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### Introduction

#### KPIs are vital management tools

Key performance indicators (KPIs) are the vital navigation instruments used by managers to understand whether their business is on a successful voyage or whether it is veering off the prosperous path. The right set of indicators will shine light on performance and highlight areas that need attention. 'What gets measured gets done' and 'if you can't measure it, you can't manage it' are just two of the popular sayings used to highlight the critical importance of metrics. Without the right KPIs managers are sailing blind.

The problem is that most managers are struggling to understand and identify the vital few management metrics and instead collect and report a vast amount of everything that is easy to measure. As a consequence they end up drowning in data while thirsting for information.

Effective managers and decision makers understand the performance of all key dimensions of their business by distilling them down into the critical KPIs. Not understanding key metrics can often cause anxiety and can hold people back. This book will demystify and explain in simple terms the most important KPIs in use today. It will equip you with the skills to understand, measure and interpret the most important aspects of any business.

#### How to use this book

You can use this book in two ways: as an essential reference guide that allows you to look up the KPIs you want to understand and learn more about as and when you need it; or you can use it to help you complete your performance management framework, business dashboard, balanced scorecard or business intelligence strategy.

Performance frameworks, dashboards or scorecards are used by companies to group KPIs together into displays or reports so that they provide at-a-glance overviews of how the business (or business units) is performing. To facilitate the design of dashboards and scorecards, the KPIs in this book are grouped into the following key business perspectives that are shared across most organisations, irrespective of type or industry sector:

- Financial perspective
- Customer perspective
- Marketing and sales perspective

- Operational processes and supply chain perspective
- Employee perspective
- Corporate social responsibility perspective

Each KPI in this book is described using the same framework outlining why the KPI is important and what it measures, how the data are collected and how it is calculated. Each KPI description also includes a practical example as well as tips on data sources, target setting and benchmarking, measurement frequency, pitfalls, cost and effort of creating the data, and references.

#### KPIs have to measure what matters

For KPIs to be the vital navigation instruments that help you understand whether your business is on the right track or not, we have first to define the strategy and then closely link our KPIs to that. Too many organisations fall into the trap of retrofitting objectives to existing and established metrics: which is simply back to front. KPI development has to start with your strategy and the objectives the business is aiming to achieve.

I spend most of my life helping organisations define their strategy, develop dashboards and scorecards, and develop the KPIs they need to monitor and manage their business. If you would like practical step-by-step guidance on how to develop and use a performance management system, I would refer you to my most recent books, *The Intelligent Company* (for commercial companies) and *More with Less* (for government and not-for-profit organisations). They will guide you through the process and make a perfect companion to this book.

One important point I make in my other books that is worth repeating here is that KPIs need to give us information and answers to what we need to know. What we have to make sure is that we know what our information needs are and what questions we want answered before we introduce any KPIs. This is why I have developed the concept of Key Performance Questions or KPQs for short. A KPQ is a management question that captures exactly what it is that managers need to know. The rationale for KPQs is that they focus our attention on what actually matters most and therefore provide guidance for choosing the most meaningful KPIs.

Many of my clients now use the concept of KPQs in anger to guide their KPI selection and to provide context for their KPI reporting. Take Google for instance – one of today's most successful and most admired companies. Google's executive chairman Eric Schmidt now says: 'We run the company by questions, not by answers. So in the strategy process we've so far formulated 30 questions that we have to answer [...] You ask it as a question, rather than a pithy answer, and that stimulates conversation.'

In this book I have created a KPQ for each KPI that is included. This gives you further context for each KPI and provides you with a starting point for using KPQs in your own business.

#### Your unique set of KPIs

I have always stressed the importance of designing KPIs based on your own unique circumstances and information needs. However, what I have learnt over the many years of helping leading companies and government organisations with their performance management and business intelligence is that there are some important (and innovative) KPIs everyone should know about. They will give you a solid base of knowledge. However, there will be other, more specialised measures designed for your specific strategy or industry context. Take, for example, the network performance KPIs for a telecom operator or the quality indicators for healthcare providers. These will have to be included in your list of KPIs but will not be found in this book, at least not in their industry-specific format. For a wide-ranging list of business metrics I would like to refer you to the online KPI Library of the Advanced Performance Institute (www.ap-institute.com). There you will also find relevant white papers and case studies on the topic.

