

IE 214 report

Team Members

Abdalmohsen Aljunayni
442101984

Abdulrazak Alateeq
442101777

Faisal Aljeaithen
442101897

Abdulrahman Altowaim
442101679

Abdulaziz Alsalem
442101642

Supervised by: Dr. Haitham Mahmoud

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Abstract:

In this report first we are going to give a general information about the company we have visited and illustrate their KPIs, show system problems we found and the improvements we did to solve it and finally the recommendations we suggest them to make.

Contents

<i>Acknowledgment:</i>	2
<i>Abstract:</i>	2
List of figures.....	4
List of Tables	4
General Introduction of the company:	5
Team:	5
General Challenges:.....	5
Project Description:	6
Food basket ingredients table formula:	7
The final shape of the food basket after the assembly process:.....	8
Overview of project processes and performance indicators (KPIs):	9
procurement standards:.....	9
production standards:	9
Transportation Standards:.....	10
Monthly distribution Operations	11
• First line.....	11
• Second line	11
• Third line	11
• Fourth line	11
System problems were identified:	12
In the Procurement department:.....	12
In production department:	12
In Distribution department:.....	13
improvement opportunities and methods used:	13
First improvement:.....	13
Second improvement:	14
Third improvement:	14
Recommendations to improve the system's performance:	15
• First recommendation:.....	15
• Second recommendation:	Error! Bookmark not defined.
• Third recommendation:	15
• Fourth recommendation:	15

List of figures

Figure 1 illustration of the relation between sales and shelf life for each class of products 5

Figure 2 final shape of the food basket 8

Figure 3 monthly distribution operations..... 11

Figure 4 unused space in the inventory..... 12

Figure 5 new organized assembly process 13

List of Tables

Table 1 summarized quantitative data..... 6

Table 2 food basket ingredients table 7



General Introduction of the company:

Shatlah FMCG company operates in Riyadh, Saudi Arabia. Main key activities are procurement, packaging, retailing, and distributing of fruits and vegetables. Over 35 SKUs (stock-keeping units) throughout the year is sold in more than 60 selling points.

Team:

Shatlah has around 30 employees and it organizes itself in a matrix organization rather than a hierarchy to facilitate decision making and aid in the process of developing new products sales streams.

General Challenges:

FMCG (Fast-moving consumer goods) products stands for fast moving consumer goods which is an essential category in most major retailers and markets. FMCG products are labeled fast to indicate the movement and sales of the product but not the shelf life. In general terms most products with low shelf life are considered FMCG but not all FMCG products have low shelf life. As figure 1.0 depicts Shatlah has a major challenge to deal with its product that is highly perishable. A challenge that is met by maintaining a strict cold supply chain and preemptive return management.

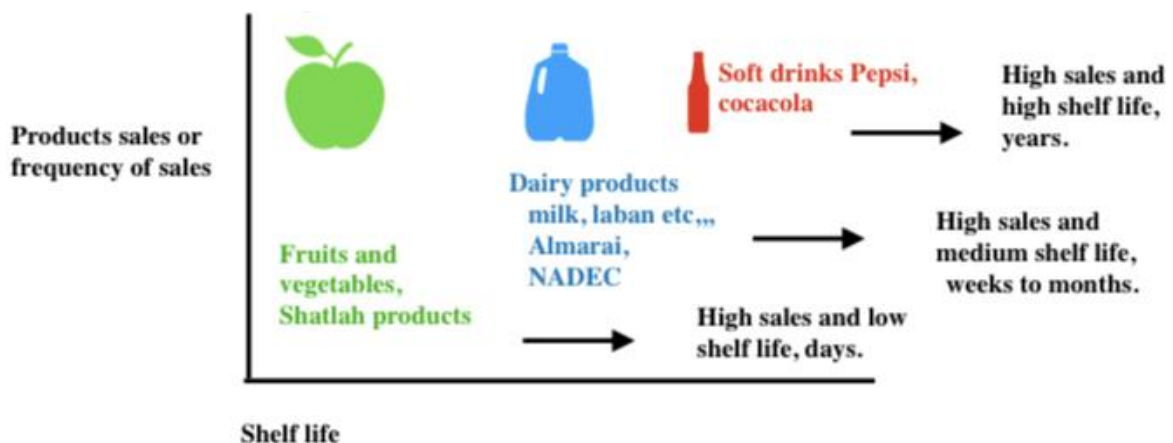


Figure 1 illustration of the relation between sales and shelf life for each class of products

