ABC for 30% profit increase

This article shows manufacturers how to increase annual profit by 30% – it's as easy as ABC. By Sean O'Sullivan

Central to this article is the use of two key accounting spreadsheets, developed specifically for manufacturers, showing the impact that factory productivity gains have on annual profit. The key to achieving significant factory productivity gains is using PCs on the factory floor and time tracking software, which has been used extensively in Australian manufacturing for some 20 years. Time tracking software has been developed specifically for manufacturers' of custom made products, which are quoted in advance of manufacture, include kitchen manufacturers, shop fitters, window and door makers, and general timber joiners.

The article is supported by two key manufacturers' financial spreadsheets.

Initially the proposition may be difficult to accept as it will require you to question the current performance of your management team and factory staff.

This article will also show how, for example with 10 productive staff on the factory floor, a manufacturer can generate 93 additional production hours per week – without increasing hours worked, weekly wage cost or any other overhead costs.

This article is based on the writer's manufacturing experience, university qualifications; 20 years manufacturing experience – advising and supporting 260 manufacturers long term; implementing manufacturers' time tracking systems for 10 years, which has involved 130 manufacturers to date (mostly: kitchen makers, shop fitters, joiners, window makers, furniture makers and engineers); he facts as they present themselves to you in this article and the the advice of many astute manufacturers whom the writer considers are some of the most progressive and successful in their respective industries and market places.

Spreadsheet 1
(Access from the web and save to your desktop (free of charge) the 'Profit and Loss Spreadsheet' from www. empowersoftware.biz/Templates/Template 7.xls)

At Sheet 1 (tab at bottom left of your screen) you will see

a sample of a typical kitchen/cabinet maker joiner with $1 million annual turnover. In studying the columns to the right you will see that, when production and productivity increases by 10%, annual profit increases threefold. The figures from this spreadsheet sample are repeated directly below:

Increase in Production and Productivity	=	Increase in Annual Profit
10%	=	31%
20%	=	63%
30%	=	95%

I suggest that at rows 5, 6 or 7 in this sample Spreadsheet (Sheet 1), you simply change and increase any or all rows by for example $53,000 (ie a 50% increase) to now total $159,000 overhead cost, which reflects some manufacturers higher overhead costs. You will now see in the columns to the right that when production and productivity is increased by 10% then annual profit now increases four to five fold. The figures from this revised spreadsheet sample are repeated directly below:

Increase in Production and Productivity	=	Increase in Annual Profit
10%	=	46%
20%	=	93%
30%	=	140%

Sheet 2 is ready for you to include your own numbers from your last Profit and Loss Statement. This will enable you to see with accuracy your varying potential gains in factory productivity and the resultant likely impact on your annual profit

So you can see from both Sheet 1 and Sheet 2 that you only need to increase your production and productivity by 10% to increase your annual profit by 30%. Hence, my proposal "increasing your profit by 30% is as easy as ABC" is quite achievable simply through increasing your factory

productivity. All you need to do now is follow A, B and C below to increase your annual profit by 30%.

Spreadsheet 2

(Access from the web and save to your desktop (free of charge) this spreadsheets from www.empowersoftware.biz/Templates/Template 12.xls)

In this spreadsheet you need to fill in two numbers, namely:
- your number of productive staff
- your overhead cost dollar per hour (per hour, per staff member).

On average most Australian small to medium sized jobbing manufacturers range from around $60 to $80/hr. Some manufacturers are higher than $80 per hour when rent costs are high, the ratio of non productive to productive staff numbers is high and when machinery depreciation costs are high.

In this spreadsheet at A, B, and C it will show you how, where and why you can achieve significant productivity increases from your factory floor. A, B, C is repeated below:

A: Eliminating the time that your factory staff are not working promptly at day start and day end, starting and finishing smoko(s) and starting and finishing lunch (up to 6 or 8 times a day). Approximately 98% of manufacturers I speak with confirm that their lost and stolen time in this area approximates at least 30 minutes per staff member per day. 30 minutes per staff member per day is 2.5 hours per staff member per week, which at only $60 an hour overhead cost is a loss of $150 per staff member per week

If for example you have 10 factory staff you will see that eliminating lost and stolen time from this area equates to:
- generating 25 additional production hours per week;
- saving $1500 per week at overhead cost only ($60/hr times 25 hours).

If you believe that your lost and stolen time at these six or eight times a day is different to my estimate then simply change 2.5 hours per staff member per week to your estimated hours – and the spreadsheet will recalculate itself based on your estimate

B: Eliminating unnecessary unproductive time on your factory floor (ie factory overhead jobs, downtime jobs, stolen time, time overruns on jobs, re-work, and unaccounted time). We find that most of our new manufacturing clients initially have unproductive time that approximates 20% of factory staff's paid hours. At 20% of a 38 hour week, unproductive time approximates 7.6 hours. Unproductive time, when tightly and properly managed, should be less than 10%, which in a 38 hour week is 3.8 hours.

Eliminating your unnecessary unproductive time can be achieved by:
- assigning downtime jobs to the right staff and stopping some staff carrying out certain downtime jobs that they should not be carrying out;
- assigning budgeted times to all downtime jobs;

- tracking and monitoring daily and weekly downtime of each staff member to ensure hours spent on downtime jobs does not exceed budgeted times;
- reporting all downtime jobs, including re-work, live from the factory floor to all management on their PCs (this requires second hand PCs on the factory floor and time tracking software).

