



# **Impact of Achieve Requirements for Productive Efficiency On the Effective Performance in The Egyptian Litho Offset Presses (Case Study on International Company for Printing and Packaging)**

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## **Abstract**

**P**roductive efficiency in the printing enterprises achieved when there is a clear vision , specific objectives , strategies, principles , values and development , and other leadership traits, in the challenges of the twenty-first century company imperative to improve Productive efficiency amid heightened pressures to become more competitive, Productive efficiency is the organization's capability to achieve the goals , and as a measure of the exploitation of resources with the lowest cost to achieve the impressive results , and refer to printing organization's ability to be adaptable for coping with forces of a rapidly changing competitive environment, While effective performance refer to the degree to which the organization be able to exploit its productive resources.

So that the problem of this study is, that the company under consideration can be represented as late customers deliveries, speed delivery with just-in-time, and some limitations to meet basic requirements that contribute to raising the productive efficiency, where sales ratio can negatively correlated with it.

The overall study objective is to achieve requirements for productive efficiency (high productivity, product quality), and to reach this goal, the research addressed requirements for productive efficiency, then apply the (OEE) within the company under consideration, and analyze the results within the company under consideration.



## § Research Methodology :

### 1) Identify the research population:

The study population consists of Litho Offset Print department at the on the International Co. For Printing and Packaging in 10th of Ramadan City.

### 2)The data collection tool :

- The researcher used observation method to characterize current situation within Litho Offset Print department at the company under consideration, (printing, lamination, cracking, and Paste Package).
- The researcher used the "checklist form" as a tool to collect data, where it was assigned supervisor for each section to calculate the percentage of the OEE within the department on a daily basis to record in the monthly OEE table, and for a period of twelve consecutive months (full year).

### 3) The stages of Study implementation:

Experimental study used in research to characterize current situation within Litho Offset Print department at the company under consideration, and then use process Study to apply the (OEE) and finally analyze the results, to achieve study objectives, and this study is divided into:

3/1- Study on Current Status of printing machines and other equipment at Litho Offset Print department under consideration.

Study current situation within the company under consideration which seek to determine the most important critical points during each operating phase that causes a delay in the production ,late customers deliveries, for period of three consecutive months (The reality of the work of one of the researchers as a production manager section under study and through direct action inadvertent contact system to individuals and employees, technicians, supervisors and managers to work senior management, and knowledge of surround propinquity for the application of modern methods of production).

3/2 - Apply the Overall equipment effectiveness (OEE) to achieving productive efficiency requirements (high productivity, product quality), within the company under consideration by using the following steps:

- Monthly OEE table designed to calculate Availability, Productivity ,quality, Overall Equipment Effectiveness.
- Supervisor assigned for each section to calculate the percentage of the OEE within the department on a daily basis to record in the monthly OEE table, and for a period of twelve consecutive months (full year).

3/3 - (Analytical study) :Measure the Results of applying the (OEE) using a checklist.

The researcher compare the measurement result of applying the (OEE) and sales ratio in the year 2014, these comparisons were based upon models of production & quality department at company under consideration.



## § Results:

### 1) The results of the study on Current Status of printing machines and other equipment at Packaging Department:

The most important critical points during each operating phase can be represented as follows:

- Machine has a malfunction during operation and it can be checked as soon as the machine is shut down.
- The machine stopped working because of the lack of labor.
- Increase in the number of hours take Machine to process.
- Quality problems can occur during operation and also can be shut down.
- Exceeded the maximum allowable value of damage ratio, it's higher than 4%.
- Raw Material does not match with specifications requirements for production.

### 2) Results of applying the (OEE) method at company under consideration:

Comparing results of applying the (OEE) method and ratio of printed cartons sold in the year 2014 at company under consideration (The International Co. For Printing and Packaging). **This is illustrated in the figure below (Figure 1). We find that:**

- There is a positive relationship among the results of applying the (OEE) method and ratio of printed cartons sold, that mean as the (OEE) ratio rises, and the ratio of printed cartons sold rises.
- It is clear that in the month of November in which it achieved higher value of the OEE ratio led to speed delivery of printing products With Just-In-Time agreed with the customer, and thus achieve higher sales for the company in this month.
- Apply the Overall equipment effectiveness (OEE) within the companies under consideration led to achieving productive efficiency requirements (high productivity, product quality), and therefore the impact on the effective performance through speed delivery of printing products With Just-In-Time agreed with the customer, and thus achieve higher sales for the company.

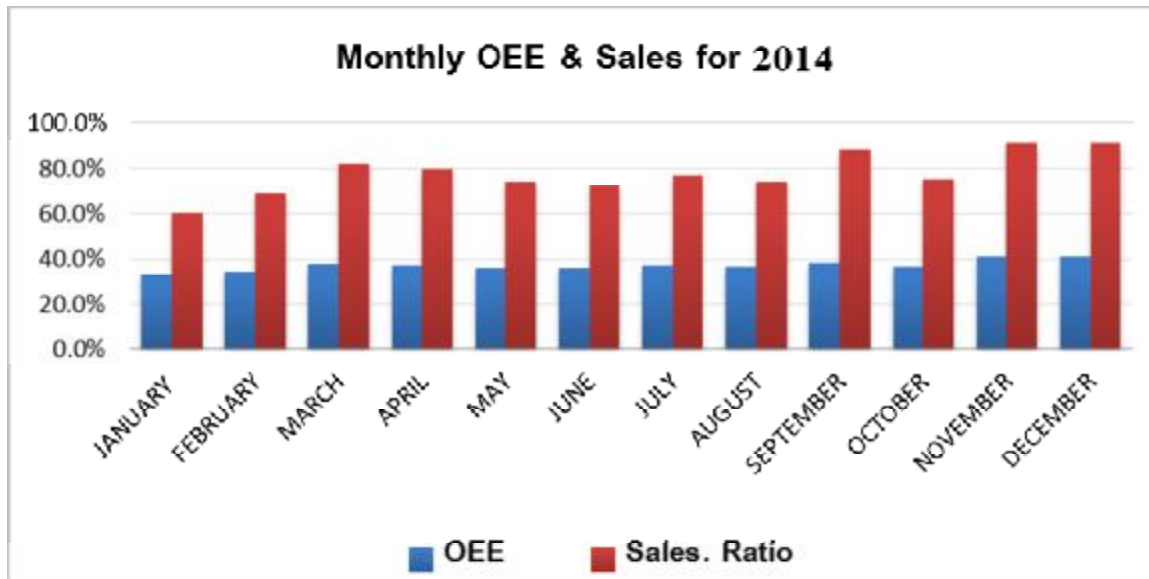


Figure1. Relationship among (OEE) ratio and Sales in the year 2014

Source: The International Co. For Printing and Packaging - Research and development Department.

#### § Recommendations:

- Developing a comprehensive inventory of the problems facing performance regularly, and form a team to analyze these problems.
- Identify the strengths and weaknesses of the organization, for optimization of the strengths and planning to overcome the weaknesses.
- Make further efforts to improve the effectiveness of productivity, These efforts are accomplished through seminars, lectures or training, in order to educate workers and keep up with developments of the most recent concept of productivity.

#### § Keywords:

Operating performance- Improve performance- Speed of delivery- Performance efficiency- Competitiveness capacity- Institutional capacity.



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