#### A final note: management is not a numbers game

It might seem strange to end the introductory chapter of this book by stating that KPIs should *not* primarily be about measurement. Rather, the focus should be on selecting a robust set of value-adding indicators that serve as the beginning of a rich performance discussion focused on the delivery of your strategy.

Let me make the point that management is not a numbers game. There is a real temptation that managers will run their company on the KPI data they are receiving. What I want you to remember is that behind every number are real people, such as customers who have purchased goods or services or employees who are satisfied or not. Always make sure you look behind the face value of your KPIs to get a real sense of their meaning.

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# PART ONE

## **Financial perspective**

## Net profit

## 1

Strategic perspective Financial perspective

Key performance question this indicator helps to answer

To what extent are we generating bottom-line results?

#### Why is this indicator important?

Profits are important for all businesses regardless of whether they are in the private or public sector. Simply put: the very nature of business is to produce goods or services that you can sell for a financial return or reward. Taking away the costs of producing goods and providing services from the revenue or sales you are generating will leave you with your profits.

For any business, net profit (also referred to as net income) typically represents the most important measure of performance. Net profit shows us whether there is still any money left over after deducting all costs and expenses. The profits can then be reinvested to grow the company (called retained earnings) and used to pay a return to the company's owners or shareholders (called dividends).

It is vital for managers and investors to know whether their company's activities translate into bottom-line performance. For instance, a company can have great sales figures but if they don't generate a surplus then the company will soon be in trouble.

#### How do I measure it?

#### Data collection method

The data for the net profit metric are collected from the income statement (see the example on the next page).

#### Formula

#### Net profit (\$) = Sales revenue (\$) - Total costs (\$)

Here is how you reach net profit on a P&L (Profit & Loss) account:

- 1 Sales revenue = Price (of product)  $\times$  Quantity sold
- 2 Gross profit = Sales revenue Cost of sales and other direct costs
- 3 Operating profit (EBIT, earnings before interest and taxes) = Gross profit – Overheads and other indirect costs
- 4 Pretax profit (EBT, earnings before taxes) = Operating profit One-off items and redundancy payments, staff restructuring Interest payable
- 5 **Net profit** = Pre-tax profit Tax
- 6 Retained earnings = Net profit Dividends

#### Frequency

Net profit is usually measured each month as part of income statement preparation.

#### Source of the data

The net profit data are extracted from the readily available accounting data.

#### Cost/effort in collecting the data

The costs of producing the net profit measure are usually low as long as a company has the relevant accounting information available. As most companies hold this data in existing accounting systems it is just a matter of adding a calculation routine to the existing system.

#### Target setting/benchmarks

Net profit margins vary by industry, but all else being equal, the higher a company's net profits the better.

**Example** Consider the following two examples. The first explains in narrative form how Donna Manufacturing (a fictitious company) calculates net profit, while the second provides an income statement example from Grande Corporation (also fictitious).

In 2011, Donna Manufacturing sold 100,000 widgets for \$5 each, with a cost of goods sold of \$2 each. It had \$150,000 in operating expenses, and paid \$52,500 in income taxes.

To calculate the net profit the organisation first needs to find the revenue or total sales. If Donna's sold 100,000 widgets at \$5 each, it generated a total of \$500,000 in revenue. The company's cost of goods sold was \$2 per widget; 100,000 widgets at \$2 each is equal to \$200,000 in costs. This leaves a gross profit of \$300,000 (\$500k revenue - \$200k cost of goods sold). Subtracting \$150,000 in operating expenses from the \$300,000 gross profit leaves us with \$150,000 income before taxes. Subtracting the tax bill of \$52,500, we are left with a net profit of \$97,500.

