



SIFT

By SIFT ANALYTICS GROUP

E-Book

Modern Solutions for
Modern Problems

- To optimize overall production
- To solve complex supply chain
- To improve productivity and profitability

Manufacturing Analytics

Reporting, Analytics & Dashboard



Headquartered in Singapore since 1999, with over 500 corporate clients in the region, SIFT Analytics is your trusted partner in delivering reliable enterprise solutions, paired with best-of-breed technology throughout your business analytics journey. Together with our experienced teams, we will journey with you to integrate and govern your data, predict future outcomes and optimize decisions, and achieve the next generation of efficiency and innovation.

Data has the answers

Organizations have realized the need for evolving and challenging new ways to optimize more holistically and to ensure they stay ahead of change and stand out.

As such, companies that are already practicing data analytics have discovered new ways to improve and build on existing advantages, thereby strengthening their business capabilities.

For companies not yet investing in analytics solutions, the opportunity cost of waiting will only grow.

Continue reading as you will witness how analytics has been benefitting the transformed healthcare industry that is proven very practical to the business.



Singapore SME 500
Award 2022 Winner



Transforming Manufacturing Data

Manufacturing Analytics allows professionals to find opportunities to improve machine operational, and system data to manage and optimize production.



Over the past decades, SIFT has worked closely with manufacturing organizations. Study SIFT manufacturing use cases and find the right solutions for your organization's needs.

You will be guided on:

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How Analytics is Changing Manufacturing Industry

Real-time, connected data collection revolutionizes the manufacturing industry, reducing human error and allowing for faster decision-making and process changes.

You can tackle the challenges head-on - by helping you to gain the insight you need to put your best foot forward and implement best practices that will help ensure success. With analytics, you are able to:

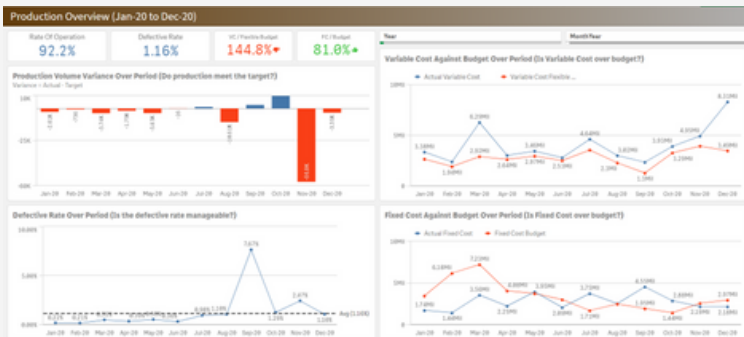
- ▲ Improve overall organizational performance – with executive-level insight into metrics that focus on production activity, operational specifics, and profits
- ▲ Collaborate more effectively – with powerful data sharing capabilities that allow you to share insights with colleagues using any device and coordinate activities throughout the enterprise
- ▲ Make better strategic decisions for steering the organization in right direction – with unimpeded access to information and the ability to freely associate with the data in a way that empowers you to make new discoveries
- ▲ Comply with regulations and report to stakeholders – with vastly improved information transparency and the flexibility to zero in on whatever data may be relevant for existing and emerging reporting requirements



Production Overview

The manufacturer doesn't only meet the demands of the finished goods but also involved in making decisions to ensure the efficiency of production to produce a single unit of finished goods with minimum cost.

High-level overview of manufacture production level and efficiency.



The common strategies that applied to manufacturing, the manufacturing company aims to reduce the defect level into 3.4 defects per million, Kaizen brings incremental improvements to manufacturing process with involvement of all levels of employees, and Just-In-Time productions aims to reduce the inventory cost with highly efficient supply chain. Before implementation of these strategies, manufacturer will need to gain accurate visibility production with data to identify the potential opportunities for improvements or to identify and reduce inefficiencies and wastes.

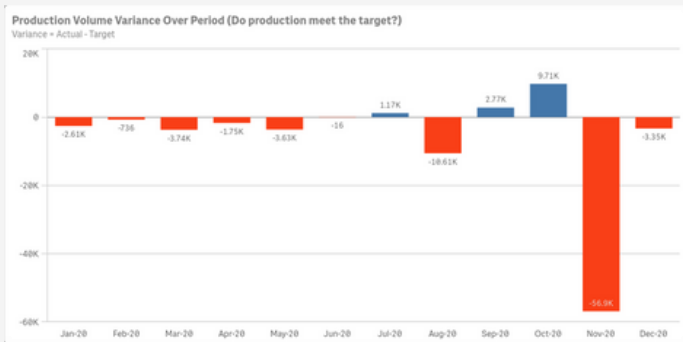
Contemporarily, manufacturers are facing even greater challenges from disruption in supply chain. City closure due to pandemic, hybrid working environment, war outbreak, frequent natural disaster, trade war, and other external economic factors has disturbed the previously stable supply chain as well as the demand of goods. Hence, making a fast and difficult decision to pivot is critical to ensure the sustainability and continuity of business. This hard decision can be only make swiftly with insight from data.

In this manufacturing dashboard, the company is able see all of the information they need to get a sense of how production is going on a given day, month and year.

Production Volume Analysis

The manufacturing company wants to gain a better understanding if they have met the KPI target for their production.

The production volume measures how the actual production output for a period.



Based on the rate of operation, they have met 92.2% of the planned production volume. From the look of the graph, the company with an experienced production lag from Aug-20 to Nov-20.

