



**EVALUATION THE PERFORMANCE OF STORES USING THE SYSTEM (5S) AS A  
METHOD OF TOTAL QUALITY A FIELD STUDY IN THE STORES GENERAL  
COMPANY FOR FOODSTUFF TRADING**

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**ABSTRACT**

Many methods exist to evaluate the work of any organization one of these methods is (5s) consider as apart of the quality system. If you wander in a working area checking the organizing and arrangement, finding that the place in clean and free of dirt and grease, the equipments are arranged accurately, and the consistency of the work is without delay, you will immediately realize the good work of this organization, the raised productivity and that the organization is a developing material and vice versa.

The achievement of good organizing is everyone responsibility starting with the manager to the working stuff.

The storages of the General Company for Foodstuff Trading in Tripoli to evolution their perform as they are a typical storages from the storage spaces and distributed to all Libyan countries then the results of the search can be circulated.

The problem of the search represented with the late with doing the storage work in the storage of the General Company for Foodstuff Trading in Tripoli, in terms of time, the increasing of submitted effort in the storage work and the rising in storage's costs. Decreasing the time, submitting effort and costs in the storage work has a great importance to the storage management when the storage representing the big part of the most organization's capital such as the storages of this company.

As for the aims of this search, they represented with the following: (evaluating the storages perform of the General Company for Foodstuff Trading by using the system (5S) to achieving the following:

**Keywords:** system (5s), TQM, Kaizen, Continuous Improvement

1. Take the most benefit of the available storage spaces.
2. The best use of the equipment of storage and equipment of transport and handling.
3. Keep less of commodity inventory.
4. Reducing accidents and work injuries.
5. Upgrading the quality of work inside the storage of the General Company for Foodstuff Trading in Tripoli.

The researcher has supposed that the reason of the delay of doing the storage work with its different kinds was due to stop following the modern scientific methods as the total equality systems is one of them in the storage work, the researcher has reached the following reasons:

- 1- The lack of knowledge of workers in the storages on the different management levels to the concept of total equality and (5S) system.
- 2- The weakness of the training side of the workers in the storage and the lack of interesting with the training and development programs.
- 3- The interest of all storages was focused of organizing and ordering the equipment of storage and equipment of transport and handling with leaving the rest sides.

- 4- Lack of interest of management in the General Company for Foodstuff Trading in Tripoli in the aspects of refinement of work behavior, the lack of interest in storage work condition and create the competitive spirit between workers in the company's storages.
- 5- The management doesn't care in an important process which are confirmation and following results, increasing controlling and focusing on control programs.
- 6- The evaluating of storages came with these results:
  - The storage (7) in the first degree following by the storage (6) in the second degree, the other storages (5,1,4,2,3) have the third, fourth, fifth, sixth, seventh degree respectively.

The researcher has recommended with the following:

- 1- The necessary of spread awareness of the total quality's concept, also using the new modern scientific method and enter to the storage work which is (5S) system is one of them continuous improvement.
- 2- Training workers in storages on applying the modern methods in the storage work and training them on using (5S) system with all its passages.
- 3- Encouraging workers in storages on the teamwork which leads to excellence in work and develop it in great way.
- 4- Organizing competitions in storages, conduct a work evaluation in aim to push them to developing and improving work and give encouraging rewards to the winners in the next competition.
- 5- The necessary of high management of storages to holding seminars and meetings to recognizing the problems of applying (5S) system to avoid it in the future.

## 1. INTRODUCTION

The beginning of writing is goes back to the quality subject to the idea of each of Juran, Deming, Feigenbaum and Crosby. As when their various philosophy, the one which based the idea of modern quality as it's described it as a management tool before that it's an institutional function, quality has moved according to this concept from control and operational process in to competitive weapon owned by the organization by adopting strategies, goals and decisions focus on quality as a earlier competitive without neglect the other priorities (cost, flexibility, delivering, creativity) the concept of quality had developed theoretically and applied during the past decades of the twentieth century. Developments have accumulated to become under the name of "Total Quality Management" (TQM), then the concept or the philosophy of Continuous Improvement (CI) or Kaizen (according to Japanese language) as a consequence of the needing and the necessary that Japanese feeling to be excellence in the world market. Also when the Japanese don't have on natural economic sources such as oil, coal and others but only humans that realize the concept of nothing come for free. Japanese by their own serious work and their continuous learning become able to reach to what they are now.

