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COVER PAGE AND DECLARATION

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Student's Full Name:	Amr Ibrahim Mohamed Abdou
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E-SIGNATURE:

Amr Ibrahim Mohamed Abdou

DATE:

9-Dec-2021

EIU Paris City Campus

Address: 59 Rue Lamarck, 75018 Paris, France | Tel: +33 144 857 317 |
Mobile/WhatsApp: +33607591197 | Email: paris@eiu.ac

EIU Corporate Strategy & Operations Headquarter

Address: 12th Fl. Amarin Tower, 496-502 Ploenchit Rd., Bangkok 10330, Thailand | **Tel:**
+66(2)256923 & +66(2)2569908 |
Mobile/WhatsApp: +33607591197 | **Email:** info@eiu.ac

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Introduction to Managing Operations:

The concept of operations management expresses the management and organization of practices and activities that aim to achieve the highest possible level of efficiency within the organization, to provide goods and services as efficiently as possible to the consumer in order to maximize the organization's profit, and operations management teams attempt to balance costs and revenues to achieve the highest net possible operating profit. This covers all planning, design, implementation, direction, and control procedures, which aid in the execution of operations to help the company achieve its objectives, as well as the ability to solve problems and make administrative decisions that improve the way things are done.

Business organizations obtain their raw materials, human resources, energy, land, capital, and other equipment from the outside world and use various transformation processes on them to change their shape and transform them into goods or services that are of benefit, value, and utility to the consumer, resulting in profits and logical returns for the organization.

It is preferable for each organization, regardless of industry, to create internal processes to ensure that typical duties are executed on a regular basis. Procedures can, however, operate ineffectively if stages are not explicitly specified, lowering operational efficiency and productivity.

As a result, businesses should recognize the value of well-defined procedures and look for ways to update and improve internal systems.

Human resources, machines, organizational plans, raw materials, and funds are the five basic elements that make up the operations management cycle in organizations, and these elements work together in an integrated manner within clear procedures and paths of the production process to produce final results that express the organization's activity.

Allowing it to compete in the consumer market while adhering to quality standards and key customer needs

As an industrial tractor firm situated in Palembang, Indonesia, we will offer Big Green Tractor to help simplify their operations to be more efficient in this post. The company's growth has slowed in recent years, according to the findings. This study covers a wide range of topics. The essential advice and strategies for reducing pollutants produced by the company's manufacturing processes, as well as solutions for more cost-effective manufacturing processes and plans to eliminate faults

during the manufacturing and production process. The paper also emphasizes the usage of cutting-edge technology. In an era of safer processes for the environment and upholding industry standards, huge corporations are developing a better grasp and awareness of social issues.

Industrial Simplification Operational Procedure Guide:

For More efficiency, industrial simplification is necessary.

Many organizations struggle to construct strategic and operational plans in order to attain operational efficiency, and streamlining workflow is an ongoing endeavor in which businesses must priorities activities in order to run efficiently. Companies can cut operational expenses and increase overall efficiency by improving procedures. Improvement comes through simplification. To cut expenses, businesses are looking for more efficient and automated procedures. Fixed costs do not alter with increases or decreases in unit production volume, whereas variable costs are solely focused on optimizing profits, according to one of the most frequent techniques of categorizing expenses.

The procedures are simplified by sketching a sequence of steps for a specific task, then assessing and evaluating them as follows:

- When it comes to combining some steps into one, it's a no-brainer.
- Or rearranging some steps to verify that the previous steps are in the correct order.
- Or by removing some processes that aren't necessary.

Simplifying procedures is a set of actions that are taken to arrive at the best ways to complete the work, such as:

- The simplest and most accurate method
- takes the least amount of time and effort
- Economical in terms of cost-cutting simplification techniques

Merging: This refers to combining related and homogenous procedures in order to avoid work duplication and repetition.

Rearranging: This entails changing the sequence in which tasks are completed after confirming the requirement of these procedures in order to achieve a smooth flow of work and avoid bottlenecks.

Deletion: This occurs after a thorough examination of the task to ensure that certain procedures are not required and can be eliminated.

Process for manufacturing at a low cost:

Processes that are optimized and fully automated help businesses reach their full potential, save time, and decrease risk. As a result, businesses should consider automating and streamlining their working capital procedures.