#### **Grande Corporation**

Income Statement for Year Ending 31 December 2011		
Figures in 1,000s		
Gross sales revenues	33,329	
Less returns & allowances	346	
Net sales revenues	32,983	
Cost of goods sold		
Direct materials	6,320	
Direct labour	6,100	
Manufacturing overhead		
Indirect labour	5,263	
Depreciation, mfr equip	360	
Other mfr overhead	4,000	
Net mfr overhead	9,623	
Net cost of goods sold	22,043	
Gross profit	10,940	
Operating expenses		
Selling expenses		

Income Statement for Year Ending 31 December 2011		
Sales salaries	4,200	
Warranty expenses	730	
Depreciation, store equip	120	
Other selling expenses	972	
Total selling expenses	6,022	
General & admin expenses		
Administration salaries	1,229	
Rent expenses	180	
Depreciation, computers	179	
Other gen'l & admin exp	200	
Total gen'l & admin exp	1,788	
Total operating expenses	7,810	
Operating income before taxes	3,130	
Financial revenue & expenses		
Revenue from investments	118	
Revenue from investments Less interest expense	118 511	
Revenue from investments Less interest expense Net financial gain (expense)	118 511 (393)	
Revenue from investments     Less interest expense     Net financial gain (expense)     Income before tax & extraordinary items	118 511 (393) 2,737	
Revenue from investments     Less interest expense     Net financial gain (expense)     Income before tax & extraordinary items     Less income tax on operations	118 511 (393) 2,737 958	
Revenue from investments     Less interest expense     Net financial gain (expense)     Income before tax & extraordinary items     Less income tax on operations     Income before extraordinary items	118     511     (393)     2,737     958     1,779	
Revenue from investments     Less interest expense     Net financial gain (expense)     Income before tax & extraordinary items     Less income tax on operations     Income before extraordinary items     Extraordinary items	118     511     (393)     2,737     958     1,779	
Revenue from investments     Less interest expense     Net financial gain (expense)     Income before tax & extraordinary items     Less income tax on operations     Income before extraordinary items     Extraordinary items     Sale of land	118 511 (393) 2,737 958 1,779 610	
Revenue from investments     Less interest expense     Net financial gain (expense)     Income before tax & extraordinary items     Less income tax on operations     Income before extraordinary items     Extraordinary items     Sale of land     Less initial cost	118     511     (393)     2,737     958     1,779     610     145	
Revenue from investments     Less interest expense     Net financial gain (expense)     Income before tax & extraordinary items     Less income tax on operations     Income before extraordinary items     Extraordinary items     Sale of land     Less initial cost     Net gain on sale of land	118     511     (393)     2,737     958     1,779     610     145     465	
Revenue from investments     Less interest expense     Net financial gain (expense)     Income before tax & extraordinary items     Less income tax on operations     Income before extraordinary items     Extraordinary items     Sale of land     Less initial cost     Net gain on sale of land     Less income tax on gain	118     511     (393)     2,737     958     1,779     610     145     465     118	
Revenue from investmentsLess interest expenseNet financial gain (expense)Income before tax & extraordinary itemsLess income tax on operationsIncome before extraordinary itemsExtraordinary itemsSale of landLess initial costNet gain on sale of landLess income tax on gainExtraordinary items after tax	118     511     (393)     2,737     958     1,779     610     145     465     118     347	

#### Tips/warnings

Net profit is one of a range of profitability metrics designed to answer questions such as: 'is the company profitable?', 'is it making good use of its assets?', 'is it producing value for its shareholders?' and 'is the company able to survive and grow?'. On its own it will not give you the full picture and other important profitability metrics such as profit margins, operating profit, return on assets and return on equity will have to be looked at too.

Also, net profit can be measured by business unit or even by product or service, which often gives more interesting insights. The main complication with this is when overhead costs (such as head office staff costs, rent, utility costs, etc.) need to be allocated across business units. Almost by definition, overheads are costs that cannot be directly allocated to any specific business unit, product or service. Companies have to find the most suitable way of splitting overhead costs while avoiding overcomplicating the calculations.

Finally, proponents of economic profit calculations, such as economic value added (EVA, see later in this part), argue that conventional accounting metrics (such as net profit and other traditional profitability metrics) give a distorted view of an organisation's value-creation capabilities and underlying performance. The main argument is that a traditional profit figure does not take into account the cost of capital, and therefore essentially treats capital as being 'free'. What they are highlighting is that if an organisation is driving performance purely from a profit viewpoint then capital is a critical resource to the business that is not being reflected in the value calculation. An organisation might be generating profit and not creating any value because it is not covering the cost of the investment to generate those resources, they argue.

