LACK OF COSTUMER VISITATION ANALYSIS USING NEW SEVEN QC TOOLS (Case study in Acasta Restaurant)

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Abstract

Companies in the service industry have its own parameters in terms of quality and quantity which is used as a consideration of measures prior to purchasing a particular service. In many cases, it is found that the number of customers in a restaurant is the effect of the quality of the service provided. As for this exact case, management has complained of the minimum amount of customers visiting. Therefore, a research based on the new seven tools method has been carried in an attempt to resolve this management issue. With the aforementioned method, there were a few identified conflicts found in the restaurant's services, one of which is the lack of advertising, delaying service, absence of a dynamic atmosphere along with location that is deemed un-strategic. With this research, Acasta have come up with different steps of improvement aimed to increase the quality of service and the number of customer visitations. In order to improve in the services, calculations were obtained towards the estimated time on each of the improvement processes. As a result of those calculation, it is known that the restaurant has a big potential. In implementing this improvement, there are two important issues to take note one, first is the span of time it takes and the priority of order performed. From 16 solutions there are 3 best solution for this research; Adding some waiters/waitresses to speed up service, purchase more fans/install air conditioner (depending on budget), and create a bigger signboard.

Key Word: New Seven Tools, Quality

1. Introduction

The need of food and beverage is constituted in every human's primary needs. There stands 3 different primary needs; clothing, food, and shelter. The need of food is the most important need. In most reaches, the need of food is not the hardest to fulfill, humans will only have to obtain various materials which will be processed to become various types of food.

Another perspective arises when a lot of people chose to consume food outside of their home. This perspective is motivated by the increase of population and the rapidly increasing trend of modern society. Along with the increase of population, current trends motivate the efforts focused on food and beverage sector. One of the food and beverage industrial sector with most potentials Indonesia has a market size of 41,3% (Satria, 2013).

One of the services offered in this industry is restaurants. Restaurants are companies which are relies on customer satisfaction. Generally, restaurants satisfy customers by increasing services since they offer both product and services (Kotler, 2008). To create high-quality services, the company must provide services which fulfills or better yet exceeding, customer's expectations (Istijanto, 2005). Around the year of 1970, a set of tools was found in Japan which focuses to analyze "verbal" information. These tools are known collectively as "The New Seven QC Tools" or "The Seven Management and Planning Tools".

The Acasta restaurant offers various types of processed mushroom located in the Tembalang area, Semarang. This restaurant is the pioneer in presenting mushrooms as a main ingredient. Although being a pioneer means facing a lot of issues. One of those issues includes the less of customers visiting. In order to understand the level of customer satisfaction, fulfilling expectations and acknowledging critics towards the services, further research must be applied. All this is done to analyze the effects of quality service towards customer satisfaction with hopes of improving the company's performance in fulfilling customer's expectations.

2. Methods

The process of quality improvement used in this research involves 7 critical phases in the quality management. The tools utilized in these processes were developed from marketing and management, therefore the methods used are also called *New Seven Tools*. These tools are implemented together with the analysis of quantitative data. The tools were used systematically to improve quality in the business process of an organization. The tools used are as follows; *Affinity Diagram, Relations Diagram, Systematic Diagram, Matrix Diagram, Process Decision Program Chart, and the Arrow Diagram, Matrix Data-Analysis. Affinity Diagram* is a diagram used to collaborate ideas or opinions into verbal-data and categorizes these thoughts according to the similar affinities of the items. *Relations Diagram* is the identification of cause-and-effect relationships involved in the existing situation, this method contends that there are many opportunities of cause and effect in one issue. *Systematic Diagram* or also known as *Tree Diagram* was designed to collate relationships between cause-and-effect mentioned, or to identify the *means-end relationship*. *Matrix Diagram* is a tool used to relate one another. In many cases of the problem, two or more item variables are related. *Process Decision Program Chart* is a tool used to develop the possibilities which maps potential failures when specific actions in the plan are taken. *Arrow Diagram* is a diagram used to specify the order of tasks needed to meet groups of activity in order to reach the goal as a whole. *Matrix Data Analysis* is an end tool which relies on numerical data and statistical principles that measures correlations from varying factors.