Shatlah has many projects in their company, and we have Chosen one of these projects.

the details of this project are below:

Project Description:

A for-profit project that was held with a famous petrochemical company, which prepares and provides food baskets to needy families on a regular and organized basis through distribution networks distributed throughout the regions of the Kingdom.

The following table summarizing the major quantitative data:

Table 1 summarized quantitative data

Unit produced	833 units per month
Labors in production	7
Labors in distribution	4
Capital expenditure	4 medium weight truck, 2 heavy truck. One interest of 6% annually.
Logistics driven expenses	payroll of 3,000 and gas 500 per month

- Medium truck: 140,000 riyals
- Heavy truck: 300,000 riyals
- 833 units each weigh 57 Kg
- Medium truck five ton
- Heavy truck twenty ton
- 16 distribution point distributed evenly. 52.06 units, 4 in the north 4 south 4 west 4 centrals

Food basket ingredients table formula:

Table 2 food basket ingredients table

product number	product
1	pasta
2	tuna
3	bean
4	oil
5	tomato paste
6	salt
7	dates
8	Paper tea
9	Milk Powder

The final shape of the food basket after the assembly process:



Figure 2 final shape of the food basket

Overview of project processes and performance indicators (KPIs):

Procurement standards:

Shatlah adheres to the procurement standards referred to in its contract with the Petrochemical Company Employees Fund Foundation:

- 1-product categories
- 2-the amount
- 3-Brand

shatlah adds additional standards for full compliance with quality:

- 1-Dealing with reliable Suppliers to avoid cheating in products especially rice product
- 2-Make sure the products are valid and not more than 5% of the product's life span

For the carton product we added the following:

- Five layers carton to ensure the safety of products during transport to the assembly and to move from the assembly to families.
- 5 layers carton withstand twice the current load (17kg)

Production standards:

- Shatlah is committed to maintaining all storage and production operations within its inventory and does not lend its stage to any company.
- After all products arrive from more than 13 destinations, inventories start and feed into the production program and the production process takes one working day

- Special criteria for checking numbers and products within the basket:

1-During packing 3 detection points, each point is supervised by a different employee to ensure the numbers are correct before closing the basket.

2-Weight of every 15 boxes and ensure that 255 kilos is matched, which is the weight of 15 baskets complete numbers and items other than affiliated items.

3-Line it on the pallet and wrap it with plastic nylon for processing for transportation.

To ensure sustainable operations, they store all the cartons after production and resell them to the recycling companies.



Number of boxes containing
number of erroneous items transported



Number of boxes in arrears



Number of boxes damaged During
transport or during production

Transportation Standards:

1- Shatlah adheres to transport standards that enable it to achieve the goal of safe product access:

- Mercedes Actros 20 Ton Sealed Load with Curtains.
- Dina Isuzu 5 Ton Refrigerated.

2-Schedule all transfers within two days to ensure no delay.

2- Not more than 80% of the truck load is loaded.

Monthly distribution Operations



Figure 3 monthly distribution operations

- First line
- Second line
- Third line
- Fourth line

System problems were identified:

After our visit to the factory and our analysis of the data, the production process, and the distribution mechanism, we found that there were some problems in each of the three sections, as follows:

In the Procurement department:

- Insufficient quantities from agent or supplier and high prices compared to the average market prices.
- Higher than expected cost of dates.

In production department:

- Slow and poorly regulated production process.
- No ideal use of space in the production as shown in figure 1.

