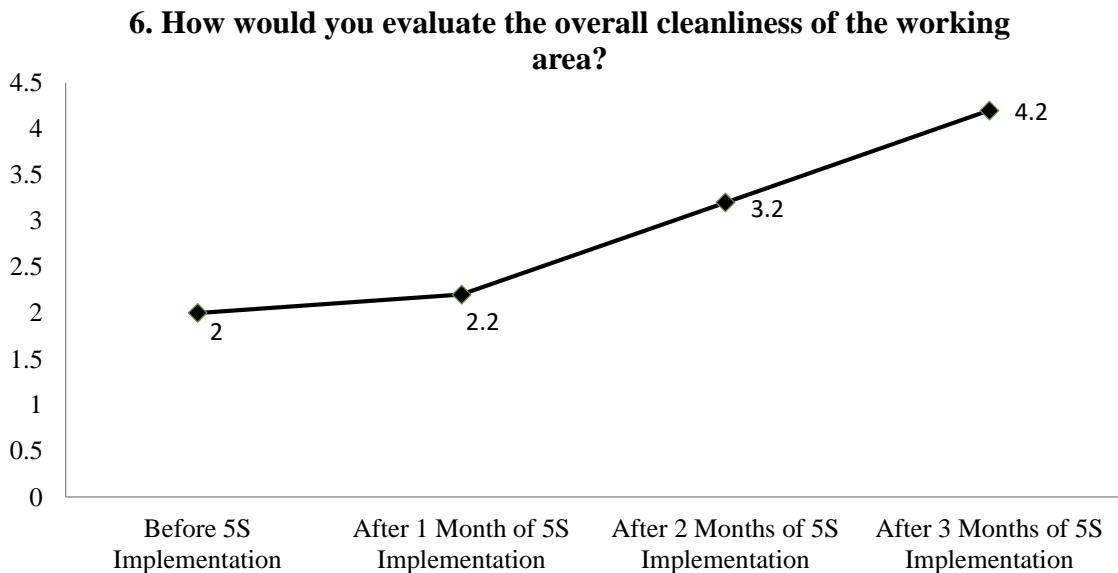


Fig. 10 - Survey Score Comparison for Question 6

4.2.3 To evaluate the acceptance rate for employees to implement 5S in their work area

Figure 11 shows the graph for question 7 which is to identify if workers were given any instruction in the area of work. The graph shows an almost a flat line trend for two consecutive months which is between "poor" and "satisfactory" level before and after the 5S implementation plan begins. These happen due to employees are accustomed to working based on their experience rather than depending on instruction, thus making them exposed to an unwanted accident. If more instructions are given in the workplace, the employee is more cautious of the environment in the workstation and can reduce any unwanted accidents such as injury or mistake during machine operation [17]. After the employees being successfully persuaded to follow the 5S instruction carefully, the result of the survey increased to the 4.3 after three months of 5S implementation.

7. Are there instructions available in working units, where instructions are required?

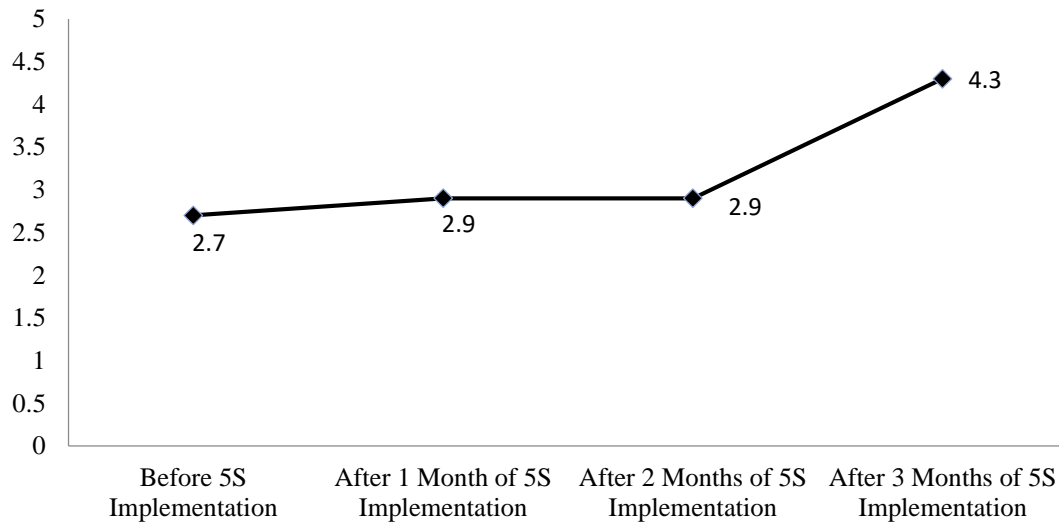


Fig. 11 - Survey Score Comparison for Question 7

Figure 12 shows the result of cleaning tasks among employees after working hours. Before 5S implementations, the survey result score is at 1.80, which indicates that most workers did not take responsibility to clean their work area as they are hoping for others to do the cleanup. The survey result further shows that employees perception are linearly increasing for the three months duration of the implement the 5S plan. The introduction of a cleaning schedule in the shine process makes the employees clean their work area frequently. The survey scores increased from 2.8 to 3.6 during the second month and increased again to 4.1 in the third month to indicate the rate of acceptance of workers to implement 5S in their workplace.