3. Discuss

Affinity Diagram is a diagram which giving important explanation but still unreveled, i.g collecting verbal data from random situation and than continued as analyzing data with mutual affinity (Kusnadi, 2012). The process taking place in the making of the *New Seven Tools* diagram begins with the manufacture of Affinity Diagram, which will then be continued with Relations Diagram. Due to Figure 1, Affinity Diagram well explained the issues are categorized according to factors of the same type which causes the minimum number of customers in Acasta Restaurant. In a wider view, the categories are divided into four main themes which are Service, Atmosphere, Location, and Advertising. All the statements grouped into four which mean to be together.

The next step is to create Relations Diagram where a relationship diagram is provided to produce conclusion from answers over issues on factors causing lack of customer visitations in the restaurant. The Relations Diagram which explained in Figure 2 shows the main factors of lack customer visitation.

Relations Diagram is a tool for finding the way of solving problem which has complexity of causal relations. The Relationship diagram used after the process of affinity diagram is then constructed as a series of resolving channels where these factors are associated between one another (Kusnadi 2012). This tool help management to separate and find logical about cause and effect relationship. This tool put of an idea and continued as mapping factors which connected with the idea and another factors. With the assumption that Acasta Restaurant only have one main menu which is mushroom with an affordable price, it has also been obtained some parent issues, a signboard which cannot be clearly seen, limited space (whether for parking spaces or the restaurant space itself), lack of advertising, and customer who had to lie in wait.

Tree diagram or also known as the *Systematic Diagram* is a continuation diagram to identify *mid-ends relationship.* Tree diagram is a technique for fully mapping the tasks needed to be done in order to achieve main objects and related sub objects. It's not only providing a mid-end relationship, but also expressing the big problems which helps for coming to another methods that leads to result.

Due to Figure 3, In this diagram was found many main issue factors which is then corrected based on its particular issue factors. Every single factor then being elaborated then finished as a completion. Moreover, the right side has an answer of the question along from the left side. Every branch has two or more branches on the right side. It's still continuing to break categories into pieces of detail. Kusnadi (2012) said that tree diagram also visualizes each step to general from specific. Therefore, there were sixteen repair opinions obtained which can be used for Acasta Restaurant. These 16 ways of opinion then classified as a very related, related or even not related which will be discussed in the next chapter, as a matrix diagram.

Michalski (1997) says that Matrix Diagram is a tool that can used for organizing characteristic, function, and assignment into one shape until logical point from two variables that the strength can be defined itself. Matrix diagram is used to see the degree of closeness in relationships between one factors to the other. Even more, Matrix Diagram also used for relating the main problems to the main completions. There are several columns and rows to know characteristics and strength from its problem. In this diagram, there can be seem relationships between the minimum amount customers where improvements will

be made with a few steps as an outline. Consequently, Matrix Diagram classifying into parts there were conducted to relate one another. In this diagram there are three parts which constructs of the Matrix diagram; Very related, related, not related. In this diagram there can be seen how big the effect the repairing factors might cause on the improvement process in the Acasta Restaurant.

