

# Measuring Performance

BUSINESS COACH	SERIES
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- Importance of tracking performance
- How to measure performance
- Internal and external yardsticks
- Early warning system



## Is your business doing well?

### The Situation

You prefer being your own boss and running your own show. You seem to be making a living. However, you're not sure whether your business is earning as much as it should be, considering the hours and effort you're putting into it. You may even have difficulty placing a value on your business.

### The Solution

At BMO Bank of Montreal®, we are committed to helping Canadian businesses develop and succeed. The purpose of this Business Coach is to help you recognize when you are succeeding... and when you are not.

There are many ways to measure success; for instance, if you enjoy doing what you do, then you have achieved some personal success. However, from a financial viewpoint success is measured with raw numbers, comparisons to standards and yardsticks. We see businesses in all shapes and sizes; in all states of profitability. Based on our in-depth knowledge and expertise, we have designed this booklet to help you manage for profit by measuring your results.

## Timely measurement can help you:

- identify problem areas before they're out of control
- separate the profitable from non-profitable products/services
- isolate areas for cost cutting
- evaluate new ideas, and
- see your company as outsiders will see it.

### TIPS

- Measurement does not reveal why something happened; it can alert you to look for causes and probe for reasons.
- It's difficult to measure everything all the time. Manage by exception – that is, select a few key areas to monitor from time to time and look for warning signals, a sudden change, or an unusual event.
- Use the following Guidelines to ensure the measurements you rely on are valid and relevant.

## Guidelines

- **Measure by comparison.** Measurements don't stand alone; a result is:
  - better or worse than last year
  - over or under budget
  - above or below the industry average, etc.
- **Compare “apples to apples.”** For instance, compare pre-tax (usually safer than after-tax) profits to pre-tax profits. Remember:
  - don't mix inventory turn using “cost of goods” with inventory turn using “total sales”
  - “return on assets” is not the same as “return on equity” (see the companion Business Coach booklet *Making Sense of Financial Terms and Jargon* on this topic)
  - be careful to use a consistent year-end.
- **Focus on numbers for precision.** Words can be too vague.
  - Three times turn of inventory is better than two and a half turns.
  - 42 days receivables is an improvement on 60 days.
  - Working capital of \$60,000 is better than \$40,000.
- **Use ratios and percentages.** By reducing everything to a common base – 1 or 100 – they make results easy to compare. Based on the numbers above:
  - the three times turn is a 20% improvement over two and a half
  - 42 days is a 30% improvement over 60, and
  - if the \$60,000 were made up of \$100,000 current assets and \$40,000 current liabilities, the working capital ratio would be 2.5:1.

- **Find *internal* comparisons** – measurements within your company. For instance:
  - this year vs. last
  - last month vs. a year ago last month
  - store A vs. store B, and
  - performance vs. budget.
- **Make *external* comparisons** by obtaining industry standards and ratios from:
  - trade association statistics
  - Dun and Bradstreet, particularly the annual statistical review
  - trade papers, magazines and websites
  - Statistics Canada, which often has more data than it publishes
  - annual reports of public companies in your industry, and
  - bank managers, accountants.
- **Beware of the “cover-up.”** Don’t depend on averages or composite figures. Look behind the numbers. For example:
  - a low inventory turn will conceal some fast-moving items among the slow, and
  - 45 days average receivables probably will hide some 120-day payers among the fast payers.
- **Adjust for reality.** You may have to make adjustments to ensure a fair comparison, a true measurement. Among the more common adjustments necessary:
  - **Salary.** If you draw a low salary, your pre-tax profit should be adjusted downwards by the difference you would have to pay an outside manager for the same job. For example, if normal salary is \$40,000 and you drew \$20,000, then pre-tax profit of,

say, \$40,000 is realistically only \$20,000. This adjustment is important when evaluating a company's earnings.

- **Market value.** If the market value of your assets is a lot more than shown on your books after depreciation, you are overstating your return on investment. If someone else were to buy your company, you should expect the buyer to pay at least the market value for the assets. To see your real return, add the difference between market and depreciated value to the net worth.
- **Inflation.** If your sales have grown steadily every year for, say, five years, use the cost-of-living index to adjust the sales by the amount of inflation. You may be surprised at the amount of real growth.

## Internal Yardsticks

**NOTE** | The figures used for demonstrating each measurement are taken from the sample financial statements, "Profit and Loss" and "Balance Sheet," at the back of this Business Coach. Each capital letter and small letter in equations refers to a specific line in the financial statements, making it easy for you to do similar calculations for your own company.

The following are some key yardsticks, each with an explanation of how to use it, what it can mean and how to look for negative causes behind the figures. Once the cause is apparent, you can begin to make the necessary changes.

