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**COVER PAGE AND DECLARATION**

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## **Introduction**

The importance of operations management emerges as one of the most important administrative functions in modern business organizations in that it represents the vibrant heart, emanating from diligent work, as it represents the true essence of the organization's activity on the one hand, and it works to build holistic integration between other functions of the organization such as marketing, finance and production on the other hand.

This administration is often based on determining the organization's competitive position in the market by identifying activities that add value to the product or service in order to satisfy the needs of customers. Perhaps the importance of this administration also comes from the fact that it looks at the organizational structure of the institution or organization from its roots.

It relies on the restructuring and design of administrative processes with the aim of achieving a fundamental and ambitious development in the performance of organizations that ensures the achievement of the following:

- 1- Speed of performance.
- 2- Reducing the cost.
- 3- The quality of the product.

One of the most famous and simple definitions of operations management is the definition provided by the Institute of Operations Management in the United Kingdom, which states that operations management is fundamentally rethinking and radically redesigning the activities of the organization, which ensures the achievement of added value to the main product or service in organizations to achieve tremendous improvement results in the measurements of the organization. Modern performance represented by service, quality, cost and speed of completion of work

## 1. An operational industrial streamline procedural guide

### 1-A) The recommendation should include more cost-efficient manufacturing processes

Calibration of costs represents the basic aspect in the construction process of any integrated standard cost system, and from that, the process of cost calibration receives special importance in the field of planning, control and decision-making. The criticisms leveled at cost standards in the traditional environment, do not mean that these standards should be abandoned in the modern manufacturing environment, but rather they should be developed to reflect technological and competitive changes, and accordingly, make them more efficient and effective, because the prior and ongoing determination What should be achieved, and what should be, then follow-up performance, measure what has been achieved, compare it with what was targeted, and identify deviations and their causes, all of this cannot be underestimated its importance and its role in increasing the effectiveness of oversight and performance evaluation.

Developments have led to tremendous changes in the quality of activities and methods. Its performance, cost structures and methods of control over them, and these developments led to an increase in the intensity of competition, and therefore the administration no longer needs appropriate information about the internal environment of the organization, but extended to include appropriate information about the external environment, and the rapid and successive changes that prevail in it that affect the costs and prices of products and services, For this, it is necessary to search for modern systems and methods that help Big Green Tractors Company in reducing costs without any impact on the quality or functionality of products or services while achieving desired profits, by eliminating / or reducing costs that have nothing to do with political factors. It is the only way for organizations to survive in global markets.

Cost reduction is the easiest way to increase expected profit in the short term and the main driver of long-term growth if the reduction methodology is implemented appropriately.

This is true, because the process of cost reduction falls entirely under the supervision of Factory, from determining the area of cost reduction to implementing the reduction strategy. Margin of contribution and reactions of competitors and government interests, so the process of cost reduction is one of the simplest ways to increase competitiveness and improve cash flows.

Fixed costs are costs that do not change in the long run, even with changes in the volume of sales or other levels of activity, this type of cost is linked to a period of time such as the payment of rent, and the high level of fixed cost requires that the Big Green plant maintain a high level of revenue

to avoid losses, some organizations may have an exceptionally large base of fixed costs. This is due to the use of high levels of automation, or because the market requires a large amount of equipment in order to compete, and the high fixed cost rule means that buggers must operate at a high percentage in order to make a profit, and this is a major problem in organizations. Industrial organizations, where these organizations must have a large amount of equipment and machinery, as low manufacturing rates mean that prices will drop significantly, while most organizations try to maintain high energy levels.

There are many means and methods that help people in achieving and increasing profitability, including increasing selling prices of products, or increasing the amount of sales through the use of a differentiation strategy, which aims to improve the quality of the products offered by the factory and distinguish them from similar products in other factories, or change the ratios of the commodity mix to determine the best variety of products that contribute to achieving the largest possible profit, or Getting rid of products and activities that do not achieve the desired profits, however, organizations may not be able to control the previous methods and tools due to the conditions of supply and demand for products, and therefore the philosophy of cost reduction is the best way for organizations to improve profitability, and strengthen their competitive position.