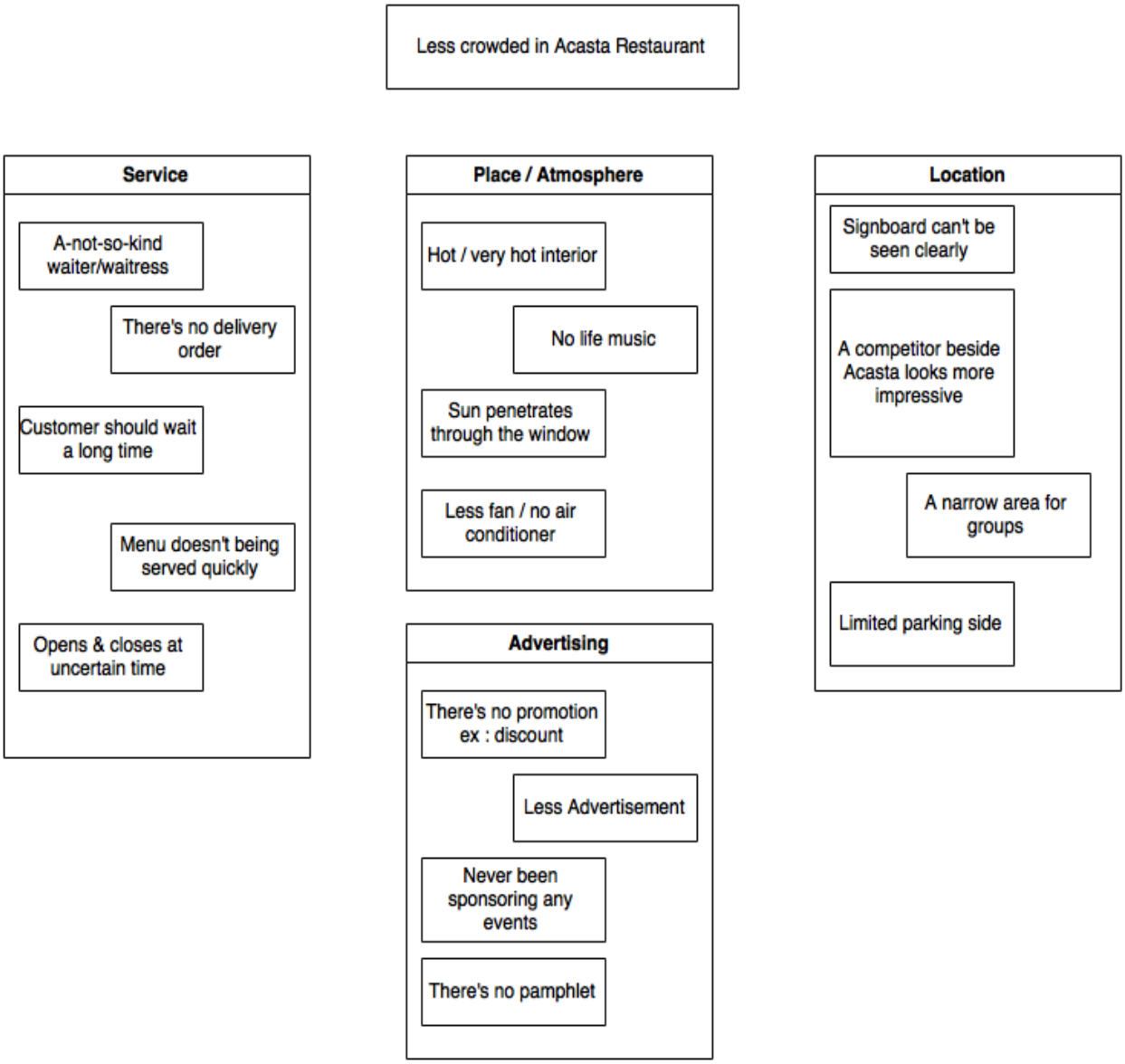

Figure 1. Affinity Diagram

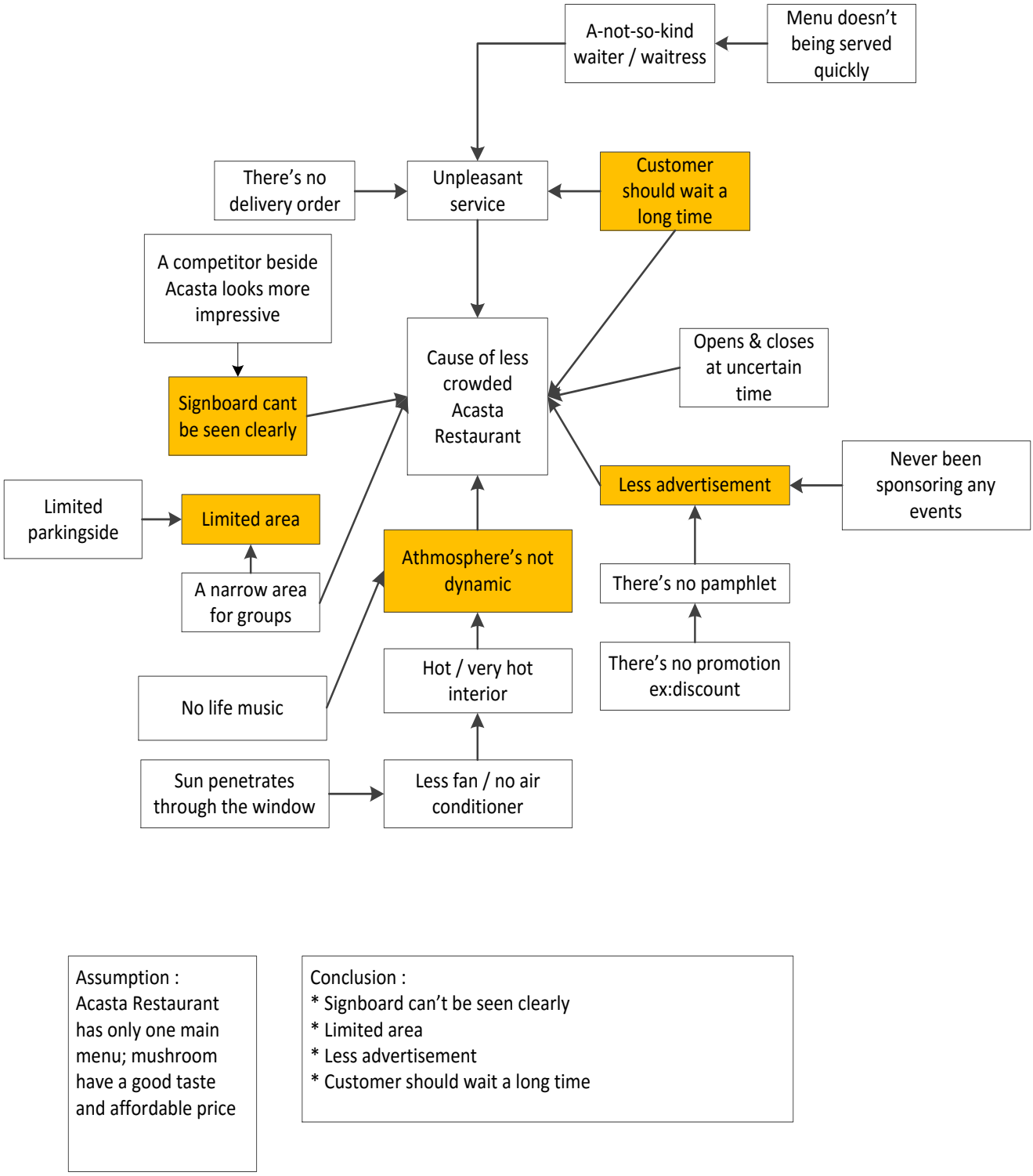

Figure 2. Relations Diagram

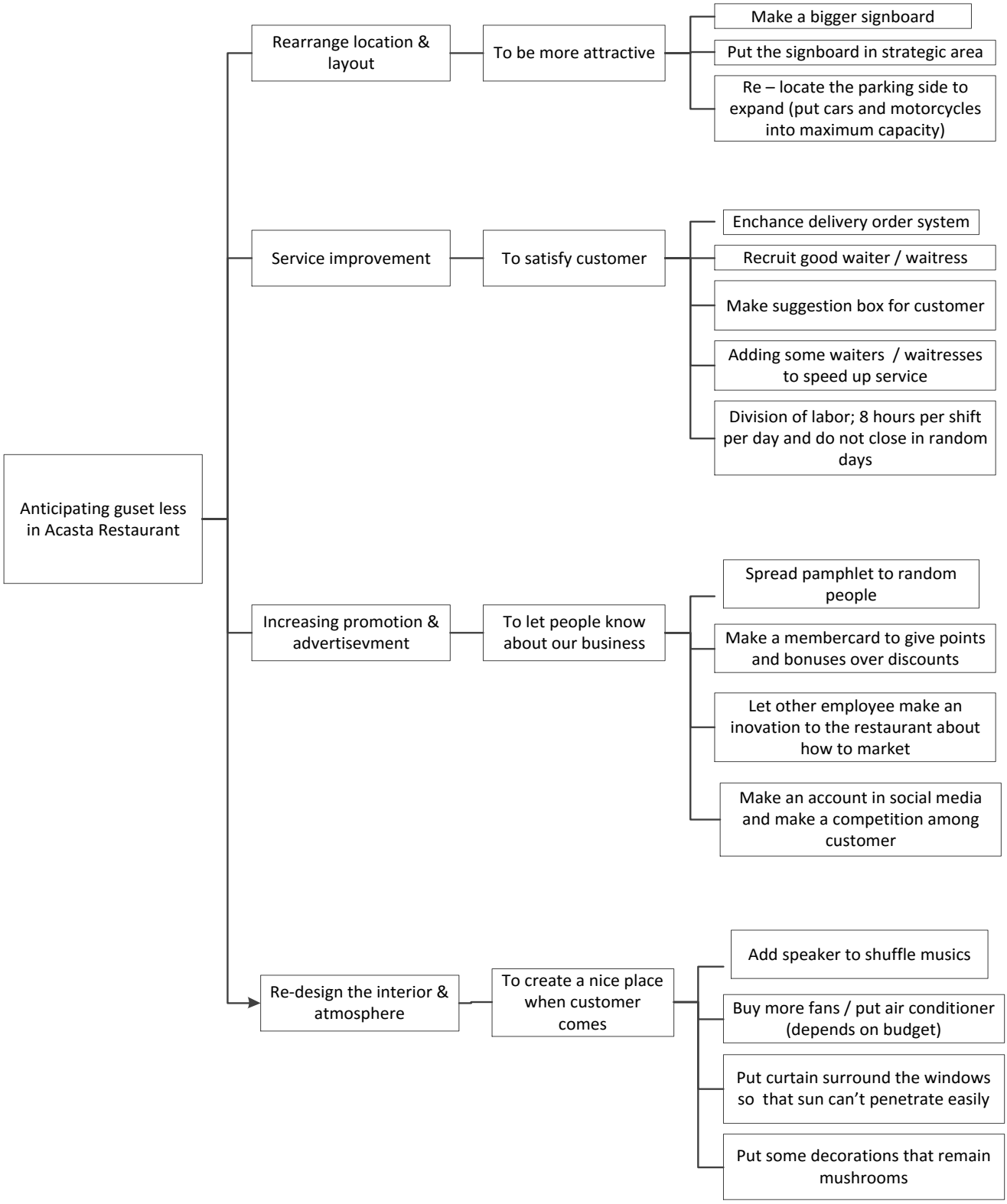

Figure 3. Systematic Diagram

In Figure 5 Matrix Diagram shows symbols that are very related to the factors, specific activity, and also activity for improvement. On the other hand, any symbols belong to related and also not related at all. This diagram leads to Arrow Diagram.

Arrow diagram shows sequence of tasks that is needed in project or process, best schedule for whole project, and problem scheduling from its solution (Kusnadi, 2012). Arrow diagram may allow you to count critical path that may occur in project.

That's an important estimation which way can delay and which way can accelerate project. Arrow diagram is used to scheduling graphical activity and controlling its execution. In a broader outline, the construction of the Arrow diagram is made to specify the order of tasks needed to meet groups of activities in achieving the goal as a whole. Arrow diagram's not only showing the process in need, but also estimated time of working will be noticed. In this phase the Arrow diagram is made by determining estimations of working periods on every repair solutions. This is where the shortest course is sought on every phase during the working period.

In Figure 4, Arrow Diagram shows three alternative paths. In Path 1, the improvement needs 54 days and it will almost be the same with the Path 2 which spend 55 days. The counts are different in Path 3 which needs 64 days of improvement. Since the longest path is the Path 3, it's called Critical Path.

After finishing Arrow Diagram, next step is making PDPC (Process Decision Program Chart). It will be shown in Figure 6 as a continuity diagram in this New Seven Tools Methods.

PDPC in Kusnadi (2012) is a tool that could map probability of event while we're trying to solve the problem. PDPC itself is a diagram which seeks solution from every unexpected issue. Contradictory sentences are proposed in this diagram as to prevent risks which may arise. PDPC also help to choose which process that may occur to get better result from evaluating improvement of the event and variation of result that may happen.