One important tool is the implementation of an information system, which allows employees to easily access databases required by other departments, greatly improving interdepartmental efficiency. Taking advantage of data allows the operations manager to plan and make decisions based on high-quality and accurate data. Determining efficiency and effectiveness measurements, followed by data management issues, as data might be voluminous and results can differ, making comparison difficult.

Managers can now see, manage, analyses, and organize data more simply thanks to enhanced systems and software.

In addition, site intelligence is being used to manage and streamline hundreds of projects quickly. Smart maps, analytics, and dashboards enable real-time views of many locations and aid in the identification of underperforming business processes. Using accurate data cuts down on errors while also increasing production and saving costs.

Following technology and automation contributes to decreasing many parts of energy, documents, tools, and bills that the company uses and consumes in terms of communications and communication and replacing them with contemporary systems that compensate for all of these things.

As previously stated, the company for industrial tractors has many internal workflows that work together to complete a larger task, such as order fulfilment, marketing promotions, and inventory control, as stock analysis will be easier to analyses if the company uses inventory management software. This tool will also assist Managers in classifying their products, which will reduce storage costs.

If these processes are inefficient, however, businesses risk falling behind the competition due to excessive costs, long wait times, and poor results.

Operations will be improved by detailed monitoring and analysis, allowing the organization to reduce the time and capital required to run the process while retaining the intended results.

Forecasting and goal setting provide direction and motivation for the organization and its personnel in order to achieve long-term objectives. Forecasting provides both hope and the opportunity for the organization to prepare for unfavorable outcomes. Forecasting necessitates thorough and accurate historical data, which might take a long time to compile, but it can be done quickly and easily with the help of specialized algorithms.

Also, to streamline processes by eliminating complex and inefficient steps that do not contribute to the implementation's quality. Many business advantages are unlocked when firms build successful workflows.

Interdepartmental cooperation contributes to efficient manufacturing processes, and it has been noted that the company lacks this. Interdepartmental cooperation is required so that the finance, sales, marketing, and human resources teams can work together in harmony to improve the company, and the ERP system facilitates this. By making communication easier and more transparent by delivering central information to all departments. This is where human resource management comes in. Employees are the backbone of your company, and without them, your daily business activities will halt, and your company will be unable to produce quality goods or services. Personnel management is especially important to the success of your business because employees are the backbone of your company.

One of the most important methods that the tractor company can use to cover other expenses or generate a small side income to cover some manufacturing expenses is to sell scrap. Factories always produce large quantities of scrap or production quantities that can be used or benefit other parties, so they can be sold through the Public Relations Department or to the company's staff team.

Reducing defects during the manufacturing process:

This method is used to regulate the quality process and keep products in one form free of faults, omissions, or shortcomings as part of quality control and maintaining the company's reputation, as well as to reduce defects that occur during manufacturing.

By carefully planning and designing the manufacturing process, as well as the necessary industrial tools and equipment.

To reduce faults, it is recommended that you utilize the Lean Manufacturing method, which aims to

solve problems at their source. One of the aspects of this culture is the policy of preventing errors, which differs from the culture of accusing employees of negligence and negligence, as well as the culture of correcting errors once they occur. Make suggestions and give advice on how to avoid flaws. This culture understands that human error is possible - man's nature is to forget and make mistakes - and that equipment error is also possible, so we must design tools, machines, and work systems to help prevent or warn of errors before they happen, whether produced by man or machine.

It is human nature to forget, be preoccupied, be inattentive, be unaware of, or misunderstand things. As a result, the best strategy to reduce defects is to first uncover and discover the problem, so that errors become impossible, or at the very least easy to detect at the outset, and then work to rectify them as soon as possible, before they turn into defects, so eliminating flaws in the product.

Shigeo believes that product flaws are human flaws that may be prevented if their sources are eliminated. "Flaws are caused by the worker's inadvertent errors, and because these errors are ignored, they become defects when they reach the consumer," he explains.

Shingo presents faults because mistakes have happened, and the relationship between errors and defects is a cause-and-effect relationship, and errors will not turn into defects if there is negative feedback, and the necessary action was made at the stage of the error, and it was handled properly. In order to eliminate faults throughout the manufacturing process, the company described in this article was reduced.