## Receivables

Receivables are your most important current assets. If they are “good,” (say, less than 90 days) you can usually borrow up to 75% of their value from the bank. If they are “old,” or “long,” they’re likely to turn into bad debts – and you cannot borrow against them.

Determine average age of receivables:

**1**  
STEP

*last year*

$$\frac{b}{A} = \frac{\$ 57,000}{\$ 540,000} \times 365 = 38.5 \text{ days}$$

*previous year*

$$\frac{\$ 51,000}{\$ 460,000} \times 365 = 40.5 \text{ days}$$

**2**  
STEP

Break receivables into 30, 60, 90 days, and more than 90 days. Monitor the over-90-days by day; the balance by week.

- Look for telltale signs:
  - weak credit judgment
  - poor collection procedures
  - not enforcing terms
  - slow issue of statements
  - customer dissatisfaction.

## Payables

Using other people’s money – in this case your suppliers’ – can be appropriate within reason. Just don’t let it get out of hand.

**1**  
STEP

Determine average age of payables. As with receivables, break into groups of 30, 60 days, and so on to monitor. Also focus on those

offering discounts to decide whether it's worthwhile to pay quickly. It may not be.

$$\textit{last year} \quad \frac{I}{H} = \frac{\$ 52,000}{\$ 378,000} \times 365 = 50.2 \text{ days}$$

$$\textit{previous year} \quad \frac{\$ 46,000}{\$ 331,000} \times 365 = 50.7 \text{ days}$$



Ask yourself:

- who demands interest?
- who threatens to cut you off?
- can extended terms be negotiated?
- is factory/warehouse turnaround time too long?
- are there alternative sources?
- are staggered shipments and payments possible?

### Inventory

It's estimated that, to carry inventory, it costs two-and-a-half to three times the prevailing bank rate. For example, if the interest rate is 6%, inventory will cost you more than 15% per annum. This includes heat, light, power, labor, insurance, and so on. Therefore, moving inventory is critical.

$$\textit{last year} \quad \frac{H}{c} = \frac{\$ 378,000}{\$ 160,000} = 2.36 \text{ turns}$$

$$\textit{previous year} \quad \frac{\$ 331,000}{\$ 168,000} = 1.97 \text{ turns}$$

Expressed in days inventory on hand:

$$\textit{last year} \quad \frac{c}{H} = \frac{\$ 160,000}{\$ 378,000} \times 365 = 154 \text{ days}$$

$$\textit{previous year} \quad \frac{\$ 168,000}{\$ 331,000} \times 365 = 185 \text{ days}$$

Look for:

- excessive inventory or poor mix – are you taking too many quantity discounts?
- slow movers – how can you clean them out?
- suppliers that can deliver on short notice.

### Current financial stability

An important reading of your financial health can be found in the current ratio – the balance between your current assets (what's owed *to* you) and your current liabilities (what's owed *by* you).

$$\textit{last year} \quad \frac{d}{p} = \frac{\$ 224,000}{\$ 68,000} = 3.3 : 1$$

$$\textit{previous year} \quad \frac{\$ 226,000}{\$ 58,000} = 3.9 : 1$$

Anything more than 1:1 is healthy. This company has plenty of room for more borrowing.

Then there's the acid test (quick ratio) that banks like to look at: current assets that can be quickly turned into cash, versus current liabilities.

$$\frac{a + b}{p}$$

$$\textit{last year} \quad \frac{\$ 7,000 + \$ 57,000}{\$ 68,000} = .94 : 1$$

$$\textit{previous year} \quad \frac{\$ 7,000 + \$ 51,000}{\$ 58,000} = 1 : 1$$

1 : 1 is considered healthy.

### Long-term financial stability

Here are three key readings on the long-term viability of your company – especially as seen through the eyes of bankers and other lenders.

- *Debt to equity* (also known as leverage).

$$\frac{p + q}{v}$$

$$\text{last year} \quad \frac{\$ 68,000 + \$ 39,000}{\$ 202,000} = .53 : 1$$

$$\text{previous year} \quad \frac{\$ 58,000 + \$ 43,000}{\$ 172,000} = .59 : 1$$

The leverage has gone down slightly, so this company could borrow substantially more. However, beware of fluctuating interest rates. Rising rates can reduce the leverage available because of lack of coverage (see below). Leverage varies from industry to industry, but about 3:1 or 2:1 debt to equity is acceptable in many.

