

Supply Chain Measures

You would use this approach as part of the design of your manufacturing process and material replenishment systems.

Projected performance gains



Reduced

- Cost



Improved

- Supply Chain performance

An effective Supply Chain is essential to a high performing business; if you don't measure it, you can't improve it

What investment is needed to understand the concept?

DIFFICULTY



Medium

Requires some reading around the subject and a structured approach

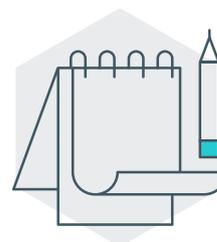
ACTIVITY



Team

Best results come from a team involved in procurement and materials

EQUIPMENT



Some

White board, Excel spreadsheet, software or paper based system.

Explanation of the concept

Supply Chain Measures help to improve the overall performance of the Supply Chain by identifying improvement opportunities. Many businesses are solely focused on cost as a measure, but this is only one aspect that should be measured.

More and more Supply Chains differentiate businesses. In a business environment which aspires to hold a minimum amount of stock, it is critical that Supply Chains can respond effectively to customer demand. It may be cheaper at a buy price level to source a product from a low-cost geography, but if it takes eight weeks to arrive you may lose the order.

It is useful to consider the Supply Chain as a whole, and put in place measures that cover multiple facets of its performance.

Measures to consider

- Stock turns / days of stock
- Inventory holding costs
- Price variance
- Inventory accuracy
- Supplier delivery performance
- Fill rate

Price variance

Price variance is the actual unit cost of a purchased item, minus its standard cost, multiplied by the quantity of actual units purchased.

The price variance formula is:

$(\text{Actual cost incurred} - \text{standard cost}) \times \text{Actual quantity of units purchased} = \text{Price variance}$

If the actual cost incurred is lower than the standard cost, this is considered a favorable price variance. If the actual cost incurred is higher than the standard cost, this is considered an unfavorable price variance. However, achieving a favorable price variance might only be achieved by purchasing goods in large quantities, which may put the business at risk of never using some of its inventory.

Conversely, the purchasing department may be committed to having very little inventory on hand, and so buys materials in very small quantities, which tends to result in unfavorable price variances. Thus, the operational plan of a business tends to drive the types of price variances that it incurs.

The price variance concept can be applied to any type of cost. For example, there is the labor rate variance for labour costs, the purchase price variance for materials, the variable overhead spending variance for variable overhead, and the fixed overhead spending variance for fixed overhead.

What action should I take?

1.



Gather together a team involved in procurement and materials.

2.



Explain the concepts behind Supply Chain Measures.

3.



Agree on a small number of Supply Chain Measures that you believe will best serve your business.

4.



Start to measure Supply Chain performance over a time period that is appropriate for the production cycles of your business.

5.



Use the data to identify improvement opportunities

6.



Work with the team to implement change and measure performance.

Recommended resources



Bicheno, J. R. and Holweg, M. (2016) The Lean Toolbox 5th Edition Paperback. Picsie Books. ISBN-10: 0956830757; ISBN-13: 978-0956830753

Bozarth, C. B. and Handfield, R. B. (2019). Introduction to Operations and Supply Chain Management, Global Edition (0) Paperback. Pearson. ISBN-10: 1292291583; ISBN-13: 978-1292291581

Panneman, T. (2019). Lean Transformations: When and how to use lean tools and climb the four steps of lean maturity Paperback. Independently published. ISBN-10: 1696198860; ISBN-13: 978-1696198868



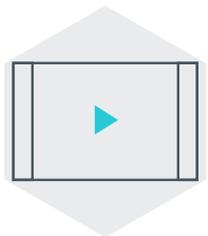
Chartered Institute of Procurement and Supply (CIPS):

<https://www.cips.org/>

[GC Business Growth Hub Factsheet 10: Supply Chain Fundamentals](#)

[GC Business Growth Hub Factsheet 16: KPIs and Performance Management](#)

[GC Business Growth Hub Factsheet 28: Inventory Management](#)



3 Supplier Performance Evaluation Practical Metrics:

<https://www.youtube.com/watch?v=QI5PpY8xz3k>

Glossary

Inventory: Raw materials, work in progress, finished goods and bought in stock/factored items

On Time In Full (OTF): A measurement which demonstrates how often the customer gets what they ordered by the agreed delivery date in full.

Stock turns / days of stock: How often stock rotates / how much stock is held on average

Inventory holding costs: How much it really costs to hold stock

Buy price variance: Tracking the ability to buy at a lower price than last time

Inventory accuracy: How often when parts are picked they are actually found

Supplier delivery performance: How many purchases have been delivered on time by suppliers

Fill rate: The percentage of customer orders met on time and in full (OTIF)

For more advice, case studies and additional factsheets visit: www.businessgrowthhub.com/manufacturing