The diagram will discontinue when all the queries are answered and when it has come to a conclusion in form of a repair for the system. This diagram focused on worse service system in restaurant. Eventually, this main problem grouped into three phases of answer, such as; there's no exact time to work, waiter/waitress don't serve kindly and also customers don't feel pleasant inside restaurant. In this three ways, each phases has it "another problem" to solve. Every problem has its own answer so that every answer has been taken to a conclusion as an improvement for service that's already done.

After making PDPC, tool that's used afterward is Matrix Data-Analysis. This tool contains value of importance scale and company's position as in Table 1, coordinate of analysis matrix diagram as in Figure 7, then followed by rank for activities for improvement as in Table 2.

Analysis Data Matrix is a diagram appearing numerical data that's producing main component that change the variable which can affect problem (Michalski, 1997). The end of the matrix data analysis is then quantitatively calculated to figure the level of priority of each repair and to figure the current situation of the restaurant. This will then direct us to the Cartesian graph by comparing 'importance' with 'company's decision'. This graph shows how the repair should start, what repair priorities should be implemented and the importance of the company in executing these repair phases.

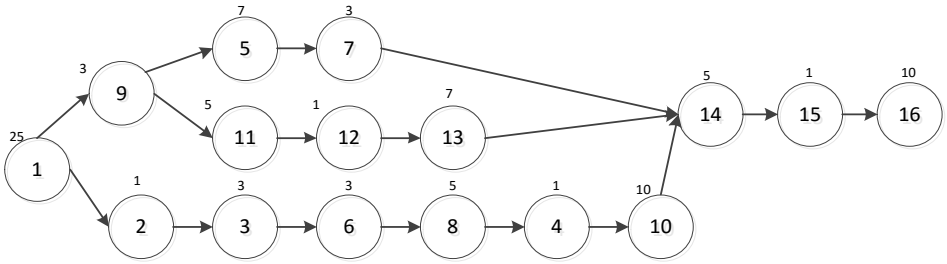

Figure 4. Arrow Diagram

Signboard can't be seen clearly	○	△	●	○
Limited Area	●	○	△	○
Atmosphere's not dynamic	●	○	△	●
Less advertisement	△	△	●	△
Customer should wait a long time	△	●	△	○
Factors / Activity for improvement / Spesific Activity	**Re-arrange location and layout**	**Service improvement**	**Increasing promotion & advertisement**	**Re-design the interior and atmosphere**
Make a bigger signboard	●	△	●	△
Put the signboard in strategic area	●	△	●	△
Re-locate the parking side to expand	●	○	△	△
Enchance delivery order system	△	●	○	△
Recruit good waiter / waitress	△	●	△	△
Make suggestion box for customer	△	●	△	○
Adding some waiters / waitresses to speed up service	△	●	○	△
Division of labor; 8 hours / shift per day & don't close in random days	△	●	●	△
Spread pamphlet to random people	△	○	●	△
Make a membercard to give points and bonuses over discounts	△	●	●	△
Let other employee make an inovation to the restaurant	△	●	●	○
Make an account in social media and make competition among customer	△	○	●	△
Add speaker to shuffle musics	○	●	○	●
Buy more fans / put air conditioner (depends on budget)	●	●	△	●
Put curtain surround the windows so that sun can't penetrate easily	○	○	△	●
Put some decorations that remain mushrooms	△	△	○	●