- *Coverage*. There are two forms of coverage: asset and earnings (ability to service the debt)

$$\text{Asset} \quad \frac{i}{q} = \frac{\$ 85,000}{\$ 39,000} = 2.2 : 1 \quad \text{Asset coverage}$$

This means \$2.2 of assets covers \$1 of long-term debt.

$$\text{Earnings} \quad \frac{Q}{O} = \frac{\$ 39,000}{\$ 11,000} = 3.5 : 1 \quad \text{Earnings coverage}$$

Anything more than 2:1 is generally considered healthy.

- *Retained earnings*. It's important to realize that what you leave in the company influences the confidence of outsiders, particularly bankers. In this case, retained earnings have gone from \$97,000 to \$127,000 because the owner didn't take earnings out in dividends.

## Key P & L factors

Compare each of the following to last year and to budget – preferably by quarter. This can also be done by product versus product.

*last year*

*previous year*

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### % Gross Profit

$$\frac{I}{A} = \frac{\$ 162,000}{\$ 540,000} = 30.0\% \quad \frac{\$ 129,000}{\$ 460,000} = 28.0\% \text{ (improved)}$$

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### % Selling Expense

$$\frac{L}{A} = \frac{\$ 48,000}{\$ 540,000} = 8.9\% \quad \frac{\$ 36,000}{\$ 460,000} = 7.8\% \text{ (worse)}$$

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### % Administrative Expense

$$\frac{P}{A} = \frac{\$ 75,000}{\$ 540,000} = 13.8\% \quad \frac{\$ 69,000}{\$ 460,000} = 15.0\% \text{ (improved)}$$

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### % Pre-tax Profit

$$\frac{Q}{A} = \frac{\$ 39,000}{\$ 540,000} = 7.2\% \quad \frac{\$ 24,000}{\$ 460,000} = 5.2\% \text{ (improved)}$$

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### % Direct Labour to Cost of Goods Sold

$$\frac{D}{H} = \frac{\$ 112,000}{\$ 378,000} = 29.6\% \quad \frac{\$ 88,000}{\$ 331,000} = 26.6\% \text{ (higher)}$$

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### % Sales Increase/Decrease

$$\frac{\$ 540,000 - \$ 460,000}{\$ 460,000} = 17.4\% \text{ (up)}$$

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## Breakeven

This is the point at which sales less cost of goods (that is, gross profit) equals overhead. Once sales exceed the breakeven point, you begin to make a profit. On sales up to the breakeven point, you will incur losses. The lower you keep your breakeven, the less vulnerable you are. The more costs you can make variable (that is, incurred only if sales are made), the less vulnerable you are.

Using “last year’s” figures and assuming that all selling and administrative expenses were fixed overhead, the breakeven point would be:

$$\frac{\text{Fixed overhead}}{\text{Gross profit margin}} = \text{Breakeven level of sales}$$

$$\frac{(\text{L}) \$ 48,000 + (\text{P}) \$ 75,000}{0.30 \frac{(\text{I})}{\text{A}}} = \$ 410,000$$

If, on the other hand, selling expenses all became variable – perhaps commissions – then the breakeven point would fall.

$$\frac{\$75,000}{0.30} = \$250,000$$

Keeping your breakeven point low and your gross margin high is a sound goal even in good times.

## External Yardsticks

Don’t look at your company in isolation: compare it with competitors, industry averages, public company results in your industry.

Consider the following:

- receivables – average in number of days
- payables – average in number of days
- inventory – turn on cost of goods. Where cost of goods of another company is not known compare using total sales, e.g. A/c
- debt to equity
- all percentage comparisons described before
- sales of product vs. service income
- average size of transaction (particularly retail), and
- profit before tax on net worth (return on equity).

## The Bottom (crunch) line

You're in business to make a profit. There are several ways of measuring profit.

- *Pre-tax profit on sales* – the bottom line. Use “before taxes” since taxes can change depending on size of company and other factors. This is an important measurement for year-to-year comparisons (7.2% vs. 5.2%) and industry comparisons.
- *Return on equity*. Probably the most fundamental measurement showing what you've earned on all the money tied up in your company. Question: could you do better with your money at less risk elsewhere?

*last year*

*previous year*

$$\frac{Q}{v} = \frac{\$ 39,000}{\$202,000} = 19.3\% \quad \frac{\$ 24,000}{\$172,000} = 14\%$$

- *Value of company* (all your efforts to date). Net worth (line v), or book value, is one way of valuing your company. However, a good company should be worth more valued on earnings; that is, an outsider would give more for it than the book value because of the demonstrated earning capacity of the assets.

Value on earnings is another option. You need outside help to find the “multiple” to apply. It's generally related to average earnings multiples on the Toronto Stock Exchange for your type of industry. Say it's seven times (meaning the shares change hands at an average price of seven times last year's reported after-tax earnings per share). Remove the effects of income tax – in this case, say, 30% – then apply to your own pre-tax earnings: 4.9 times, rather than seven.