### The Problem of the Search

The problem of the search represented with the following:

The problem of the search lies through the following main answer (what are the influential factors in each of cost, time and effort in storage work in the General Company for Foodstuff Trading?).

The following question branch out of the question:

What is the degree of using the scientific method in the storage work?

What is the limit of the high management's commitment with the improving and development process of work activity in storages?

What is the level of applying the storage's workers to the concept and continuous improvement philosophy of the whole storage's activity?

### The Importance of the Search

The importance of the search showed from two main sections:

## 1. Scientific Importance

It's shown from the importance of the whole quality management, its concept, the messages of improvement and continuous development and the philosophy of the work perform of any career of organization's careers with its different kinds.

## 2. The Practical Importance

It's shown from the conclusions and recommends of researcher which he had reaches it by this own search which is consider with correct the storage work of the General Company for Foodstuff Trading in Tripoli, also develop it by using the system (5S) and enter it in the field of storage work in this company.

### The Aims of the Search

The current search aims to achieve the following:

Correct the perform of storage work in the General Company for Foodstuff Trading by applying the system (5S) which is one of the continuous improvement system to reach to the following:

- 1- Take the most benefit of the available storage spaces.
- 2- The best use of the equipment of storage and equipment of transport and handling.
- 3- Keep less of commodity inventory.
- 4- Reducing accidents and work injuries.
- 5- Upgrading the quality of work inside the storage.

### Research's Methodology and its Procedures

The researcher has used the descriptive analytical method to reaches to the aims of the search and he depends in its work on a private form as a scale for evaluating the work of stores:

#### Virtual honesty

The preliminary correction form was presented to a group of experts and specialists, some adjustments have been made according to the notices and form it in its final formula.

#### Management Stability

The researcher has used the method of half divided to measuring the range of management stability, then use the coefficient of correlation according to the quality of Superman where the value of coefficient of correlation has reached (0.88), which means that the form had a high degree of stability.

#### The Simple of the Search

The storage of the General Company for Foodstuff Trading in Tripoli has been chosen to applying the search as it representing the model of the existing storages in all Libyan's areas.

The search hypothesis: in aim to reaches to the search's aims, this hypothesis has been putting:

The reason of the delaying the completion of warehouse work in the General Company for Foodstuff Trading was the lack of using the modern scientific method such as (5S) system.

#### The First Search

#### The Theoretical Side

The concept of management the total quality is a three words, as the management meant developing the organization ability to the management leaders to create a condition that including achieving the continuous improvement in aim to keep the high level of the perform, as for the quality, it's means achieving the demand of costumers in goods the presented by the organization, also the strenuous pursuit to present higher quality levels to their expectations, finally; the word of total is to involvement all the work elements in aim to the accurate identification to the costumers need in all the work stages and make maximum effort to the group to achieve these aims. (AL-Khatib, 2008)

The system of equality management is coordinator activities that directing and organizes the company in which connect with the quality thing, it including select the mechanisms of achieving the compatibility between the perform elements in the equality of produce value. (Dave, 2006)

American National Standards Institute (ANSE) and American Society equality (ASE), have defined equality as a set of features and characteristics that related to the product or service and the ability to meet the needs of consumers. (Jams, 2002)

As for Konal, he described equality as a competition, perform and specializing for product (Daradka, 2002)

Al-Khatib has defined it as a modern management philosophy standing on many modern, direction management concepts that the completion between main management means and innovative efforts and between specialized technical skills are based on it to go through highest level of perform and continuous improvement and development. (Al-Khatib, 2006)

### **Continuous Improvement**

There are many definition of continuous improvement; it's a Japanese philosophy represent one of the self - management team's sources that all workers are committed to it where they do their work in a better way every day then the past day with what including gave them the power of doing the ordinary tasks for managers, which is a stage doesn't end around the idea of that there are always field to improving. (Harrison, 2000)

The continuous improvement is a set of processes have no deal with the continuous, small innovations on product or service. They are soon overwhelmed by the accumulation of these improvements and become a new thing that totally different from the original, as it conceder as a philosophy to the continuous search by the necessary methods to improving processes which including select the best one from applications and instilling a sense of ownership to workers, also it sometimes focus on decrease the needed time to do the work or decrease losing or number of casualties. (Krajwiski, 2005)

### **Continuous Improvement Elements (Kaizen)**

The element of continuous improvement represented (5S) is a five Japanese words start with (S) which are (Shitsuke, Seiri, Seiton, Seiso, Seikets). Which mean the daily improvement activity on all the levels that represented with (society, home, school, organization). (Cole, 2001)

These words have translated to Arabic and English

**The (5S) system is passes through five stages which are:**

#### **The First Step Classification – Prediction \ S1**

It means classification the existing in the work place from machines, tools, experts and products, these steps can be divided into many sup-steps as the following:

- ✓ Inventory and classification the existing.
- ✓ Disposal of stagnant and unused tools.
- ✓ Studying the reason of these stagnant.