The possible causes of production lag could be due to the following reasons:

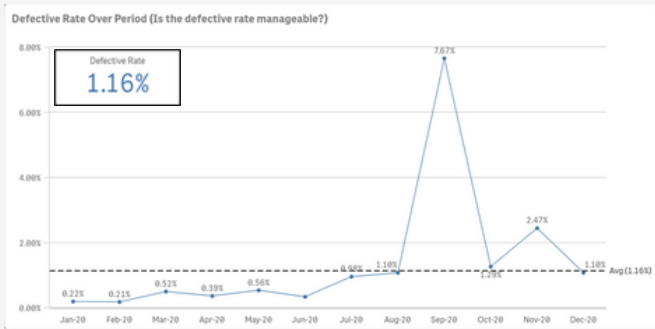
- ▲ The surge in inventory due to lower demands
- ▲ Breakdown of production machines
- ▲ Shortage of raw materials
- ▲ Production switching from one product to another new product

The dashboard can present the key things required to make good operational decisions. This way, users do not get overloaded with complex information but focus on improving the things that matter.

Defect Analysis

The manufacturing company wants to find out whether their defective rate is manageable.

The defect rate can be reduced by having insights and taking a proactive approach to process improvement and quality control.



Based on the graph, the defective rate appeared to be high (>1%) since Aug-20. The increase in defective rate is concerning because it may have an impact on the quality of finished goods and ultimately cause waste. It is also costly to the company if this is not well managed by the team who is responsible for the production.

The possible causes of the high defective rate could be due to the following reasons:

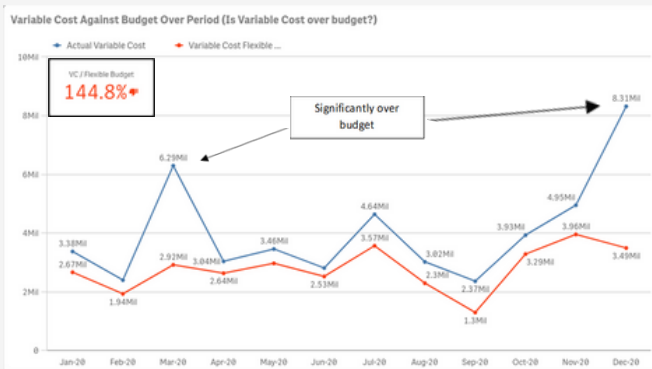
- ▲ Different raw materials quality due to changes in the supply chain.
- ▲ Breakdown of production machines
- ▲ Shortage of raw materials
- ▲ Different employee's skill levels especially the new employees.

The manufacturing company eventually came up with a plan of action to prevent the production issues from happening again. The problems can be avoided by combining the defect information and feedback from customers to help provide a better way to pinpoint issues that would otherwise be pure guesswork.

Variable Cost Analysis

The manufacturing company wants to know if the variable cost has increased or decreased in the budget across the year 2020.

Variable costing is an essential component of management decision-making exercises.



In one glance, the Variable Cost vs Flexible Budget gave a red highlight of 144.8%. Furthermore, there is a significant difference shown in Mar-20 & Dec-20.

The possible causes of the high defective rate could be due to the following reasons:

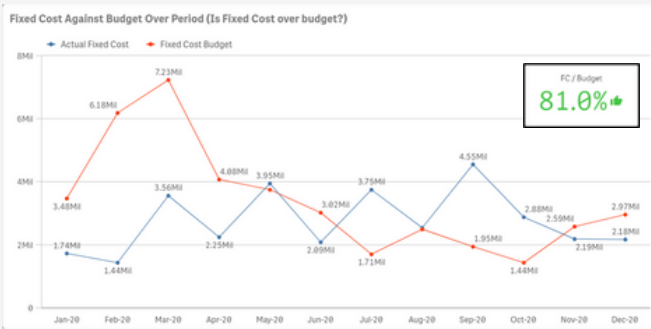
- ▲ Increase in raw materials costs due to market.
- ▲ An inefficient production line that uses more units of material than expected.
- ▲ Increase in labor cost due to increase of minimum wages.
- ▲ Increase in production volume due to increase in demands (Good risk).

it's prudent to calculate variable costs with a production timeline in mind. This way, it becomes easier and more manageable to pinpoint the budget being allocated to the manufacturing process in that time frame.

Fixed Cost Analysis

The manufacturing company wants to know if the fixed cost has increase or decrease in the budget across the year 2020,

fixed costs are essential to business planning and decision-making, as they can help predict expenses and assess profitability



The graph is showing that the fixed cost is within budget and considering that it is significantly lower than the budget shown in Q1.

The effective use of fixed costs in this dashboard can help the company monitor and improve efficiency and allocate resources essential to manage the budget better. Fixed costs must be kept as low as possible, therefore, users should be alarmed whenever they found that the fixed cost is at a high level.

More Manufacturing Analytics Solutions

To improve and reduce costs, many manufacturing companies are turning to analytics to find the source of problems and opportunities.



After identifying the inefficiencies with the dashboard above, these will trigger assumptions/hypotheses of the actual root causes and hence they will be further validated with additional insight from data. A perfect solution to a wrong root cause doesn't lead to any improvements.

Analytics doesn't stop after taking the right solution to the right root cause, KPIs that measure the results of solutions should be derived to monitor the progress. Pivot / enhance when the results are less favorable quickly with a high level of visibility with data.

You may notice that dashboard above is insufficient to answer all the inquiries and monitor the results of the solutions. That is because of the generic dashboard that is built to answer some surface questions before deep diving into a more advanced analytics dashboard to find discover insights that can help users to solve their problems.

With the integration of our experience and expertise with data and your business knowledge and intuition into your business, we will deliver a fully analytic solution to enable you to have greater visibility on business, identify opportunities for improvement as well as identify potential threats and act accordingly and swiftly to the situation with the backing from data.

#AskSIFT



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