Consider and implement good process design or develop techniques to help prevent errors or detect them when they occur and draw the attention of the worker to them, so that the worker recognizes these errors, searches for their causes, and corrects them before they become a product defect, and does not allow them to move to the next stop on the production line, ensuring that these defects do not reach the consumer.

Adhere to the smart manufacturing strategy. It's the use of sensors and wireless technology to collect data at every stage of a product's life cycle. These methods include measuring material characteristics, equipment temperature, and vibration rates, as well as supply chain logistics and sensor location. Modern sensors such as cameras or lasers are also employed in optical scanners to identify faults.

It is advisable to employ the warning system by establishing control techniques in production lines that alert the worker in order to avoid disregarding any problem that happens without being aware of it.

Audio and visual warning systems, as well as color coding, are employed when or before a mistake occurs.

As it is well known and must be noted that workers gain more knowledge and experience as a result of their integration into the production line due to their mixing and practice, it is recommended that the tractor company pay attention and open the way to benefit from the teamwork environment and raise the level of knowledge and practical experiences of the work team, in order to enhance efforts of continuous improvement. Improvements to the curriculum are ongoing.

To ensure that the product is defect-free, the company should establish an inspection point at the end of the production line, which is defined by the stages of measurement, examination, testing, and evaluation of a products or service's characteristics or characteristics, and comparing them to the standards required to determine the extent or degree of conformity between them.

In general, the following variables must be considered in order to attain this goal and eliminate defects:

Commitment: Using electronic documents and systems at work is one of the most essential components in helping the manufacturer control and monitor documents in a way that keeps employees engaged and loyal to their jobs.

Assisting responsible staff in monitoring and following up on the production process through document analysis. Furthermore, this aids in the efficient follow-up of the workflow.

Work documentation: The use of digital and modern technology assists in the professional processing and maintenance of all documents and records, resulting in a lower rate of manufacturing error.

Using 21st century tools to create a greener process:

What aids companies in their sustainability today is their impact on society and the environment, and the large number of organizations and awareness in the twenty-first century has made companies pay a lot of attention to environmental aspects and made them pay attention to these matters and seek to improve them.

Receive certificates proving that what they provide is an environmentally friendly entity, that it is safe, and that it contributes to its environmental file.

Because the globe is undergoing many long-term changes, such as water scarcity, harmful gas emissions, high temperatures, and overcrowding, and new technologies are transforming how we

live and work. Tens of thousands of workers are being kept away from office buildings and passenger traffic by remote virtual teams, resulting in changes in the scale and environmental implications of office buildings and passenger traffic. And inspiring them has a number of advantages, including cheaper operating expenses, a better brand image, and fewer legal difficulties. As the need for green transportation choices grows, choosing a sustainable method can provide them an advantage over their less advanced competitors. The following are some of the tools that vehicle manufacturers are using to make their processes more sustainable and environmentally friendly.

This is typically accomplished by adapting product designs, manufacturing processes, and workflow principles for the tractor plant to more environmentally friendly standards, and by collecting data, the company can identify key points of energy loss and waste, and work to address them by improving their efficiency. This can lower operational costs as well as the amount of garbage generated. He also worked on generating natural materials from raw or ecologically friendly materials for the tractor, similar to how the Ford Motor Company developed soybean-based oil for use in the enamel of its automobiles. Many of their supplies come from the food business, and their vehicle production lines use a total of nine sustainable materials.

Tractors that are light in weight Reduced vehicle weight is another major trend in sustainable manufacturing for manufacturers. Many well-known brands are now decreasing the weight of their automobiles and trucks, which could result in significant fuel savings. The majority of vehicles on the road today are composed of steel and aluminum, but lightweight vehicles are projected to become more popular in the future.

Electric vehicles are here to stay today. According to analysts, more than half of all passenger cars will be electric within ten years. The company can produce electric-powered tractors to keep up with the times in terms of reducing toxic emissions that harm the environment and agricultural lands, or the main tools that the tractor industry's production line produces to be made of environmentally friendly materials as much as possible.

