

WHAT'S NEXT?

IN THE PREVIOUS INSTALMENT OF JASON FURNESS AND MICHAEL MCLEAN'S RECENT BOOK *MANUFACTURING MONEY*, THE AUTHORS EXPLAINED HOW TO MAXIMISE ROI. IN THIS ISSUE, THEY DESCRIBE SOME CHANGES BUSINESS OWNERS AND MANAGERS CAN MAKE ON THEIR WAY UP TO BEING A 'BLACK BELT' IN A MANUFACTURING AND DISTRIBUTION BUSINESS

Before any changes occur inside any of our clients' businesses, we collaborate with them to understand the financial impact in as much detail as possible before we begin. This is done for two reasons.

1. We want to have a live 'Measure of Success' so that we can have very fast feedback as to the results of our actions. If you are doing any sort of improvement project that is unable to rapidly show an improvement (days, or a few weeks) in the financial performance of the business, then I have to say that it may be the wrong program for your company, or it is not being executed correctly. The 'Measures of Success' will help you confirm this along the journey. Long gone are the days where you could undertake a two-year program of 'Cultural Change' and accept that there will be no financial benefit for at least eighteen months.
2. Before beginning, you really should determine if the desired changes are actually worth the effort. If the changes you wish to make are only going to have a marginal impact on the financial performance of the business, then why bother? It is extremely good business to sit down and 'war-game' the impact of the changes before you start. We will now 'War Game' some scenarios.

Scenario One: Stock reduction - how it is often done

Stock reduction is a great way of rapidly lifting your return on investment. It is often done; I have done it many times in the past, and will do so again in the future. However, a word of caution: reducing stock in isolation of other business processes can have disastrous financial impact and even larger impacts on other areas of the business.

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Example Co. before stock reduction

profit and loss statement for the period				balance sheet at the end of the period			
income	\$ '000	expenses	\$ '000	assets	\$ '000	liabilities	\$ '000
sales	1000	raw materials	400	building	1000	loans	300
		labour	200	equipment	300		
		freight	50	stock	100		
		overhead	100	cash	200		
		depreciation	30				
		interest	30				
total income	1000	total expenses	810	total assets	1600	total liabilities	300
		net profit before tax	190	net assets (shareholder equity)	1300		

statement of cash flow for the period			
cash in	\$ '000	cash out	\$ '000
from operations		raw materials	400
sales	1000	wages	200
		freight	50
		overhead	100
		interest	30
from financing		new equipment	100
from investing			
total cash in	1000	total cash out	880
		net cash flow	120

EBIT (\$'000)	220
EBITDA (\$'000)	250
return on sales	19.00%
ROI	9.23%
units (\$'000)	100
price/unit (\$)	10
cost/unit (\$)	8.1

Figure 1. Financial statements – before stock reduction.

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Example Co. after stock reduction

profit and loss statement for the period				balance sheet at the end of the period			
income	\$ '000	expenses	\$ '000	assets	\$ '000	liabilities	\$ '000
sales	950	raw materials	380	building	1000	loans	200
		labour	200	equipment	300		
		freight	50	stock	50		
		overhead	100	cash	170		
		reduction in stock	50				
		depreciation	30				
		interest	30				
total income	950	total expenses	840	total assets	1520	total liabilities	200
		net profit before tax	110	net assets (shareholder equity)	1220		

statement of cash flow for the period			
cash in	\$ '000	cash out	\$ '000
from operations		raw materials	380
sales	950	wages	200
		freight	50
		overhead	100
		interest	30
from financing		new equipment	100
from investing			
total cash in	950	total cash out	860
		net cash flow	90

EBIT (\$'000)	160
EBITDA (\$'000)	190
return on sales	13.68%
ROI	8.87%
units (\$'000)	95
price/unit (\$)	10
cost/unit (\$)	8.63

Figure 2. Financial statements – after stock reduction.

unaware of the decision as it really is an operational issue.

There are no changes to the way operations process the orders, or the materials, everyone is told to work harder and get better.

In the beginning there is no real difference, some of the operations slow down or are idled to allow the stock to be consumed. Labour levels are not changed as the rate of production is expected to return to normal once the stock levels are reduced. Other overheads do not change, nor does freight. The time it takes for an order to move from the beginning of the process through to the warehouse for despatch is unchanged.

The first sign of a problem is that customers who are used to ordering from the finished goods stock, place an order and instead of the warehouse being able to despatch the order immediately, they have to wait for stock from production. This means that the lead time from order to delivery has increased. The protective buffer of finished goods stock has been reduced, as was the intent, and now the customers will receive goods only once their order has been processed.

Customers who have been used to receiving product within the normal lead times start to complain. They will ring their sales representative who may well be unaware of any changes. The noise from the sales rep makes its way up the chain, and then back down again to the production manager. The production manager says that they need to purchase more raw materials in order to refill the stock levels.

Customers are unhappy and vocal. Sales are irate as they cannot book a sale without an invoice, and you cannot create an invoice

This is a not uncommon scenario. I have been through similar scenarios, and you may have also.