#### **The Second Step Arrangement and Coordinate \ S2**

It means put arrangement of types in its own place that should be on, as if these is a specific place for each type and each type is on its own place, the work will go easier and without mistakes or risk.

The process of arrangement aims to cancellation the losing time with searching on types or return it again to its places in condition:

The work must go smoothly.

The safe condition must be achieved.

The work must be more comfortable.

#### **The Third Stage Cleaning and Inspection \ S3**

With the increased of accuracy requirements in the new tools, the pollution, dust and foreign objects are one of the most importance reasons of errors and disadvantages. Also leads to many accidents then cleaning become the solution of these kind of problems.

### The Fourth Stage Confirm and Following \ S4

This stage means confirm on standers and continuous to apply it to keep on the continuity of results that been achieved from applying (5S) method which including get rude of stagnant, arrange types and tools, its cleanliness with its place.

### The Fifth Stage Formed and Refinement Habits and Behavior \ S5

This stage meant with formed and refinement habits and behavior and create commitment with instructions for individuals cause falling in mistake is a probability of reality, albeit by a small percentages even in a easier works that individual does.

After recognizing on the concept of management the total quality and the concept of quality and continuous improvement, there must be clarify some concepts that related with storages (Stephen, 1989), which are:

Store: it's the place that been sate to receives and save some material, keep on it, trading and disbursing.

Stock: it's all the materials, parts, equipment, tools, goods and tools under manufacture, prefabricated and kept by the establishment in its stores.

Storage: it's keeping things until needed time. (Walter, 2000)

### The Second Search

#### Practical side

(5S) system is a system to improve and develop working under organizations with its different kinds. In aim to reach to the search's goals, the (5S) system has been applied after some changing that go with the work of the General Company for Foodstuff Trading. The following tables show applying the model on the company's storages.

Table 1. The First Step Classification – Prediction

S	Paragraphs	Storage's number						
		1	2	3	4	5	6	7
1	Classified and distributing materials	2	3	4	2	4	2	3
2	Encoded or numbered materials	4	3	2	2	1	2	3
3	Materials in its own place	1	2	1	3	2	3	2
4	Materials that stubborn in its own place	1	1	1	3	2	3	2
5	Insulated damaged materials	2	2	1	1	2	3	1
<b>Total</b>		10	11	9	11	11	13	11

Table 2. The Second Stage Arrangement and Coordinate

S	Paragraphs	Storage's number						
		1	2	3	4	5	6	7
1	Classified materials in its own place	2	3	2	2	3	1	2
2	Suitable storage equipment	4	1	4	2	3	1	1
3	Suitable transport and handling equipment	2	3	1	3	4	3	3
4	Enough lighting	2	2	1	2	1	4	3
5	Suitable ventilation	3	1	3	3	2	2	3
6	Suitable heating, cooling and freezing	2	3	1	2	1	2	3
<b>Total</b>		15	13	12	14	14	13	15

Table 3. The Third Stage Cleaning and Inspection

S	Paragraphs	Storage's number						
		1	2	3	4	5	6	7
1	Storage equipment is properly placed and clean	2	3	4	2	4	2	3
2	transport and handling equipment is properly placed	4	3	2	2	1	2	3
3	Roads and corridors the long ones and wide are clean	1	2	1	3	2	3	2
4	Stoked materials are clean	1	1	1	3	2	3	2
5	Walls, ceilings and doors are clean	2	2	1	1	2	3	1
<b>Total</b>		10	11	9	11	11	13	11

Table 4. Stage Fourth Confirm and Following

S	Paragraphs	Storage's number						
		1	2	3	4	5	6	7
1	There are a standers that been putting for controlling	1	1	1	1	1	1	1
2	There is a Specialized staff for controlling process	2	2	2	3	2	2	3
3	Select a work program for controlling and following	2	2	1	1	2	3	3
4	Doing controlling and following precisely	3	1	1	3	1	2	3
5	Comparing between standing standers and the results of controlling and following processes	2	2	2	2	2	2	2
<b>Total</b>		10	8	7	10	8	10	12