● = Very Related

○ = Related

△ = Not Related

Figure 5. Matrix Diagram

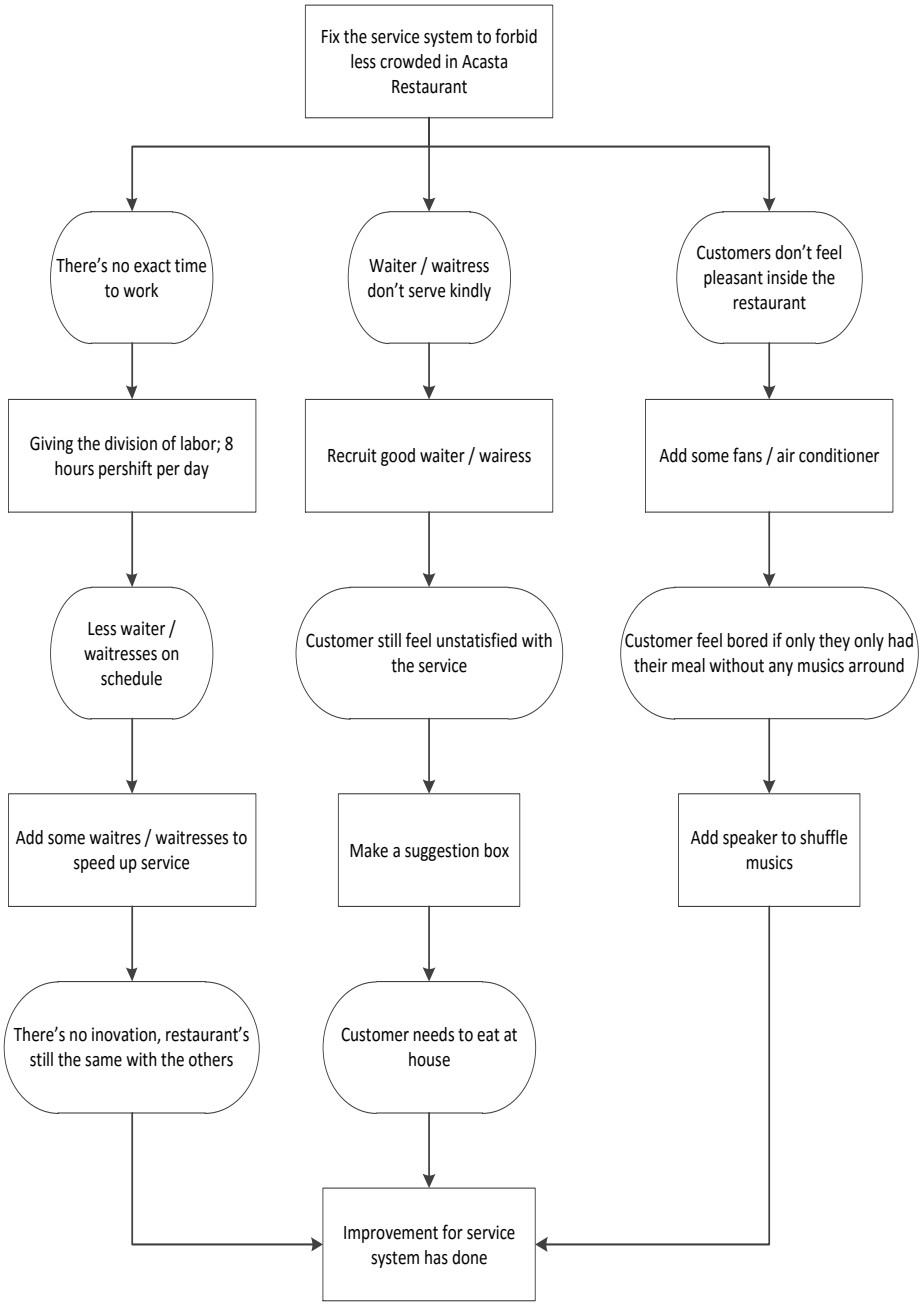

Figure 6. Process Decision Program Chart

Table 1. Value of Importance Scale and Company's Position

Number	Activities for Improvement	Importance Scale	Company's Position
1	Create a bigger signboard	9	3
2	Assign the signboard in a strategic area	8	4
3	Re-locate the parking side to expand	3	3
4	Enhance delivery order system	5	1
5	Recruit good waiters/ waitresses	8	3
6	Make suggestion box for costumers	4	1
7	Adding some waiters/waitresses to speed up service	9	2
8	Division of labor; 8 hours of shift per day and prevent closing on random days	7	1
9	Pamphlet distribution to random people	5	2
10	Create a membercard to give points and bonuses over discounts	6	2
11	Let other employees contribute innovations to the restaurant	6	1
12	Create social media accounts and set-up competition among costumers	8	1
13	Add speaker to shuffled music	8	3
14	Purchase more fans/install air conditioner (depending on budget)	9	2
15	Install curtains around windows so that sun cannot penetrate easily	7	4
16	Set-up decorations similar to mushrooms	4	1