### **1-B) A through plan to minimize defects throughout the manufacturing process.**

There are several strategies that can be followed in Big Green Tractor Factory, through which it is possible to reduce waste and defects during the production process. Lean manufacturing, also known as Lean manufacturing, Lean enterprise, or Lean production, is a structured program to improve production and manufacturing practices that focuses on increasing customer value and improving manufacturing processes by reducing cost and production time by reducing or even eliminating waste and losses from the management philosophy of the Japanese manufacturing industry.



The Lean methodology focuses on eliminating seven types of waste/waste:

- Transportation
- Inventory
- Unnecessary and unproductive movement of “equipment and personnel”
- Waiting times
- Overproduction and industrialization
- Unnecessary processing steps
- Defects / Rework

Our experts at Big Green Tractor Factory can help customers apply the principles of Lean Manufacturing, and value stream mapping to drive multiple specific improvements, all built on a robust People Development and Change Management model to ensure the highest likelihood of sustainable change success.

- Challenges and drawbacks that could be improved with Lean Management tools
- Lots of daily problems and the inability to find time to solve them
- Inability of the facility to implement the increased demands
- Loss of customers as a result of delays in product delivery times
- There is a better way to run and manufacture but not sure how or where to start?
- The hexagonal diffraction method (6s) is one of the most recent approaches used to reach a high degree

It aims to achieve perfection or approach perfection in all aspects of business in Bug Green by reducing the percentage of losses and opportunities for defective appearance, reducing deviations from the acceptable average, and achieving consumer satisfaction. As a result, many financial benefits can be achieved as a result of applying this approach. The most

important of these benefits is the reduction of failure costs. The higher the level of sigma, the lower the number of defects, which is reflected in the result in reducing the costs of failure.

- The cost of production rises faster than the company's ability to raise the selling prices of products to customers.

Lean Manufacturing Consulting includes value stream mapping study, waste assessment, Muda, Mura & Muri, post-optimization and 5S consulting.

Lean manufacturing is a method and methodology for improvement, focused on reducing non-value-added activities and processes and waste in production processes. Practitioners of lean application believe that if non-value-added activities in a process are not reviewed, 95% of the activities of this process will be of value Not added, and in order for Big Green Company to be able to survive and be able to improve profits, it must look carefully at its operations and work to reduce non-value-added activities, and losses in its operational, manufacturing and logistical processes.

If Big Green Company does not take a serious look at the non-value-added activities and waste in its operations, this may add new burdens on the facility in increasing costs and financial burdens on the company, and the company will lose its ability to keep pace with developments in global markets and with competitors and raise the cost of the product and its selling price And the company's low ability to compete, which may be a major reason for the company's exit from the competition cycle or from the market as a whole.

Achieving integration between Lean Manufacturing and Lean Six Sigma achieves great benefits for companies in improving productivity, reducing losses and defects, and solving problems and negatives in operations.

The hexagonal diffraction method (6s) is one of the most recent approaches used to reach a high degree .It aims to achieve perfection or approach perfection in all aspects of business in Bug Green by reducing the percentage of losses and opportunities for defective appearance, reducing deviations from the acceptable average, and achieving consumer satisfaction. As a result, many financial benefits can be achieved as a result of applying this approach. The most important of these benefits is the reduction of failure costs. The higher the level of sigma, the lower the number of defects, which is reflected in the result in reducing the costs of failure.

Quality along with cost is one of the most important factors of success todayQuality will cause the company to bear additional costs and the poor quality of its products .Reflect on

consumer satisfaction, so the modern approach to quality management focuses on improving the quality of products and processes and in a way that leads to obtaining safe products without defects from the first time, which is reflected in reducing quality costs as a whole in general and costs failure in particular as a result of no defects in the products provided, and to achieve this goal. The use of the hexagonal diffraction method is one of the most recent approaches used in dealing with defects. The application of which leads to reducing the percentage of defects in products to reach the least possible, which its effect is reflected in reducing the costs of failure.