Reduce, Reuse, and Recycle is another useful tool, and it is extremely true. The benefits of decreasing waste and reusing and recycling materials whenever possible are crucial for saving energy in factories and making manufacturing more effective. In industries that deal with raw materials, waste reduction is very crucial. For example, growing demand for new sawn timber by car manufacturing has resulted in virgin forests being cut down, but much of this wood ends up as

sawdust on the ground, destined for garbage removal. Natural materials and other more sustainable solutions are becoming more efficient, which helps reduce waste and preserve the environment.

One of the most notable instruments in use is the company's vacant land, which can be used to carry out afforestation and compensate for the harmful gases and pollutants produced by the factory for the manufacture of tractors, as is always recommended.

Industrial standards for chemical waste disposal

Wrong techniques in the disposal of industrial waste have resulted in a slew of human and economic tragedies over time.

To avoid harming human health and/or the environment, it is critical that hazardous waste be properly disposed of. It is illegal to dispose of hazardous garbage improperly. Chemical waste that is not adequately managed has the potential to poison our rivers, posing a major threat to human and aquatic life.

Some countries have outlawed rubbish burning as part of a long-term development strategy to address environmental issues that are predicted to arise as a result of the country's industrial and economic activity. Many automakers adhere to strict waste management standards aimed at reducing, reusing, and recycling as much garbage as possible. Waste reduction is an easy victory, a practical solution, and saves a lot of money for them as they try to 'go green' in their business.

General garbage, such as packaging, metals from sealing and automation operations, and liquids are the three primary sources of waste from tractor and vehicle companies. It is preferable to deal with Simply by minimizing the amount of garbage generated, packaging waste can be reduced. Reusable containers for delivering ingredients, for example.

In terms of chemical waste, it is recommended that we reduce toxic chemicals as much as possible, recycle whenever possible, and it is the most desirable option, or replace them with less dangerous materials thanks to the technologies of our time, especially because the industry is in a constant and wonderful development of renewable resources and the use of alternatives, especially because the industry is in a permanent and wonderful development of renewable resources and the use of alternatives.

Chemical treatment is one of the waste disposal procedures. Chemical treatment, for example, is a

chemical procedure for converting hazardous waste into less dangerous materials that may be recovered from solution.

Chemical precipitation is another method that uses a chemical process to separate particles in solutions, either by converting the substance to an insoluble form or modifying the characteristics of the solution to limit a pollutant's solubility. The use of coagulants and flocculants can improve the efficiency of this process.

We can recycle waste that contains solid materials and is classified as waste under the scrap metal classification but is generally considered a secondary raw material or even a separate product outside the scope of its operations. Recycling and reuse of materials from vehicles plays a large role in reducing waste. These initiatives have a knock-on effect on connected industry. In the steel sector, for example, recycled steel helps to save energy. This also applies to the rest of the materials used in the company's production (Big Green Tractor).

Green alternatives to the traditional manufacturing process.

Environmentally friendly procedures and practices have grown increasingly important in response to the growing need to address environmental concerns and the availability of more environmentally friendly and effective solutions and alternatives. Simple changes, such as lowering paper usage, can make a significant effect.

Thanks to the current digital world and the usage of modern systems that archive data and enable collecting and returning data faster, safer, and with more features, including the ability to get it at any time and access it via computers, mobile devices, smart phones, and other devices to take notes,

Instead of utilizing paper copies, compose emails, documents, contracts, and other items. It is also feasible to eliminate the need for printing papers and instead rely on email or other systems, such as the ERP system, to communicate with staff.

This results in cost savings, both in terms of ink and paper, and helps to reduce the usage of wood-based paper, which is more environmentally friendly.

One of the most effective methods is to purchase sustainable products for all of the organization's possible tools, which are manufactured in environmentally friendly ways, do not contain toxic materials, and are designed to be reused to purchase any service or commodity that the factory or

company requires.

One of the most important ideas is for the company to follow plans to limit water use as much as possible, as well as recycling waste, and using professional companies in this field helps a lot in protecting the environment and is regarded an environmentally friendly approach. Then, by minimizing their usage of polluting modes of transportation, they are helping to save the environment.

Using a different energy source and lowering your energy consumption: One of the most important factors to consider in companies is energy consumption, which results in a large increase in the company's operational costs. The organization can take advantage of the factory's lands and use them to generate environmentally friendly energy by implementing new solutions such as solar and wind energy, which are suitable for producing clean and sustainable energy and allow it to obtain free energy from its operations, resulting in the organization's transformation. All of the tools have to power and replace all of the tools used by organizations that rely on petroleum and gasoline and emit toxic gases and pollutants in the air.