8. Are all workers doing the cleaning job after work?

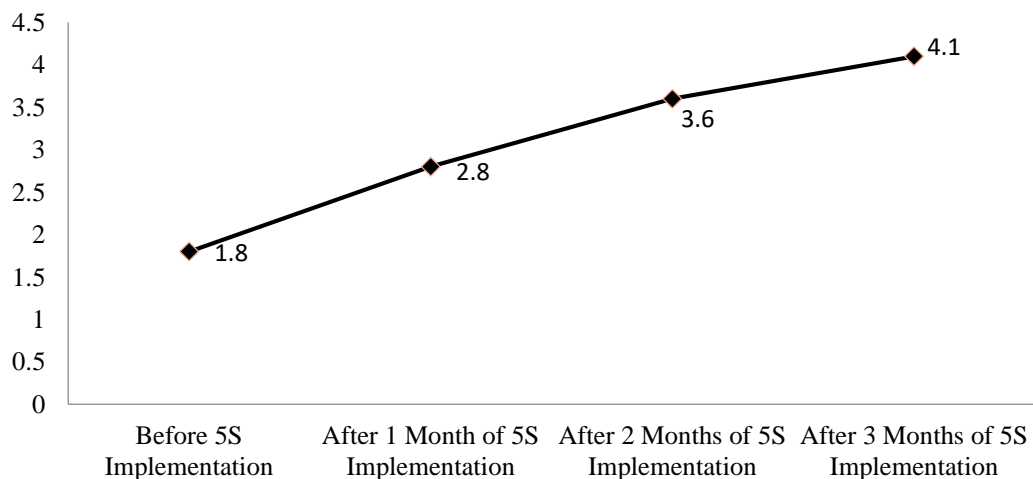


Figure 12 - Survey Score Comparison for Question 8

Figure 13 shows the answer to survey question 9 on the evaluation of working safety in the area. Before 5S implementation, the survey indicates that the employee satisfaction at the safety level at the work area to be at 2.8 ("poor" level). The low score from the survey happens because of the unnecessary object in the workplace that brings accidents towards employees during working hours. After one month of 5S implementation, the score is increasing to 3.2 which are "satisfactory" because all the unwanted objects have been removed during the sorting process. After two and three months of 5S implementations duration, the survey score increasing from 3.7 to 4.4 which is a "good" sign for the rate of acceptance for workers to implement 5S in their workplace.

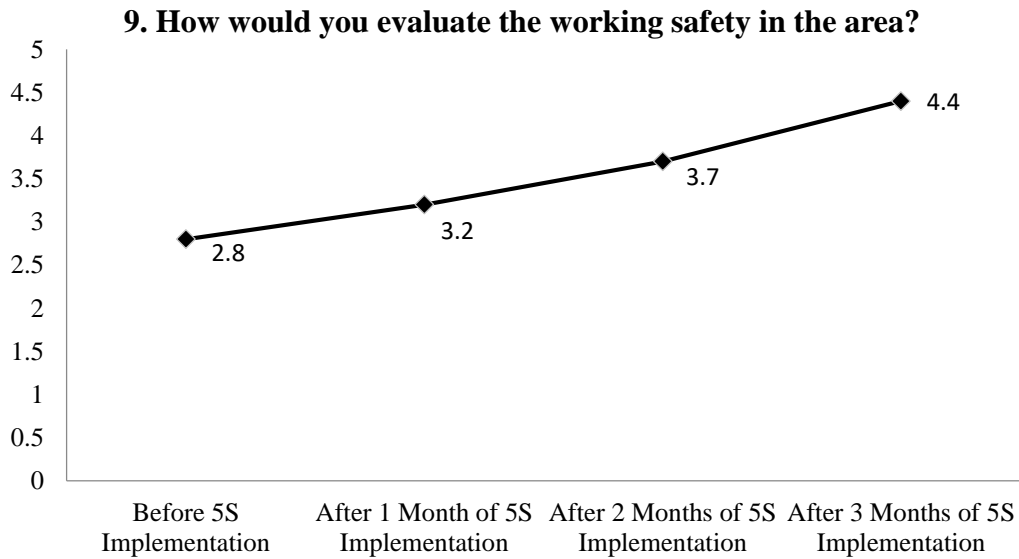


Figure 13 - Survey Score Comparison for Question 9

Based on Figure 14, the survey results for question 10 is presented to evaluate the employees' opinion towards their working environment. Before and after one month of the implementations, the survey score indicates a 2.9 score which is below satisfactory level. Most employees are not very happy with their current work environment because of the extra time and energy they commit in order to complete the assigned work before deadlines. Other than that, they also complain about cleanliness in their work area. After successfully implementing the 5S system into their daily work routine for the duration of another two months, their response is very positive which is increasing from a score of 3.8 (good) to a score of 4.5 (nearly excellent). The positive result in the survey is because of the willingness of workers to implement 5S in their workplace.