YourCo corporate head office has decreed an immediate 50% drop in all stock levels. The CFO has been monitoring the stock levels and from the balance sheet they can see there is \$100k being held in stock. They wish to free up \$50k of this value. Purchasing is instructed to restrict raw materials purchases. The operations are told that they must still supply all of the orders. Sales are often kept

3 **Example Co.**
after stock reduction - the right way

profit and loss statement for the period				balance sheet at the end of the period			
income	\$ '000	expenses	\$ '000	assets	\$ '000	liabilities	\$ '000
sales	1000	raw materials	380	building	1000	loans	300
		labour	200	equipment	300		
		freight	50	stock	50		
		overhead	100	cash	220		
		reduction in stock	50				
		depreciation	30				
		interest	30				
total income	1000	total expenses	840	total assets	1570	total liabilities	300
		net profit before tax	160	net assets (shareholder equity)	1270		

statement of cash flow for the period			
cash in	\$ '000	cash out	\$ '000
<i>from operations</i>			
sales	1000	raw materials	380
		wages	200
		freight	50
		overhead	100
		interest	30
<i>from financing</i>			
		new equipment	100
<i>from investing</i>			
total cash in	1000	total cash out	860
		net cash flow	140

4 **Example Co.**
buying new equipment

profit and loss statement for the period				balance sheet at the end of the period			
income	\$ '000	expenses	\$ '000	assets	\$ '000	liabilities	\$ '000
sales	1000	raw materials	380	building	1000	loans	300
		labour	190	equipment	350		
		freight	50	stock	100		
		overhead	100	cash	180		
		reduction in stock	30				
		depreciation	30				
		interest	30				
total income	1000	total expenses	780	total assets	1630	total liabilities	300
		net profit before tax	220	net assets (shareholder equity)	1330		

statement of cash flow for the period			
cash in	\$ '000	cash out	\$ '000
<i>from operations</i>			
sales	1000	raw materials	380
		wages	190
		freight	50
		overhead	100
		interest	30
<i>from financing</i>			
		new equipment	150
<i>from investing</i>			
total cash in	1000	total cash out	900
		net cash flow	100

Figure 3. Financial statements – after stock reduction, the right way.
Figure 4. Buying new equipment.

without stock. Production is being kicked everywhere. Sales have been missed; the company has been unable to invoice \$50,000 in sales due to the inability to supply.

Let's now have a look at set of financial statements for a new company called Example Co. to see the impact of the stock reduction.

You can see by comparing Figure 1. and Figure 2. that net profit before tax has reduced, cash flow has reduced, sales have reduced, return on sales has reduced, ROI has reduced, and standard product cost/unit has increased.

This was not the intent of the exercise.

Without a change in the fundamental process by which production occurs, the stock level cannot be maintained at this low level and have high customer service levels as before.

Decisions will be made, either stock level will return to previous levels, or customer service levels will be allowed to decline – no one is happy. Customers will look at alternatives and the production manager has a miserable life; at the next operations review, they will be castigated for the low service levels and the increased costs.

Stock reduction that drives greater customer service and improved profitability, while simultaneously reducing costs, can be achieved.

Scenario Two: Stock reduction - the right way

YourCo seeks to improve its return on investment by reducing the cash held in stock. The company is exceptionally focused that this change must not have any negative impact on its customers. In order to have a lower level of cash tied up in the order to delivery process without hurting the customers the speed of the order to delivery process must increase.

The financial statements are above.

You can again see the reduction of the raw materials purchasing, and the drop in stock. As you can see the financial metrics all improved, cash flow improved.

The key driver of this was that the changes were implemented without reducing the sales. Hurting sales is absolutely unacceptable.

Scenario Three: Buying new equipment

A common scenario is that a business is making a decision involving the purchase of new equipment. The motivation for buying new equipment can be many. Reducing costs, improving efficiencies, and opening new market opportunities are amongst the most common reasons.

flow impact and this will have to be assessed carefully on a case-by-case basis.

We have walked through the three financial statements, constructed them for a fictional company and calculated some measures of financial performance that look at the global performance of a business. You can now basically perform simple 'what if' analysis on the financial impact of the strategies and actions they wish to undertake, ideally before financial commitments are made.

The financial statements are most effective when utilised as 'global' measures. That is, they

“Stock reduction is a great way of rapidly lifting your return on investment.”

Should you buy the new piece of equipment? The only sensible answer is "it all depends".

We should make sure we model the impact of the new piece of equipment through the financials and make the decision that way. It is far too tempting (I have seen it happen) to have a rush of blood to the chequebook during a machinery exhibition or over a very nice dinner and a few bottles of red.

In this scenario, we will build on the original model (Figure 1. Before stock reduction.). A piece of equipment will cost \$50k that is paid in cash, there is expected to be a \$10k reduction in labour costs, and a scrap reduction that means we can reduce our raw material purchases by 5% or \$20k.