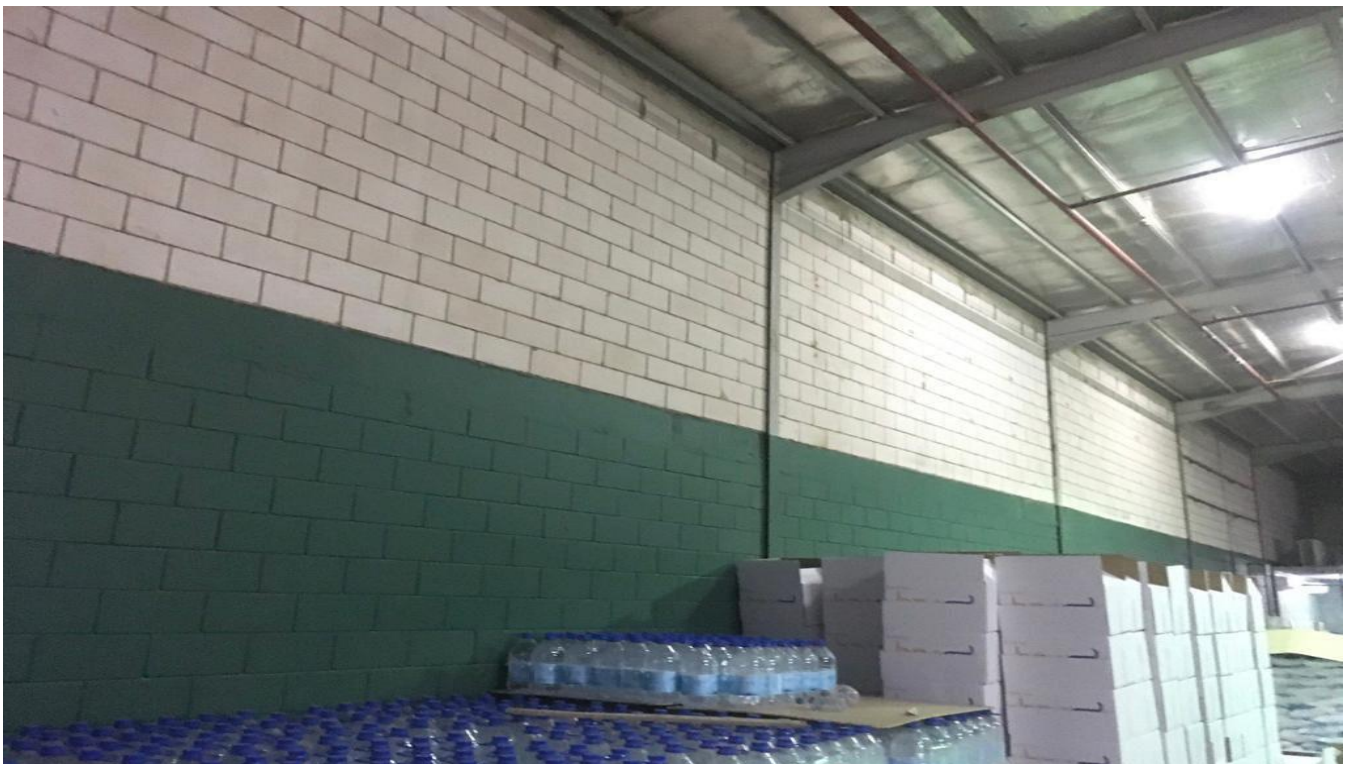


Figure 4 unused space in the inventory

In Transportation department:

- The difficulty of trucks boarding mountains.
- No optimization of truck space.

improvement opportunities and methods used:

First improvement: Increasing productivity

Method used: laborers training and organize assembly process as shown in figure 5