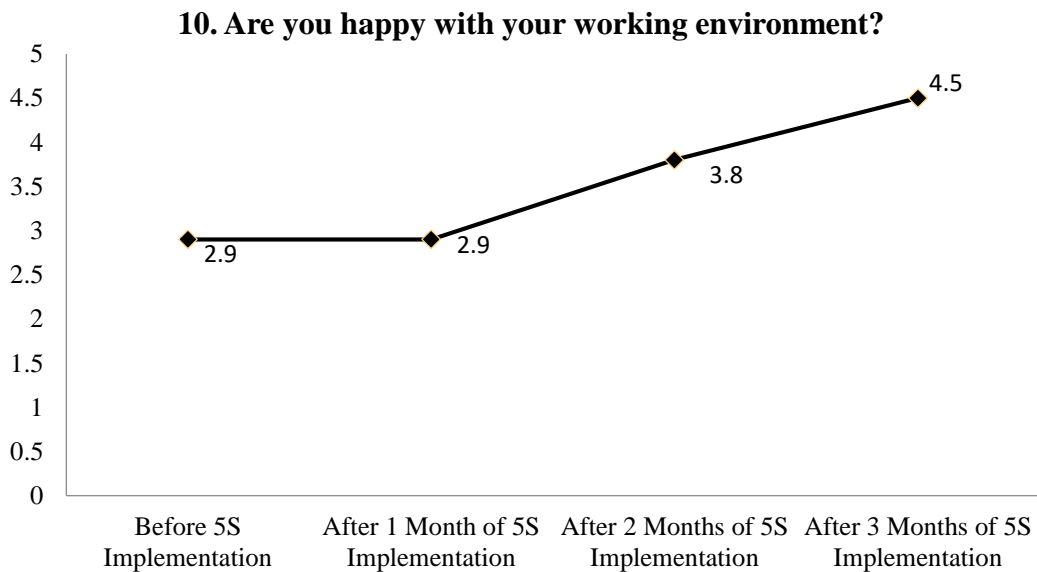


Figure 14 - Survey Score Comparison for Question 10

5. Conclusion

The main goal of this study was to successfully implement the 5S plan into the Fatt Choi Sdn Bhd packaging section and to measure the success of the project. The findings of this study have a significant impact on Fatt Choi Sdn Bhd Company mainly to the performance of their employees. Besides, the researcher has gained more knowledge about 5S lean manufacturing in particular. The scenario at this facility, specifically the packaging department of Fatt Choi Sdn Bhd Company project had no substantial exposure to lean. After three months of successful implementation of the 5S plan, many positive results can be seen through the questionnaire survey after the 5S implementations.

The need for 5S methods to be implemented is one of the first steps taken in the Lean Management Strategy, increasing the organization's productivity and employee performance. In addition, due to 5S implementation, the factory now has a clean environment, workplace safety is maintained, and product quality is improved, accidents are easy to identify and avoid, unnecessary waste and costs are minimized, the product can now be finished before the deadline.

The very first thing an SME needs to consider when introducing Lean is the organizational culture. The employer or managers need to ensure that this is supportive and fully engaged in Lean implementation. SMEs usually have a flat organizational structure and work to informal working relationships. This enables direct and rapid communication between management and employees. This type of structure allows a more efficient dispersal of the Lean method throughout the SME and guarantees employee engagement.

The major limitation occurring in this study is that employees and upper management resistance to change is one issue that the company should pay attention to when introducing the 5S strategies, in particular for that small niche or business to business organizations that are satisfied with their current achievements. Employees are pleased with the work being carried out, thought that the 5S system would only be a workload for them. Therefore, the full benefits of the 5S cannot be achieved in the business sector until all the challenges associated with the application of the strategy are identified, completely understood and learned. Other than that, SMEs may not have the budget to employ specialized Lean facilitators making the 5S implementation may have some shortcomings.

After the implementation of 5S for three months, the new culture has resulted in an improvement of the working environment and an increase in the motivation of the staff involved. Employees are happier with their work environment after the implementation of 5S. This is due to the cleanliness of their workplace is maintained every day, all items and tools are adequately arranged, and they can finish their work without any delay resulting from time waste searching for tools.

The objectives of this study which is to assess the degree of understanding for workers to encounter and adapting 5S systems enhance their performance, to relate the effectiveness of the 5S system in improving the worker performance and reducing unwanted waste in the industry and to evaluate the acceptance rate for employees to implement 5S in their work area was achieved successfully. The survey result shows that there is a positive change towards the company and employee performance before and after the implementation of the 5S plan.

Acknowledgement

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