#### References

www.investopedia.com/terms/n/netincome.asp

## Net profit margin

2

Strategic perspective Financial perspective

Key performance question this indicator helps to answer How much profit are we generating for each dollar in sales?

#### Why is this indicator important?

With the previous KPI we looked at net profit as a total number. In order to make net profits more comparable and to understand how much profit a company makes for each dollar in revenue we can produce the net profit margin (also referred to as return on sales or net income margin), which takes the net profit of a company as a ratio over its total sales or revenues.

The net profit margin is therefore a key indicator of how well a company is run (i.e. how efficient it is and how well it controls its costs), as a low net profit margin could indicate too high operating costs or a wrong pricing structure.

Low net profit margins mean that a company has a lower 'margin of safety' and that small changes such as a slight decline in sales or a rise in operating expenses, e.g. higher fuel or electricity bills or a hike in raw material prices, could quickly diminish any returns and turn the company from a profitable business to a loss-maker.

For managers, net profit margins are particularly useful when compared over time and relative to other companies in the same sector. Investors often compare net profit margins across industries to identify the most profitable and attractive sectors and companies to invest in.

#### How do I measure it?

#### Data collection method

The data for the net profit margin metric are collected from the income statement (see previous KPI).

#### Formula

Net profit margin =  $\left(\frac{\text{Net profit}}{\text{Revenues}}\right) \times 100$ 

#### Frequency

Usually measured each month as part of the income statement preparation.

#### Source of the data

The net profit and revenue data are extracted from the accounting data.

#### Cost/effort in collecting the data

The costs of producing the net profit measure are usually low as long as a company has the relevant accounting information available. As most companies hold this data in existing accounting systems it is just a matter of adding a calculation routine to the existing system.

#### Target setting/benchmarks

Net profit margins vary by industry, but all else being equal, the higher a company's profit margin compared to its competitors, the better. As a very general ball-park benchmark (which will depend a lot on the industry), a net profit margin of between 20% and 40% is considered to be very good. Here are some examples of the most profitable companies in the S&P 500 (a listing of the biggest and best public companies in America):

- Public Storage (NYSE:PSA) = 46.14%
- Corning Incorporated (NYSE:GLW) = 45.65%
- Altera Corporation (NASDAQ:ALTR) = 40.97%
- Linear Technology Corporation (NASDAQ:LLTC) = 39.14%
- CME Group Inc. (NASDAQ:CME) = 37.20%

The average net profit margin for all S&P 500 companies is around 10%.

**Example** In the previous KPI description we calculated the net profit and net sales revenues for Grande Corporation based on its income statement (see pages 5–6).

To get to the net profit margin we simply divide the two numbers as follows:

Net profit margin =  $\frac{\text{Net profit}}{\text{Net sales revenues}}$ Net profit margin =  $\frac{\$2,126,000}{\$32,983,000}$ Net profit margin = 6.4%

#### Tips/warnings

As with net profits, net profit margins can also be measured by business unit or even by product or service, which often gives more interesting insights.

#### References

www.investopedia.com/terms/p/profitmargin.asp

www.in-business.org.uk/formula-for-calculating-net-profit-margin/

www.ccdconsultants.com/documentation/financial-ratios/net-profit-margininterpretation.html

## Gross profit margin

3

#### Strategic perspective Financial perspective

Key performance question this indicator helps to answer How much profit are we generating for each dollar in sales?

#### Why is this indicator important?

Another profitability ratio which is widely used is the gross profit margin. Instead of the net profit margin, where we are deducting all costs from the revenue, here we are only deducting the cost of goods sold (sometimes referred to as cost of sales). Costs of goods are the direct production and distribution costs a company incurs for supplies, inventory, production and distribution of their products or services.

Looking at how much it costs a company to produce its goods and services and putting this in relation to sales revenue gives us a ratio of production efficiency. A gross profit margin of 30% would indicate that for each dollar in sales, the company spent 70 cents in direct costs to produce the good or service that the firm sold.