Conclusion

Operations management is a critical technique that helps affiliates simplify their activities and fulfil duties on time. Employees will be unable to initiate and quickly perform standardized operations such as audits, calculating cycles, or creating actionable insights without a defined process.

The thorough business process improves the firm's performance and unifies all efforts and resources in order to translate it into highly efficient goods and services that help the company increase profits and outperform its market competitors.

Furthermore,

- Reducing dangers
- Repetitive chores should be kept to a bare minimum.
- Make internal messages easier to understand.
- More efficient use of resources Productivity gains
- Procedures must be consistent.
- Improving accountability

The relevance of technology, sensors, documentation, and digital data in minimizing faults was also addressed, as was the use of smart manufacturing to eliminate manufacturing flaws, making the sector more productive, profitable, and long-term sustainable.

In recent years, the campaign to "go green" across businesses to promote greener principles has been the trademark and defining business orientation. It has been demonstrated and acknowledged that implementing environmentally friendly methods increases industry revenues by simplifying operations and lowering costs, therefore keeping customers happy and safeguarding the future of our world.

Waste must be properly disposed of, and relevant rules must be followed, thus we always recommend having an expert partner take care of chemical waste management with the company to ensure compliance with legislation and the safety of the organization's site.

References

- 1- Magon, R. B., Thomé, A. M. T., Ferrer, A. L. C., & Scavarda, L. F. (2018). Sustainability and performance in operations management research. *Journal of cleaner production*, 190, 104-117.
- 2- Shingo, S., Dillon, A. P., & Bodek, N. (2019). *A Study of the Toyota Production System from an Industrial Engineering Viewpoint: From an Industrial Engineering Viewpoint*. Routledge.
- 3- Fettermann, D. C., Cavalcante, C. G. S., Almeida, T. D. D., & Tortorella, G. L. (2018). How does Industry 4.0 contribute to operations management?. *Journal of Industrial and Production Engineering*, 35(4), 255-268.
- 4.1 Brown, S., Bessant, J., & Jia, F. (2018). *Strategic operations management*. Routledge.
- 5- Shingo, S., & Dillon, A. P. (2018). *The sayings of Shigeo Shingo: Key strategies for plant improvement*. Routledge.
- 6- Zhan, Y., Tan, K. H., Ji, G., & Tseng, M. L. (2018). Sustainable Chinese manufacturing competitiveness in the 21st century: green and lean practices, pressure and performance. *International Journal of Computer Integrated Manufacturing*, 31(6), 523-536.
- 7- Linke, B., Huang, Y. C., & Dornfeld, D. (2012). Establishing greener products and manufacturing processes. *International Journal of Precision Engineering and Manufacturing*, 13(7), 1029-1036.
- 8- Hojmoose, S. U., & Adrien-Kirby, A. J. (2012). Socially and environmentally responsible procurement: A literature review and future research agenda of a managerial issue in the 21st century. *Journal of Purchasing and Supply Management*, 18(4), 232-242.
- 9- Nunes, B., & Bennett, D. (2010). Green operations initiatives in the automotive industry: An

environmental reports analysis and benchmarking study. *Benchmarking: An International Journal*, 17(3), 396-420.

10- Jensen, J. P., & Remmen, A. (2017). Enabling circular economy through product stewardship. *Procedia Manufacturing*, 8, 377-384.

11- Ali, A. K., Wang, Y., & Alvarado, J. L. (2019). Facilitating industrial symbiosis to achieve circular economy using value-added by design: A case study in transforming the automobile industry sheet metal waste-flow into Voronoi facade systems. *Journal of cleaner production*, 234, 1033-1044.

12- Marimuthu, R., Shanthy, M., Aramvith, S., & Sivaranjani, S. (2021). Smart Waste Management Model for Effective Disposal of Waste Management through Technology. In *Challenges and Solutions for Sustainable Smart City Development* (pp. 213-229). Springer, Cham.

13- Artiola, J. F. (2019). Industrial waste and municipal solid waste treatment and disposal. In *Environmental and Pollution Science* (pp. 377-391). Academic Press.

