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## **Operational Procedure and Guide**

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MBA -MGT550-Operation Management

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## **Operational Procedure and Guide**

### **Introduction**

As per the scenario, the Big Green Tractor BGT is a manufacturing tractor company founded in Palembang, Indonesia. The corporation has been facing decreasing growth and development in the current years and would like to modernize its tasks and operations to be more effective. The BGT has employed me to assist them with streamlining their tasks and operations. Actually, diverse events are assessed and displayed for their capability to determine hardware contracts within rural manufacturing. A tractor deals display a trouble during discovering driving indicators. Measurable approaches needed for econometric defining also display legitimacy analysis are specified. This is why the corporation has been fronting declining evolution in the current years as well as would like to modernize its tasks and operations to be efficient. So as to deal with this issue, I would like to generate an operational manufacturing streamline procedural attendant in an eco-friendly manner through cutting down on pollutant from the corporation's production procedures.

### **Operational industrial streamline procedural guide for Big Green Tractor**

Manufacturers are keen to simplify complicated procedures to save money and time while boosting output and revenue. However, it can be difficult and time-consuming to streamline standard rules. Manufacturers may readily enhance existing operations and get immediate advantages if they use the correct quality programs and technological advances.

#### **a. Cost-Efficient Manufacturing Processes.**

**Put Right Quality product In Place:** through placing the high-quality product in place, the manufacturer can make sure that the right product is available once required, thus maximizing

general productivity and growth. The quality programs must not just legalize the bill of materials but also legalize the routing stages along with the probable time to achieve such steps. It can assist manufacturers in declining waste through initiating them to use materials they require as well as lessen the scrap.

**Reduction in material cost:** One effective approach that can be measured inside BGT to become cost-effective is a lessening in material costs. Several studies specify that the business knowingly emphasizes obtaining high-quality materials & spare parts, which can be used for manufacturing tractors. The BGT can lessen this high cost over effective negotiation with providers. For this determination, strategic administrators might request bids from the supplier's conclusion and also deliver contracts to the supplier with the lowest bids. It can be examined that the organization might cogitate many dealers to obtain the same material and parts. Accordingly, suppliers and vendors can be influenced to decrease the material cost. This way, procurement costs can be concentrated, which will direct to low costs tractor manufacturing (Hattami et al., 2020).

**Use Technology to Improve Communication among Teams:** Through steady synchronized communication, the sale, production & engineering team can endure to improve services and products and also get new items and products for marketing. These teams must spot tendencies and procurement patterns, recognize which products are selling quickly against those that are still also be capable of governing where predictions could go off course rapidly. In a make-to-order background, this is mainly important because when the sales team acquires an order as well as commits a distribution date to the customer, there have to be regular interaction between departments to attain promised delivery dates and also update client with any variations to the projected delivery.

**Reducing wastes:**Waste in manufacturing happens in both labor and materials. Scrap cuts into any corporation's profits and revenue. Manufacturer must make use of production information to examine the cost of orders produced. Look at each phase of one of their major product first to see where inefficiencies are happening. This procedure needs to start at the first order stage, which is when a manufacturing cycle starts. Companies are already behind because orders are taken but not delivered to specific buyers. To make the requested product, manufacturers must have proper materials. When customers order incorrect materials or duplicate ones already in the inventory, they might lose a lot of money. Labor expenditures are another kind of waste. Employees are forced to wait to complete the production process due to equipment breakdowns or part constraints. Making a product will take longer with workers who are not properly trained (Davim, 2017).

**Improving quality:** Quality improvement must be made through a complete manufacturing procedure. Without a compact quality program in place, products might endure to the consumer as well transpire being refunded for defects. This not just raises product costs in materials and labor, it lessens the buyer's confidence in their facilities. Quality initiates with raw material people in order to manufacture products they sell. The acceptance department must ensure that the shipment contains the correct material in specified amount. Quality inspection has to be performed on materials before it shifts over to the manufacturing procedure. During production, any vital portions of the manufacturing procedure have to be inspected to make sure that each phase meets all essential standards. If an issue happens midway over production, the process has to be paused before important materials and time are missed(Hattami et al., 2020).