As you can see in Figure 4., in the first year the financial performance deteriorates. This is not surprising, really, as the cash outflow (\$50k) is greater than the savings. In this case I would be very dubious about buying the equipment; cash flow is reduced, net assets increase. The longer-term cash flow benefits of the equipment may however outweigh the initial negative cash

look at the entirety of a business operation. This is what shareholders care about, it is what CEO and CFO care about. This global perspective is caught in an apparent conflict with the desire of the same CEO's and CFO's desire for control at a detailed business unit, even individual level. We wish to be able to monitor, control, and judge the performance of individuals so as to drive performance even higher. This desire to measure at a very detailed level leads to another whole suite of detailed measures being created and utilised to give us the feeling of being in control at a detailed level and of providing for us a simple and clear way to assess individual performance.

The whole thing is an illusion. The premise is false.

The premise is that by measuring small, detailed performance in all areas, and improving those local measurements in each area we will achieve an improvement in the global performance of the enterprise. This is such an erroneous perspective that it is worthy of its own special edition program of 'Mythbusters'.

Here are examples of the measures I am talking about.

- Sales margin.
- Efficiency.
- Purchase price of components & products.
- Just about any form of standard cost accounting.
- Almost anything to do with transfer pricing.

Making operational decisions using these measures in isolation from the global financial statements is incredibly risky and almost certain to cause the enterprise to lose money, more often than not.

Linking bonus payment to achieving specified levels for these individual measures in isolation from each other and the global performance of the business is a recipe for civil war.

The types of decisions that I have seen made using these localised, specific measures include the following, to:

- Accept an order from a customer.
- Reject an order from a customer.
- Make vs to buy analysis.
- Change component sourcing practices.
- Open/close a factory.
- Invest in new equipment.
- Invest in new products.
- Invest in product 'A' instead of product 'B'.
- Hire or retrench people.

I have seen these decisions made correctly and executed well so that the business makes more operating cash flow and the enterprise value is increased.

I have seen these same decisions made based upon the impact of a single isolated measure and literally waste millions of dollars of shareholder value and precious management capacity.

Here are some examples of how this behaviour plays out, I am sure you can relate to some or all of them.

1. Sales margin

Sales Director: I need to achieve 25% margin on this product or I will buy it from an outside supplier, not from our factory. My bonus is paid on my margin numbers and I cannot lift prices, so you have to drop your transfer price.

Plant Manager: If you buy elsewhere I will reduce my costs but not all of the overhead will be eliminated from the business, the burden on all products will increase, and that means the transfer price on all other products will go up reducing your margin even further.

2. Efficiency

Plant Manager: I am measured by my plant efficiency and my cost per unit of production. We need to make and sell more of the high-volume products and drop the niche, low volume complex variants.



“Should you buy the new piece of equipment? The only sensible answer is “it all depends”.”

Sales Director: Are you nuts? The margin on the low volume niche products are double the standard product and the selling price is massive. We need the variety in order to give a range of options to the distributors and the clients. I cannot hit my targets if we only make the high-volume variants. We will lose sales.

3. Change component supplier

Purchasing Manager: I am measured on the total purchase price per unit and I can resource this part from our current supplier to a new supplier I just visited saving 3 cents a unit, or \$60,000 a year.

Supply Chain Manager: I am measured on the total value of stock and this re-sourcing means I have to add \$100,000 to my stock holding when I am required to reduce my total value in stock by 5% this year. I also do not know if this supplier is reliable and if we run out of this part the air freight cost will kill my budget.

Plant Manager: Your last ‘cost saving’ re-sourcing caused me to run out of parts and I couldn’t produce that particular variant for 2 weeks. I am measured by plant uptime and product availability and you killed me.

I can go on and on. I am certain that you can relate to some – or all – of these scenarios and probably add some examples of your own.

All of these problems and conflicts waste time, money, management capacity, and have the potential to annoy the market.

Who needs to worry about competitors when we are being so self-destructive?

These conflicts are between well-intentioned people who want the business to succeed and to have success in their personal careers.

The measures for their personal success are flawed and causes them to take actions that compromise the business performance in other local areas, and overall. This is not their fault. These people have different goalposts that they are being required to aim at.

How can any group of individuals who are aiming at different goalposts possibly work together as a team?

How much of an improvement could we make to our business if our behaviours were aligned instead of in conflict?

Solving the measurement paradox

How do we have people align behaviour to the global improvement of the business? The solution is simple, however, simple isn’t always easy to implement and it will require managers and leaders to have higher-quality holistic discussions around the impact on globally based measurements. Some will make it, some won’t. The ideal solution will at least have the following characteristics:

- Drive enterprise value upwards.
- Align behaviours to focus on the agreed common goals.
- Cause individuals to collaborate for personal gain as well as the organisation.
- Provide individuals with a viable path for personal success.
- Promote and permit accountability for behaviour and performance.
- Reduce poor decision making.

Jason’s book excerpts will continue in the March-April issue of MHD magazine. In the meantime, for more information visit www.manufacturing.com. **mhd**