Table 5. Fifth Stage Formed and Refinement Habits and Behavior

S	Paragraphs	Storage's number						
		1	2	3	4	5	6	7
1	Responsibility for work is specific and clear	3	2	3	2	4	1	2
2	Training is ongoing for workers in the storages	1	1	1	1	1	1	1
3	Clear attention to storage's conditions	2	2	2	2	2	2	2
4	Create a spirit of competition among employees	2	2	2	2	2	2	2
<b>Total</b>		8	7	8	7	9	6	7

Table 6. The Last Evolution of Storages

S	Paragraphs	Storage's number						
		1	2	3	4	5	6	7
1	Classification materials	10	11	9	11	11	13	11
2	Arrangement and coordination equipment	15	13	12	14	14	13	15
3	Clean and inspect the place	9	9	11	10	11	12	12
4	Confirm and following the results	10	8	7	10	8	10	12
5	Improve the habits and behavior	8	7	8	7	9	6	7
<b>Total</b>		52	48	47	51	53	54	57

Table 7. Arrange Storages Descending According to the Evaluation that each store has had

S	Storage's number	Arrange	The degree that it had
1	7	First	57
2	6	Second	54
3	5	Third	53
4	1	Fourth	52
5	4	Fifth	51
6	2	Sixth	48
7	3	Seventh	47

### Third Search

#### Conclusions and Recommendations

##### Conclusions: from the search, the following have been reached:

The workers in storages with different management level have lack of knowledge with the concept of total quality management, which (5S) system is one of them.

From evolution, it was obvious that the higher degree that storage number (7) has reached with point (57) which was average value.

Storage number (6) has conceder with the process of classification materials more that the other storages.

Storage number (7) and (1), their attention was on arranging and coordinates equipment more that the other storages.

The both (6) and (7) storages, their attention was obvious in the cleaning and inspection the place according to the other storages.



The fourth stage which represented with confirm and following results, (7) storage has had the superiority with managing this field.

(5) Storage has specialized with the process of improve the habits and behavior inside storage according to the other storages.

### **Recommendations: from the search we recommended the following**

The necessary of spread the cognitive awareness with the concept of total quality, also using the modern scientific methods and enter it in the storage work which (5S) system continuous improvement is one of them.

Training the workers in storages on how to applying the new methods in the storage work and training them on using (5S) system with its all paragraphs.

Encouraging the workers in storages on working as teamwork which will leads to excellence in work and develop it continuously.

Organizing contests in storages make a work evaluation in it in aim to push them to develop and improving work and granting rewards to winners in upcoming competitions.

The necessary of holding meetings and seminars by the high management of storages, to knowing the problems and barriers during use the (5S) system to avoid it in the future.

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## Performance Appraisal Form of the Storages of General Company for Foodstuff Trading

First	The First Stage (Serie)			4	3	2	1
	1	Classified and distributing materials					
	2	Encoded or numbered materials					
	3	Materials in its own place					
	4	Materials that stubborn in its own place					
	5	Insulated damaged materials					
second	The second Stage (Seiton)			4	3	2	1
	1	Classified materials in its own place					
	2	Suitable storage equipment					
	3	Suitable transport and handling equipment					
	4	Enough lighting					
	5	Suitable ventilation					
	6	Suitable heating, cooling and freezing					
Third	The Third Stage (Seiso)			4	3	2	1
	1	Storage equipment is properly placed and clean					
	2	transport and handling equipment is properly placed					
	3	Roads and corridors the long ones and wide are clean					
	4	Stoked materials are clean					
	5	Walls, ceilings and doors are clean					
Fourth	The Fourth Stage (Seiketsu)			4	3	2	1
	1	There are a standers that been putting for controlling					
	2	There is a Specialized staff for controlling process					
	3	Select a work program for controlling and following					
	4	Doing controlling and following precisely					
	5	Comparing between standing standers and the results of controlling and following processes					
Fifth	The Fifth Stage (Shitsuke)			4	3	2	1
	1	Responsibility for work is specific and clear					
	2	Training is ongoing for workers in the storages					
	3	Clear attention to storage's conditions					
	4	Create a spirit of competition among employees					