**Set priorities for ROI (Return over Investment):**Prioritizing for ROI is one of the key tasks that can be carried out to achieve cost-effectiveness in BGT. The strategy section and

management might assign rankings and priority to various tractor industrial procedures in this way. A choice to spend on a particular process can be made in the organization founded on the importance accorded to that procedure. In this manner, the company will just fund those procedures with a strong potential for ROI , Similar to how obsolete tractor manufacturing might be terminated, which causes a low return for the business.

#### **b. A thorough plan to minimize defects**

Manufacturing corporations and production administrators recognize the significance of streamlining manufacturing operations while keeping the rate of product defects as less as possible. A high rate of product defects consequence in monetary losses, delayed manufacturing till problems are resolved, and it may cost people a long time to fix, discard or recycle a product. The plan to lessen defects through the manufacturing procedure in BGT consists of subsequent processes (Eger et al., 2018).

**Quality Management:** The initial step to take once working on reducing manufacturing rates through reviewing the quality administration policy. If manufacturer detect any issues that could be the reason, try addressing them with the support of the entire team. Additionally, make sure the procedure is carried out flawlessly. Try a comprehensive strategy and evaluate in accordance if they are unable to uncover anything. This entails verifying the quality is upheld by checking with raw material suppliers and outsourced representatives. To pinpoint the main reasons for reported problems, managers at BGT must regularly meet with the staff who work on the production and assembly lines. In these sessions, it is also possible to suggest practical approaches to fix the problems, which might ultimately increase the quality and lower the likelihood of issues arising.



**Positive Work Environment:** Creates an encouraging work background that would permit employees to work with augmented efficiency. Despite the employment position, make sure everybody who is employed for business is treated acceptably. As the components in a manufacturing line, low-wage workers deserve special consideration. In normal conditions, speak to the staff in a friendly manner. Regularly stopping by each workplace can also aid in resolving workplace problems that might be the root of production flaws. However, there can even be issues within the management staff because workplace envy can have a negative impact on production in a corporate setting. The problem might be related to workers awaiting promotions for a very long period. Set up a meeting, talk about the issue, and find a solution to improve things in a situation like this(Umasankar&Padmavathy, 2019).

**Audit of material acquired from suppliers:**Conducting an audit of the goods purchased from suppliers and manufacturers is another excellent method that may be suggested to Big Green Tractor for reducing production process flaws. The firm must carry out audits both internally and externally to evaluate the caliber of the supplies obtained from various suppliers. In this way, it is possible to check if newly acquired materials, including such spares and many others, are free from flaws or problems. Additionally, a strong focus should be placed on determining if the usage of purchased materials will result in any issues with tractors produced through BGT that have functional flaws after being sold.It can be assumed that practices of leading audits might enable the administration to emphasize possible issues or defects in materials(Eger et al., 2018).

**Analyze the Manufacturing Process:**The same product may be manufactured in a wide variety of methods. Find a replacement for the procedure that the team is using that may reduce production problems. Once the manufacturer reviews the procedure, establish terms of production as well as request that everyone abides by it. A proactive approach to dealing with

problems will ultimately help the entire organization to improve. If there is an issue with the manufacturing line, carefully analyze each stage of the procedure and develop a note of any problems that experts believe need to be fixed.

**Standardization:** Another way to lessen the incidence of a fault in the manufacturing procedure of BGT can be to of the following values. It originated several studies have shown that ISO 9001 values are appropriate for the manufacturing, production, as well as assembly of products in an organization. The organization must follow such standards also make sure that the manufacturing is heading in the right direction, also all regulations and norms are being trailed. This way, the probability of the appearance of defects might be get condensed in tractor manufacturing.