<i>last year</i>	line Q x 4.9 = \$191,000
<i>previous year</i>	\$117,600

In this case, the owners must set higher targets since they're still below book value. Let's say they thought \$800,000 sales at 10% were a reasonable three-year target. The value  $\$80,000 \times 4.9 = \$392,000$  is still only marginal, because there will be three years of after-tax profit to add to the net worth.

What will your company be worth in three to five years? Is that a sufficient reward for the risk and the effort? Would your investment be better employed elsewhere? What internal improvements can you bring about in performance: turning your assets faster, using less capital, getting a better return on assets?

## Hot Buttons


Since you cannot measure everything all the time, use the "Hot Buttons" that follow as your early warning system. Select those that are relevant and, when they sound an alarm, look for the cause and take corrective action before it's too late.

### Applicable to most businesses

- Pre-tax profit on sales
- Gross profit/margin
- Breakeven sales level
- Inventory turnover
- Age of receivables
- Bad debts
- Age of payables
- Customer complaints
- Returned goods
- Staff turnover
- Absenteeism

## Industry-specific

In addition to the above:

- Manufacturing
    - Gross profit/margin per item
    - Order backlog
    - Percent labor costs
    - Downtime
    - Accidents
    - Product complaints/rejects
    - Service/warranty costs
  - Service
    - Volume per employee
    - Gross profit per sale/per customer
    - Rent as a percent of volume
    - Average sales per invoice
    - Lost business
    - Repeat business/referrals
    - Overhead to sales
  - Retail
    - Average mark-up (also per item)
    - Stock "outs"
    - Delivery/service per \$ sales
    - Per cent "on sale" vs. regular prices
    - Sales per customer
    - Average sales per invoice
    - Rent as percentage volume
  - Contracting
    - Average gross profit per completed job
    - Tenders vs. successful bids
    - Dollar value of hold-backs
    - Value of work-in progress to total volume
    - Cost overruns
    - Problems with bid bonds
    - Overhead to sales
- 

**ABC LTD.**  
**Statement of Profit and Loss**  
*for year ended December 31, 20\_\_*

	LAST YEAR	
	Amount	% of sales
A) Net sales	<b>\$ 540,000</b>	<b>100.0%</b>
<i>Less Cost of Goods Sold</i>		
B) Beginning inventory	\$ 168,000	
C) Purchases	\$ 210,000	
<i>Production Expenses:</i>		
D) Direct labor	\$ 112,000	
E) Direct overhead	\$ 48,000	
F) Cost of goods on hand	\$ 538,000	
G) Less: ending inventory	\$ 160,000	
H) Cost of goods sold	\$ 378,000	70.0%
I) Gross profit ( <i>A minus H</i> )	<b>\$ 162,000</b>	<b>30.0%</b>
<i>Less Expenses</i>		
<i>Selling Expenses:</i>		
J) Salaries and commissions	\$ 38,000	7.0%
K) Advertising and other expenses	\$ 10,000	1.9%
L) Total selling expenses	\$ 48,000	8.9%
<i>Administrative Expenses:</i>		
M) Salaries and wages	\$ 51,000	9.4%
N) Rent and utilities	\$ 13,000	2.4%
O) Interest and other expenses	\$ 11,000	2.0%
P) Total administrative expenses	\$ 75,000	13.8%
Q) Net profit before taxes	\$ 39,000	7.2%
R) Less: income taxes	\$ 9,000	1.6%
S) Net income after taxes	<b>\$ 30,000</b>	<b>5.6%</b>

**ABC LTD.**  
**Statement of Profit and Loss**  
*for year ended December 31, 20\_\_*

	<b>PREVIOUS YEAR</b>	
	Amount	% of sales
A) Net sales	<b>\$ 460,000</b>	<b>100.0%</b>
<i>Less Cost of Goods Sold</i>		
B) Beginning inventory	\$ 150,000	
C) Purchases	\$ 219,000	
<i>Production Expenses:</i>		
D) Direct labor	\$ 88,000	
E) Direct overhead	\$ 42,000	
F) Cost of goods on hand	\$ 499,000	
G) Less: ending inventory	\$ 168,000	
H) Cost of goods sold	\$ 331,000	72.0%
I) Gross profit ( <i>A minus H</i> )	<b>\$ 129,000</b>	<b>28.0%</b>
<i>Less Expenses</i>		
<i>Selling Expenses:</i>		
J) Salaries and commissions	\$ 31,000	6.7%
K) Advertising and other expenses	\$ 5,000	1.1%
L) Total selling expenses	\$ 36,000	7.8%
<i>Administrative Expenses:</i>		
M) Salaries and wages	\$ 46,000	10.0%
N) Rent and utilities	\$ 13,000	2.8%
O) Interest and other expenses	\$ 10,000	2.2%
P) Total administrative expenses	\$ 69,000	15.0%
Q) Net profit before taxes	\$ 24,000	5.2%
R) Less: income taxes	\$ 6,000	1.3%
S) Net income after taxes	<b>\$ 18,000</b>	<b>3.9%</b>