The gross profit margin basically shows us how much from each dollar of a company's revenue is left after taking away the cost of goods sold, and therefore how much money is available to cover overhead, other expenses and of course retained earnings and dividends. This also means that gross profit margin should be much higher than the net profit margin (see previous KPI). A high gross profit margin would indicate that a company is likely to make a reasonable profit as long as it keeps the remaining costs under control. A low gross profit margin on the other hand would indicate that the production costs are too high and that its production efficiency is not managed to an appropriate level.

For managers, gross profit margins are particularly useful when compared over time and relative to other companies in the same sector. Investors often compare gross profit margins across industries to identify the most profitable and attractive sectors and companies to invest in.

#### How do I measure it?

#### Data collection method

The data for gross profit margin are captured through the monthly management accounting process and reported in the Profit and Loss statement.

#### Formula

Gross profit margin = 
$$\left(\frac{(\text{Revenue} - \text{Cost of goods sold})}{\text{Revenues}}\right) \times 100$$

#### Frequency

Total gross profit margin is calculated monthly as part of the normal management reporting cycle.

#### Source of the data

The revenue and cost of goods sold are extracted from the accounting data.

#### Cost/effort in collecting the data

Calculating gross profit margin is a standard measurement within commercial organisations and there is no cost or effort required in collecting the data above, which are needed for monthly and other period accounting purposes.

#### Target setting/benchmarks

Gross profit margins vary by industry, but all else being equal, the higher a company's profit margin compared to its competitors, the better. In some industries, like clothing for example, gross profit margins are expected to be near the 40% mark, as the goods need to be bought from suppliers at a certain rate before they are resold. In other industries such as software product development, where the cost of duplication is negligible, the gross profit margin can be higher than 80%. Also, a company's gross profit margin should be stable. It should not fluctuate much from one period to another, unless the industry in which it operates has been undergoing drastic changes which will affect the cost of goods sold or pricing policies.

**Example** Simply put, gross profit margin represents the difference between total sales and the cost of those sales.

For example: If total sales equal \$1,000 and cost of sales equals \$300, then the margin equal \$700.

Gross profit margin can be expressed as a monetary value or as a percentage. As a percentage, the gross profit margin is stated as a percentage of revenues.

The equation: (Revenue - Cost of goods sold)/Revenue = Gross profit margin. Using the preceding example, the margin would be 70%.

$$\frac{(\$1,000 - \$300)}{\$1,000} \times 100 = 70\%$$

Basically, 70% gross profit margin means that for every dollar generated in sales, the company has 20 cents left over to cover other expenses and profit.

#### **Tips/warnings**

Although an important corporate measure, better performance insights can be gleaned by analysing gross profit margin at the business unit, department or product level. This can provide useful data on the real drivers of profit within the enterprise.

It is also worth bearing in mind that markup and gross profit margin on a single product, or group of products, are not, as many erroneously believe, the same thing. Gross profit margin is a percentage of the selling price, while markup is traditionally figured as a percentage of the seller's cost.

Using the numbers from the preceding example, if an organisation purchases goods for \$300 and prices them for sale at \$1,000, the markup is \$700. As a percentage, this markup comes to 233%:

 $\frac{(\$1,000 - \$300)}{\$300} \times 100 = 233\%$ 

In other words, if your business requires a 70% margin to show a profit, your average markup will have to be 233%.

This example shows that although markup and margin may be the same in dollars (\$700), they represent two different concepts as percentages (233% versus 70%). More than a few new businesses have failed to make their expected profits because the owners assumed that if their markup is X%, their margin will also be X%. This is not the case.

#### References

www.investopedia.com/articles/fundamental/04/042804. asp#axzz1U9QWeAQD

http://bizfinance.about.com/od/financialratios/a/Profitability\_Ratios.htm

http://beginnersinvest.about.com/od/incomestatementanalysis/a/gross-profit-margin.htm

www.ccdconsultants.com/documentation/financial-ratios/gross-profit-margin-interpretation.html

## Operating profit margin

4

#### Strategic perspective Financial perspective

Key performance question this indicator helps to answer

To what extent are we operating our business efficiently?