Results: productivity increased from 60 unit per hour to 100 unit per hour

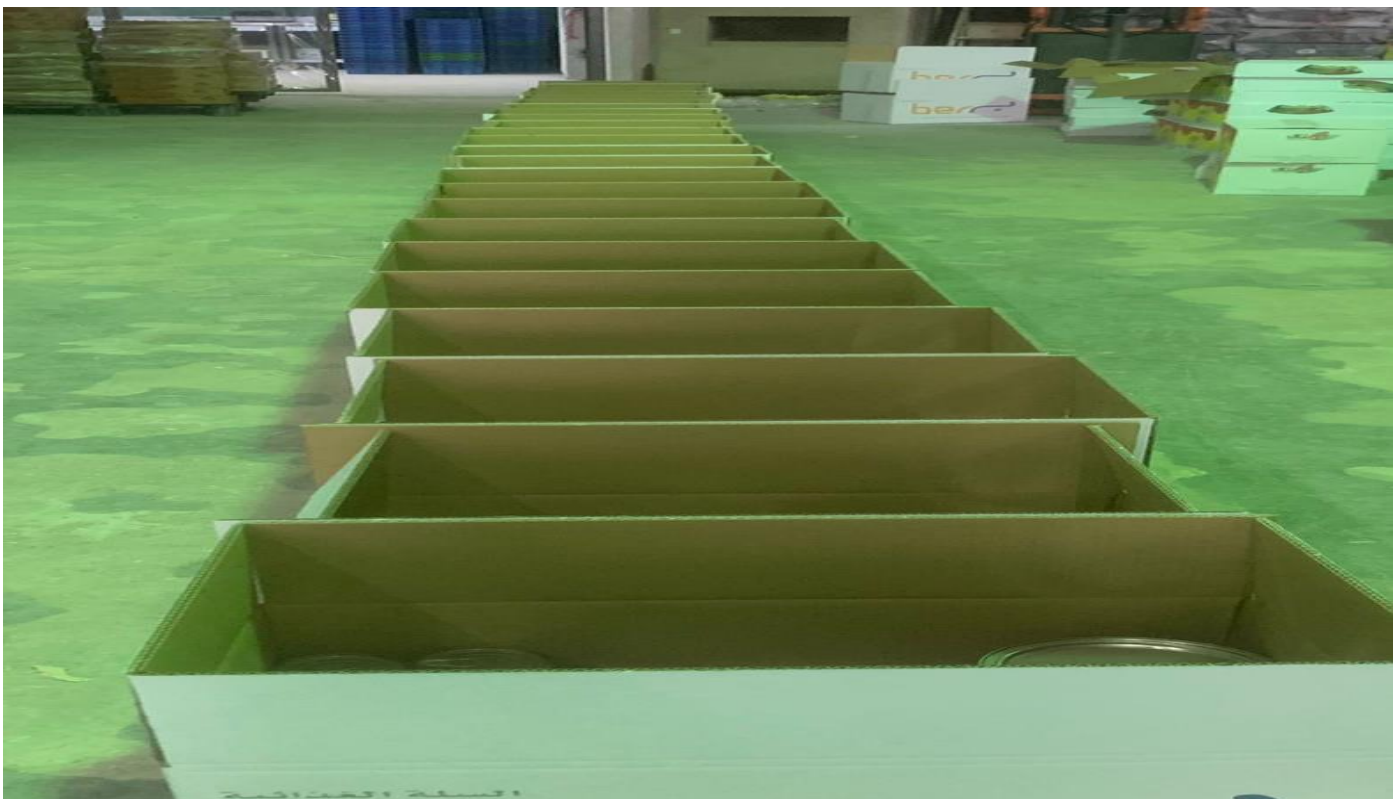


Figure 5 new organized assembly process

Second improvement: reducing the cost of the production process

Method used: Use company cartons to place dates instead of supplier cartons.

Results: costs reduced by 1.80 riyals Per food basket.

Third improvement: Increase the accuracy of the loading process

Method used: Supervising and guiding laborers during the loading process as shown figure.

Result: Reduce mistakes during the download process.



Figure 6 truck loading process

Recommendations to improve the system's performance:

- **First recommendation:**

As shown in figure 4 we notice that there is unused space, and we can benefit from it and reach the Maximum utilization of storage capacity by adding roofs.

- **Second recommendation:**

To improve quality, charities should be contacted after receiving the food baskets to ensure that they receive them on time and that there is no shortage of quantities or quality defects.

- **Third recommendation:**

Trucks rental and offer service of transportation and goods to other companies
In the spare periods between each transfer process and the other by the company.