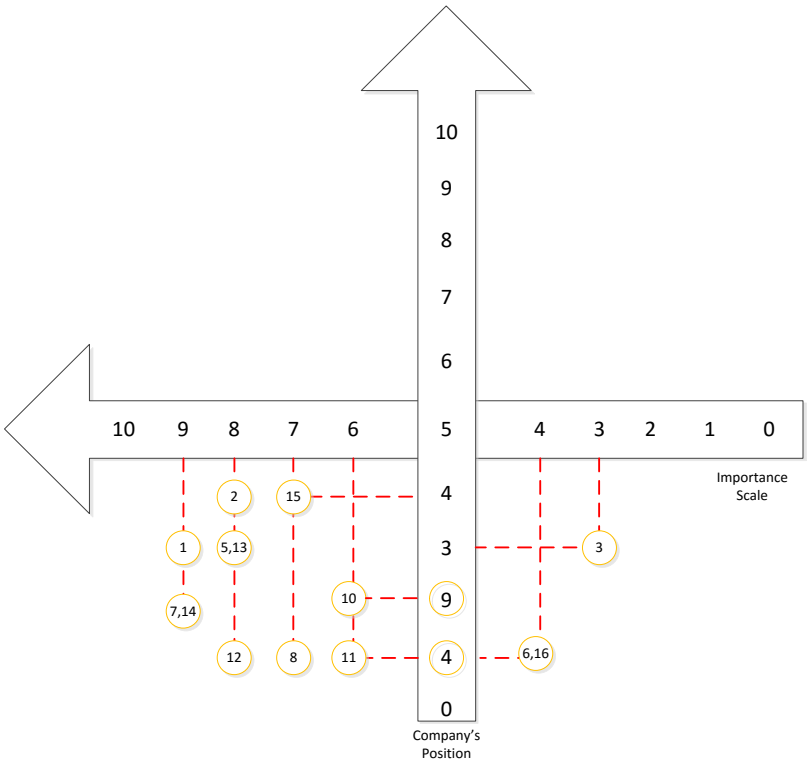

Figure 7. Coordinate of Analysis Matrix Diagram

Table 2. Rank for Activities for Improvement

Rank	Activities for Improvement
1	Adding waiters/waitresses to speed up service
2	Purchase more fans/install air conditioner (depending on budget)
3	Create a bigger signboard
4	Create social media accounts and set-up competition among costumers
5	Recruit good waiters/ waitressess
6	Add speaker to shuffled music
7	Assign the signboard in a strategic area
8	Division of labor; 8 hours of shift per day and prevent closing in random days
9	Install curtains around windows so that sun cannot penetrate easily
10	Let other employees contribute innovations to the restaurant
11	Create a membercard to give points and bonuses over discounts
12	Enhance delivery order system
13	Pamphlet distribution to random people
14	Make suggestion box for costumer
15	Set-up decorations similar to mushrooms
16	Re-locate the parking side to expand

4. Conclusion

Fundamentally, the amount of customers visiting the restaurant can be relative. The level of crowd of customers in a restaurant depends on the perspective's benchmark used in comparing one another. In Restaurant Acasta, a method known as *New Seven Tools* was used with hopes to analyze the phenomenon of lack of customer visitations in the restaurant. In the end result attached in this method, it is now discovered that the restaurant has big potentials to develop through all stages of improvement that has been studied before. This research was conducted based on previous studies which utilizes the *New Seven Tools* in the marketing field. Although in the previous research, the tools utilized tends to be implicit, therefore a development was enforced in a research on a business entity which deals on the fields of services management, that is restaurants. There lies several alternative solutions based on certain priorities, example the period of time of the job/work, also how high its level of priority is. From 16 solutions there are 3 best solution for this research; Adding some waiters/waitresses to speed up service, purchase more fans/install air conditioner (depending on budget), and create a bigger signboard.

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