### **1-C) The use of 21st century tools to create a greener process.**

Using the tools of the twenty-first century to create a greener process is a major challenge for a stone factory in Indonesia, perhaps the trend towards digitization and waste reduction must be effectively exploited within the factory to achieve a live, safe and secure environment. Shifting to a greener economy, as opposed to an unsustainable “business as usual” approach, can help achieve many social goals over the next 20-30 years, including creating 15-60 million decent jobs, which is a huge contribution to global economic growth. Addressing the global unemployment problem.

The International Labor Organization says that the greening of the economy not only creates additional decent jobs in various sectors, but also develops jobs and increases income, especially in sectors such as agriculture, construction, refining and tourism. The organization also warned that there are challenges in the environment and in the world of work that the world must face jointly, and not each party alone.

Big Green Factory must adhere to the necessity of a strong link between the world of work and the world of education and training, to apply and respect occupational health and safety measures, and to encourage the construction of sound, comprehensive and sustainable social protection systems.

There is a consensus among educators and policy makers around the world that

Education is one of the most productive investments with which countries can empower its members and communities, and to achieve permanent security and prosperity, and this helps to move towards a green environment free of waste and health problems. Recently, it has caused some obstacles and raised urgent questions about skills

The competencies and knowledge required to reap the fruits of education in today's and tomorrow's world. Has the remarkable rate of innovation and progress in technology, especially in concerning the efficiency, speed and ease of communication, and the change



that accompanied its social and economic, a profound and important evolutionary impact on the way individuals and groups are interconnected.

**2. Develop a socially responsible operational guide for the Big Green Tractor for their pollutants. The guide must include the following:**

In this last part of the guide, I will present an integrated guide about the Big Green factory so that it can get rid of some of the current problems and challenges.

**2-A) Industrial standards on disposal of chemical waste.**

Wrong practices in the disposal of industrial waste over time have led to a huge number of huge human and economic disasters, the most recent of which was the economic crisis in Belgium, which was caused by the polluting dioxin, one of the most dangerous chemicals that cause cancer and infertility, and was the first to be sparked by the incineration of industrial waste. . The Belgian events (Panorama) showed the correctness of the early decision taken by the state's municipalities to prevent waste burning, within the framework of the continuous development strategy and confronting the environmental problems that are expected to result from the opposition to industrial and economic activity in the state.

The amount of waste in Indonesia has increased in the last decade in general and in the field of manufacturing in particular, due to population growth and economic activities. As with Big Green, most waste ends up in municipal landfills or landfills, where organic waste generates large amounts of methane, an effective greenhouse gas. Currently, little waste is incinerated, and the recycling rate of municipal waste is increasing rapidly.

Big Green tractor Company can be interested in some of the following proposals to reduce pollution, through the optimal use of waste, and among these proposals are the following:

- Waste incineration project to produce electricity
- Treatment of organic waste resulting from the vegetable and fruit market, restaurants, hotels and food supply companies

Generating electricity from landfill

In addition to state and local regulations also the use and disposal of chemicals, chemical waste may or may not be classified as hazardous waste, and a hazardous chemical waste is a solid, liquid, or gaseous substance that exhibits either a "hazardous characteristic" or is specifically "listed" by name as waste dangerous.

Employees who work at Big Green Tractor Factory who use chemicals as part of their jobs follow protocols; To prevent exposure and reduce the potential for spills and accidents,

personal protective equipment such as gloves and eye protection can protect workers from splashes and contact hazards, fume hoods can eliminate the risk of inhaling harmful chemicals, and storage cabinets can mitigate the risk of fires and spills. Another aspect of chemical safety that must be managed is the protection of the environment from chemical contamination. Improper or negligent disposal practices have significant impacts on our environment including polluted water sources, poisoning of wildlife and the creation of toxic sites unsuitable for animal or human habitation. They work with chemicals and thus produce chemical waste, the most important “environmentally friendly” activity is the conscious and prudent management of chemical waste.

The liquid waste is incinerated by a high-temperature incineration plant. Off-gas treatment system for this factories are prevented from excreting hazardous pollutants into the environment. The pumpable inorganic waste is treated in a tank reactor containing a motor in several stages with suitable reaction materials. Some hazardous components (such as heavy metals) are deposited in the form of solid materials and then separated from the liquid state by a pressure filter. The resulting sludge is disposed of in a landfill or underground evacuation area. The filtrate after the filtration process is equivalent to a smell sent to the waste water purification plant. For purposes of checking quality and adherence to control limits, analytical monitoring is needed.