# ABC LTD.

## Balance Sheet

at December 31, 20\_\_

		LAST YEAR
<b>Assets</b>		
<i>Current assets</i>		
a) Cash in bank and petty cash		\$ 7,000
Accounts receivable	\$ 59,000	
Less allowance for doubtful Accounts	\$ 2,000	
b) Net accounts receivable		\$ 57,000
c) Inventory		\$ 160,000
d) Total current assets		<b>\$224,000</b>
<i>Fixed assets</i>		
e) Land and building	\$ 41,000	
f) Machinery and equipment	\$ 83,000	
g) Furniture and fixtures	\$ 28,000	
	\$ 152,000	
h) Less accumulated depreciation	\$ 67,000	
i) Total fixed assets		\$ 85,000
j) Total assets		<b>\$309,000</b>
<b>Liabilities and Shareholders' Capital</b>		
<i>Current liabilities</i>		
k) Bank loan		\$ 8,000
l) Accounts payable		\$ 52,000
m) Accrued expenses & commissions		\$ 2,000
n) Taxes payable		\$ 2,000
o) Current portion of bank term loan		\$ 4,000
p) Total current liabilities		<b>\$ 68,000</b>
<i>Long-term liabilities</i>		
q) Long-term debt due after one year		<b>\$ 39,000</b>
<i>Shareholders' (capital) equity</i>		
r) Common stock (1,000 shares)	\$ 15,000	
s) Preferred shares (\$10 par value)	\$ 60,000	
t)	\$ 75,000	
u) Retained earnings	\$ 127,000	
v) Total shareholders' (capital) equity		<b>\$202,000</b>
w) Total liabilities and shareholders' (capital) equity		<b>\$309,000</b>

# ABC LTD.

## Balance Sheet

at December 31, 20\_\_

		PREVIOUS YEAR
<b>Assets</b>		
<i>Current assets</i>		
a) Cash in bank and petty cash		\$ 7,000
Accounts receivable	\$ 53,000	
Less allowance for doubtful accounts	\$ 2,000	
b) Net accounts receivable		\$ 51,000
c) Inventory		\$ 168,000
d) Total current assets		<b>\$226,000</b>
<i>Fixed Assets</i>		
e) Land and building	\$ 41,000	
f) Machinery and equipment	\$ 57,000	
g) Furniture and fixtures	\$ 14,000	
	<u>\$112,000</u>	
h) Less accumulated depreciation	\$ 65,000	
i) Total fixed assets		\$ 47,000
j) Total assets		<b>\$273,000</b>
<b>Liabilities and Shareholders' Capital</b>		
<i>Current liabilities</i>		
k) Bank loan		\$ 4,000
l) Accounts payable		\$ 46,000
m) Accrued expenses & commissions		\$ 2,000
n) Taxes payable		\$ 2,000
o) Current portion of bank term loan		\$ 4,000
p) Total current liabilities		<b>\$ 58,000</b>
<i>Long-term liabilities</i>		
q) Long-term debt due after one year		\$ 43,000
<i>Shareholders' (capital) equity</i>		
r) Common stock (1,000 shares)	\$ 15,000	
s) Preferred shares (\$10 par value)	\$ 60,000	
t)	<u>\$ 75,000</u>	
u) Retained earnings	<b>\$ 97,000</b>	
v) Total shareholders' (capital) equity		<b>\$172,000</b>
w) Total liabilities and shareholders' (capital) equity		<b>\$273,000</b>

At BMO Bank of Montreal, we are committed to helping Canadian businesses develop and succeed. To this end, we've created a Business Coach Series that provides information and knowledge that can optimize the value of your company's financial resources. The booklets that make up the Series focus on essential areas of financial management allowing you to focus on operating your business more effectively.

For more information on  
how BMO Bank of Montreal  
can help your business:

- ✓ talk to your Commercial Account Manager
- ✓ call BMO Bank of Montreal Direct Banking for Business at **1 877 262-5907** or
- ✓ log on to **[www.bmo.com/business](http://www.bmo.com/business)**

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