If, for example, you have 10 factory staff you will see that eliminating unnecessary unproductive time equates to:
- generating 38 additional production hours per week;
- saving $2280 per week at overhead cost only ($60/hr times 38 hours).

If you believe that your unproductive time is different to that estimated, then simply change 3.8 hours per staff member per week to your estimated hours – and the spreadsheet will recalculate itself based on your estimate

C: Factory staff being more time conscious and focused on manufacturing jobs

You simply need to give each of your factory staff a budgeted time for every job just prior to starting the job and you need to get your staff to accurately record their time on the job immediately they complete each job. This will generate production gains of 10% or substantially higher. If, in a 38 hour week, staff currently work 30 hours on manufacturing product then a 10% increase in production equals three hours additional production per staff member per week.

If, for example, you have 10 factory staff you will see that staff being more time conscious on manufacturing jobs equates to:
- generating 30 additional production hours per week;
- saving $1800 per week at overhead cost only (eg $60/hr times 30 hours).

If you believe that your likely increase in manufacturing time is different to that which I have estimated then simply change three hours per staff member per week to your estimate – and the spreadsheet will recalculate itself based on your estimate

So, in total, A, B, and C above, productivity increases from your factory floor (with 10 staff) equates to:
- 93 additional production hours per week;
- saving $5580 per week at overhead cost only ($60/hr times 93 hours).

Secondhand PCs on your factory floor and time tracking software will enable you to achieve maximum increases from all your staff from these three areas outlined above at A, B and C.

One 'Staff Productivity Report' from time tracking software which would prove invaluable to you and your management team is presented below.

Examples of both a productive staff member and a less than productive staff member from the factory floor highlight how clearly the numbers confirm significant differences in individual staff weekly production. I further advise that without secondhand PCs on the factory floor and time tracking software you would never know the individual staff member's weekly production and the substantial differences in staff member's weekly production.

1. Sam Williams - Productivity Pie – Week 23 [productive staff member]
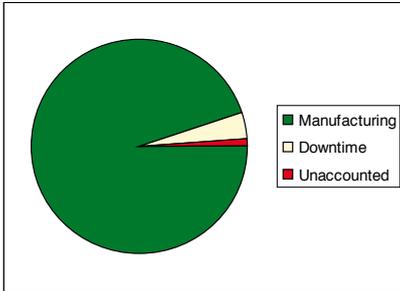
Actual Time (hours)		Budgeted Time (hours)	Percentage
Manufacturing Jobs	36.1	49.09	136% Productive (49.09/36.1)
Downtime Jobs	1.5	2	25% under Budget
Unaccounted Time	0.4	0.5	20% under Budget
Total Time (Paid Hours)	38		

2. Paul Watson - Productivity Pie - Week 23 [less than productive staff member]
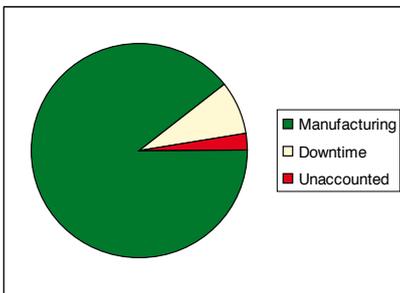
Actual Time (hours)		Budgeted Time (hours)	Percentage
Manufacturing Jobs	34	22	65% Productive (22/34)
Downtime Jobs	3	2	50% over Budget
Unaccounted Time	1.0	0.5	100% over Budget
Total Time (Paid Hours)	38		

When you use time tracking software you see that, as these two examples clearly highlight, that one staff member can continuously complete well over 100% more daily and weekly production than another staff member. This one key staff productivity report would enable you to drive your team and your factory productivity.

This same report can be run daily, monthly or for whatever period you select. They can also be run for the entire factory as a whole or they can be run for a group of staff in the factory as a whole.

Staff productivity reports confirm to both you and your production manager that:

- each of your individual staff are allowed for example a budget of 30 minutes (0.5 hours) per week unaccounted time (ie. when staff are not logged onto their manufacturing jobs or downtime jobs). This ensures that in a 38 hour week staff are logged onto manufacturing jobs or downtime jobs, and are therefore fully accountable on jobs, for 37.5 hours per week
- each of your individual staff has their individual list of downtime

jobs with their respective budgeted times. In both examples above, Sam and Paul have a weekly budget of two hours total downtime across all downtime jobs and their weekly actual time on downtime is tracked and reported against the two hours budgeted
- each of your staff members needs to focus on bringing all their manufacturing jobs in on budgeted time or better. For example, Sam, the productive staff member, has, in 36.1 actual hours, manufactured product with 49.09 budgeted hours associated. Therefore, Sam is 136% productive on his manufacturing jobs for this week

A recent survey of 21 Australian and New Zealand jobbing manufacturers using time tracking software confirmed the following statistics (ie comparing the move from not using time tracking software to using time tracking software):
- the average increase in factory productivity, across 21 manufacturers, was 47.5%;
- the median increase in factory productivity, across 21 manufacturers, was 35%;

- the lowest increase in factory productivity, across 21 manufacturers, was 15%;
- the highest increase in factory productivity, across 21 manufacturers, was 160%.

In fact, across 130 manufacturers and 10 years the lowest productivity increase recorded from any manufacture using time tracking software is 15%.

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