**Take Feedback:** Regardless of an employee's rank, consider their input and recommendations for improving output and reducing failure rates. Additionally, concentrate on establishing a recommendation mechanism where staff members are free to express their viewpoints without fear. The handling of common employment concerns is equally crucial. The issue may be related to the individual or have anything to do with the job. In any case, it will be preferable to move forward in search of a solution. To solve these issues, try interacting with staff members in accordance with their personalities and earning their confidence over time (Eger et al., 2018).

### **c. Tools to create a greener process**

Green manufacturing is a procedure all producers can accept to organize their parts in curbing effects felt through man-made ecological adversities. Green manufacturing, referred to as green production, is once manufacturing corporations (despite scale) to upgrade outdated forms of production as well as a select environmental and industrial solutions that ease the amount of waste they yield instead (Davim, 2017).

**Process mass intensity calculator:** Process Mass Intensity (PMI) is a metric for gauging the effectiveness of a production process. There are frequently several feasible synthesis methods to create a particular chemical product, but each approach will have a distinct effect on the environment. Examining the amount of material needed to produce the intended outcome is one approach to assessing a process' potential environmental impact. The PMI is a straightforward efficiency metric that compares the input to output. This methodology effectively estimates the decrease in material requirements throughout producing goods in manufacturing sites. This technology may be used by BGT to recognize the demand for materials like tractor replacement parts and other things. It can be examined that the PMI values provided through the tool will specify the necessity for investments to the business for specific acquisitions. Through defining a series of reactions along with their corresponding response type, it is likely to assess a reasonable PMI for optimized or proposed chemical combination step along with the growing PMI for multi-step routes using historical information. This capability to nearly screen diverse likely ways for efficiency allows chemists to focus on their resources on a few synthetic methods (Dupont et al., 2016).

**Robotics & software:** The adoption of robotics are rising around the domain also, every single family may have at least one robot available. The robots can support sustainability in all areas (for example, fighting climates change, assisting to recycle, lessening waste during manufacturing, raising the use of chemicals in farming, etc.). Furthermore, robots have abilities, for example, strength, accuracy, and sensing frequently exceeding those of individuals. Combining the physical survival of robots with the cognitive elasticity of humans in a two-way mode is beneficial in diverse applications that allow sustainability and also support ecological aspects. The combination of software and robotics can be effective in assessing carbon emissions

from the manufacturing plan of BGT. Similarly, smart systems might also recommend assured actions that can be in use to reduce emissions. Not only this but automated systems and robotics with some tools are important for BGT in harnessing greener procedures (AlvesFilho et al., 2018).

### **Socially responsible operational guide**

#### **a. Industrial standards on disposal of chemical waste.**

**Licensed contractors:** The ideal process of chemical waste disposal is to employ EPA-approved waste contractors. This makes sure that the waste is properly disposed of in a safe as well as environmentally liable way. Waste has to be properly labeled, kept in an appropriate container, also housed properly until compilation. Arrangements have to be prepared for waste to be composed regularly through licensed wastes contractor for proper off-site conduct.

**Secure landfills:** When it comes to disposing of the organic waste created by BGT's production facilities, it can be argued that protected disposal is among the most practical solutions available to the company. This method calls for storing or containerizing waste substances and chemicals in safe landfills. According to the report, Indonesia's administration has created a number of dumpsites where toxins and other materials generated by businesses may be preserved and used in the future with a few minor adjustments.

**Processing and treatment:** Another effective process, which can be measured in BGT for the administration of waste from manufacturing plants, is that of dispensation and conduct. different studies performed on manufacturing waste administration propose that there can be some chemicals which can't be discharged in water bodies openly. Likewise, solid wastes containing carcinogens can't be discarded in the ground. Therefore, BGT is needed to believe in the

approaches of chemical processing with the intention that their toxicity levels can be condensed. In this procedure, these chemicals are subjected to reply with other reagents or chemicals. Even though these treatment and processing activities might enable organizations to make additional operating expenses; but, they are extremely effective in enhancing the corporate social responsibilities of BGT (unodc, 2006).