## **2-B) Green alternatives to traditional manufacturing process.**

The green industry will improve the environment by reducing carbon emissions and global warming and contributing to the elimination of unemployment; As a result of technology that would optimize the use of natural resources and not pollute the environment; which promotes sustainable development .

Technological progress has had a tremendous impact on all fields; In the light of the new electronic environment, many concepts emerged, such as digitization, smart industries, and the Fourth Industrial Revolution, with which the traditional public service patterns retreated to a pattern based on the technological dimension, as it took a large share, whether at the level of concepts or applications, especially in the industrial field.

Because man has achieved remarkable development in the past era in the field of information and communication technology; Until the world became one, and the developments in the industrial field as the latest elements in the field of industry have produced multiple effects on the model of traditional industry, and then on its form and functions, which moved from

the form of traditional industry to the form of electronic industry, as the distances were reduced thanks to it and reduced through it time and the development of the type and level of the industry provided.

The Big Green Tractor Factory must adopt the approach of the green industry, the industry that works to meet human needs and social and economic development without harming the environment and natural resources, through optimal investment of renewable resources, reducing waste, reusing and recycling to reduce the negative impact on health and the environment and improve Energy efficiency, which leads to the conservation of natural resources as well as the reduction of greenhouse gas emissions based on the use of technologies compatible with the environment.

The Fourth Industrial Revolution combines comprehensive digital transformation of all physical assets and integration in the digital system with partners in the value chain; Although the term Fourth Industrial Revolution is used more often; Unless it is used for certain things.

Industry is an important stone in eliminating underdevelopment; It is an essential pillar in the economy of many countries, and even the engine of the development process, so its tasks differ in terms of substance in general, until there has become an overlap between the use of the term industry and this is due to the importance that industry acquires in economic development.

But despite the importance of industry in helping it to the well-being of the individual and the development of his livelihood; However, it results in negative effects represented in environmental pollution in addition to the depletion of many limited natural resources for use in industry, or the lack of optimal exploitation in the use of resources; In addition to increasing the rate of waste resulting from the use of resources in industry.

And therefore; It was necessary to use technological technology in the industrial sector due to the negative effects on the environment as a result of the waste resulting from the primitive manufacturing process; Therefore, many countries of the world have resorted to adopting modern technology in the sustainable industrial field in order to reduce environmental risks on the one hand, and preserve natural resources on the other hand, which preserves the rights of future generations on the other hand.

Indeed; The industrial field witnessed a remarkable development in its reliance on the use of technology compared to the twentieth century, in order to benefit from the technological

revolution with all its components; As electronic machines became the controllers in managing machines and regulating their speed, which reduced dependence on human labor.

Since a somewhat green turnaround can be expected at Big Green Tractor Company in Indonesia, plant management can work together to identify potential adaptive stresses at an early stage. Mapping the potential impacts is crucial to adopting targeted and timely measures.

The Big Green company tractors in Indonesia is seeking to adopt modern concepts and application, particularly in the area of environmental conservation and green productive that contribute to the reduction of environmental pollution inside and outside the factory, so is the green of the important topics productivity as it has achieved great importance in improving productivity and attention to the protection of the environment and pollution. Therefore, organizations are interested in green productivity and the reduction of environmental pollution for several reasons, the most important of which are: resource scarcity, economic competition, environmental efficiency, occupational health and international trade, and environmental risks.

## **Conclusion**

In this report, I dealt with the nature of the industry in the Big Green Tractor Factory in Indonesia, and I talked about some recommendations and procedures that must be followed in order to advance this industry, especially with regard to reducing and reducing costs while maintaining the quality of the industry for consumer satisfaction. She also talked about reducing the percentage of waste inside the factory and the importance of getting rid of waste in a healthy and safe manner, and the necessity of shifting towards a green industry that is free of waste and chemical problems. I also made some recommendations to reduce costs and reduce the percentage of waste and attention to quality in the industry and finally concluded the report by talking about overcoming pollution problems chemist in factory.

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