**Recycling:** For the objectives of this paper, recycling necessitates that the substances be unused & uncontaminated, particularly once seized materials are given to the corporate companies (i.e., this affirms chemicals in their commercially labeled, factory-preserved, and unopened container). Other methods for management and hazardous material disposal should be taken into account. Recycling process may take below diverse forms:

- A recurring chemical that is discovered in commercially labeled, factory-preserved, and unopened container to the unique supplier or, through sales, to vetted legal chemical handler
- Sales, donations, or auctions to public/academic institution that might have straight legitimate requirements for them (for example, schools, hospitals, universities, etc.);
- Recovery/transformations into products for which there is a genuine use, together with the help of combustible liquid for fuel-unification for energy revival.

If recycling is possible, it is important to abide by all existing laws and rules governing the transfer of hazardous items. Recycling garbage may be a useful practice for reusing substances. In addition, recycling techniques could lower the price that BGT would likely pay in the future for similar chemicals. It might be noted that the organization could need specific approval from the government for some chemicals, taking into consideration the norms and regulations related

to the recycling of substances. Additionally, the firm must adhere to tight rules or risk endangering the security and safety of its workers and managers (unodc, 2006).

**Reduction-** Reduction requires lowering the waste stream before activities begin. Garbage producers can reduce the quantity of waste they produce by changing the products and manufacturing processes they use. An idea would be a packaged food facility switching from solvent-based to liquid adhesives to seal its containers. In landfills, specific toxic waste products may be buried. Before being dumped in a landfill, these items must comply with state standards that require pretreatment. The materials may only be disposed of in landfills with certain design specifications (Davim, 2017).

#### **b. Green alternative to the traditional manufacturing procedure**

Eco-friendly production preserves natural resources & defends the world against exploitation. Components are designed from environmentally friendly materials because waste is decreased by recycling, remanufacturing, and reuse. Manufacturing is one of the main industrial areas being addressed for adopting green technologies, together with other industrial applications. Traditional production methods are evolving into lean, environmentally friendly, cost-saving machines that are good for the environment and business. There are numerous green production techniques available today that BGT may consider (Fratila, 2014).

**Use Smart Manufacturing Software:** each manufacturing corporation must recognize the significance of using current systems. That is what can assist factories in initiating green manufacturing. Even though several citizens think these methods are effective, there is a requirement to change manufacturers' thoughts. They must establish new and advanced technology in the manufacturing process. Most recently, manufacturers can use industrialized software. It supports plants to go green as well as saves surroundings.

**Leveraging Renewable Energy:** The best method to construct an environmentally friendly facility is to employ sustainable power. Renewable sources of energy exist in a wide variety. Renewable energy is produced by the sun, rain, wind, waves, tides, and hydropower. Manufacturers are switching to sustainable management as a means of developing sustainable enterprises. Since alternative sources use the natural environment, it is less expensive. Because of this, the majority of businesses and producers are thinking about employing it. Being environmentally friendly must be the new corporate philosophy for all firms since alternative sources are also crucial for continuity. Renewable power benefits manufacturers in the following ways:

- It is an excellent source of energy. All other renewable technologies decline and require replenishment. Renewable energies rarely run out of power, making them incredibly economical.
- It enables operations without acquiring energy.
- Among other benefits, renewable promotes public health and eliminates the difficult process of digging into a rock to get oil and gas.

**Biodegradable material:** Big Green Tractor might place a strong emphasis on promoting the usage of environment-friendly materials throughout the production process in addition to using renewable technology. The analysis discovered that the firms' suppliers arrived in plastic containers that can't degrade. The company can alter its supply chain system and seek out vendors who offer goods packaged and made of biodegradable materials. By doing this, BGT can greatly minimize trash output as well as the risks it poses to the security and safety of its workers and residents of the community (Fratila, 2014).

**Waste Reduction:** EcoBrain points out that manufacturing all the time involves raw materials, but not all phases of raw materials are required. Some organizations need just a few parts of a natural material, but the excess is thrown away. This waste supply chain could be harmful to the environment. Utilize scraps, carefully dispose of them, or stop using them in the production process entirely. Framed molding producer Garrett Moulding, which has facilities in Carrollton, California, and Georgia, recently reported that it recycles & utilizes its wood as well as aluminum byproducts through the donation of wood chips to farmers and ranchers for lawn maintenance and animal wastes, the donation of wood leavings to art government agencies, the reuse of packaging, and thus the conversion of waste paper into sustainable packaging components.

**HVAC system:** Applying the green idea to HVAC system design is extremely important since it may help the system's structure and infrastructure environment. The business community now has a greater comprehension of the green idea. Solar energy use in air conditioners power will become a significant growth path in the upcoming time due to the energy constraint. HVAC design will increasingly include sophisticated technologies as the digital age progresses. The economic expansion of the air-conditioning sector may be effectively supported in accordance with the notion of local circumstances and green expansion.

In present times, there are sufficient systems, for example, HVAC, which can be effectively used to optimize manufacturing procedures in a company. HVAC is also recognized as heating, ventilation & air conditioning legalize the atmosphere inside the corporations. The business must spend significant energy on temperature and ventilation control practice. The BGT must focus on power loss scenarios, along with many others, which might compromise energy competence (Huo, 2021).



**Update existing equipment and machinery.** Even though the old equipment is still functioning as it should, the out-of-date equipment used to create it generally implies consuming more power than is required. Reducing energy waste & raising production efficiency are both made feasible by modernizing the equipment and machinery the company use in production operations.

Implementing an electric power management system (EPMS) is an excellent approach to observing the effects of such technological advances, which should encourage the business to make more environmentally responsible purchases. Implementing a human manufacturing process via modern technology is another technique to improve energy effectiveness and reduce wastage since it can reduce the probability of human mistakes producing inferior goods. Though, this might not be likely for smaller mechanized companies that do not have the cash to invest in robotics presently.

**Choose eco-friendly partners:** maximum businesses will have to communicate so as to source raw materials along with parts, also, this is an alike manufacturing business. Whether they associate with the packaging corporation or buy equipment and machinery from others, a major way to make a firm eco-friendly is to employ environmentally-answerable partners. Even though this can cause an operational reorganization, it's sure to be one of the most impactful decision business can make toward making an eco-friendly corporation. This can be as simple as switching packaging suppliers for one which uses cast-off materials or transforming green-energy suppliers that put a larger responsibility on the use of renewable power (Cotton, 2018).

**Carry out frequent energy audits:** All industrialized businesses require copious amounts of electrical power to fuel their tasks & operations and present goods people use on a regular basis. However, with worldwide energy administration efforts prepared, businesses must be all taking steps to lessen the amounts of energy they use, to save the planet. Consequently, though all

companies must employ energy in some capability — for example, lighting and powering machinery — there are way people can minimize the amounts people are guzzling through frequently performing an energy audits. These audits are used to observe how much power businesses are using from each workplace region, or even a specific part of the equipment, in order that they can gather this data into an action plan for becoming energy-efficient. Businesses themselves can complete this, or 3rd-party auditors who will be capable of highlighting changes people need to make & how to execute these. This could comprise switching out their light bulb for energy-efficient ones or establishing programmable thermostats to decrease the amount of energy (Cotton, 2018).

### **Conclusion**

The assignment concludes eco-friendly environment is good for manufacturing businesses. The best method to construct an environmentally friendly facility is to employ sustainable power. Renewable sources of energy exist in a wide variety. Renewable energy is produced by the sun, rain, wind, waves, tides, and hydropower. Manufacturers are switching to sustainable management as a means of developing sustainable enterprises. Since alternative sources use the natural environment, it is less expensive. Because of this, the majority of businesses and producers are thinking about employing it. Being environmentally friendly must be the new corporate philosophy for all firms since alternative sources are also crucial for continuity.

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