#### Why is this indicator important?

Another profitability measure used in companies is the operating profit margin (or operating margin for short). It can provide insights into a company's operating efficiency and pricing strategy. By dividing the operating income by revenue it measures the proportion of revenue that remains after deducting the costs of operating the business, including costs for labour, raw material, overhead, depreciation, amortisation, selling, advertising, admin, etc.).

Because operating income includes only the sales revenue from regular business operations (and not revenues from extraordinary items, taxes, and interest on long-term liabilities), the ratio provides an insight into the profitability of sales generated from regular operations of the business.

Basically, it tells how much money a company makes (before interest and taxes) on each dollar of sales. The operating profit margin can be used to understand whether the costs of operating a business are too high for the production or sales volume (especially when compared to similar companies in the same sector). If companies have a high operating profit margin compared to competitors, this can

often indicate that it was able to create a lower-cost operating model. The example that is often used is Wal-Mart, which owing to its warehouse and distribution efficiency is able to reduce the costs of getting products into its shops.

High operating profit margins show that a company is managing its operating costs well. If management is able to increase the operating profit margin over time then this shows that the company is earning more per dollar of sales, or that sales are increasing faster than operating costs.

#### How do I measure it?

#### Data collection method

The data for the operating profit margin are captured through the monthly management accounting process and reported in the income statement.

#### Formula

Operating profit margin =	Operating profit Revenue	× 100
Where the Operating profit	= EBIT (Earning	s before interest and taxes).

#### Frequency

Operating profit margin is usually calculated monthly or quarterly as part of the normal management reporting cycle.

#### Source of the data

The revenue and cost of goods sold are extracted from the accounting data.

#### Cost/effort in collecting the data

Calculating operating profit margin is a standard measurement within commercial organisations and there is no cost or effort required in collecting the data above, which are needed for monthly and other period accounting purposes.

#### Target setting/benchmarks

Operating profit margins vary by industry, but all else being equal, the higher a company's operating profit margin compared to its competitors, the better. Here are some benchmarks from some of the most profitable companies in the S&P 500:

- Public Storage (NYSE:PSA) = 42.17%
- Corning Incorporated (NYSE:GLW) = 24.96%

- Altera Corporation (NASDAQ:ALTR) = 45.46%
- Linear Technology Corporation (NASDAQ:LLTC) = 51.42%
- Visa Inc. (NYSE:V) = 57.93%

Overall, S&P 500 companies average an operating profit margin of around 15%.

**Example** Here is an example calculation with figures taken from the Consolidated Statements of Income:

	(In millions)		
	Gross Profit	\$20,000	
	Operating Income	\$5,000	
	Net Income	\$4,000	
Operating Profit Margin = $\left(\frac{4,000}{20,000}\right) \times 100 = 20\%$			

#### **Tips/warnings**

Operating profit margin is a measure that can be used to compare companies that do not issue a separate disclosure of their cost of goods sold figures (which are needed to calculate the gross profit margin).

#### References

http://beginnersinvest.about.com/od/incomestatementanalysis/a/operating-income-operating-margin.htm

www.investopedia.com/articles/stocks/08/operating-margins. asp#axzz1UA03Rbu5

www.wikinvest.com/metric/Operating\_Margin

www.investopedia.com/articles/fundamental/04/042804. asp#axzz1U9QWeAQD

## EBITDA

5

#### Strategic perspective Financial perspective

#### Key performance question this indicator helps to answer

To what extent are we operating our business efficiently to generate profits?

#### Why is this indicator important?

Another financial performance indicator is EBITDA, or Earnings Before Interest, Taxes, Depreciation and Amortisation. It is essentially taking sales revenue and subtracting all expenses other than interest, taxes, depreciation and amortisation.

EBITDA is therefore a measure of a company's operational profitability over time, but taking out the potentially distorting effects of changes in interest, taxes, depreciation and amortisation, which can all be manipulated by financing and accounting decisions. The argument for using EBITDA is that it allows us to better compare companies and their operational profitability without taking into account their capital structure.

First used in the 1980s, EBITDA has grown to be of particular interest to organisations that have large amounts of fixed assets which are subject to heavy depreciation charges (such as manufacturing companies) or in the case where a company has a large amount of acquired intangible assets on its books and is thus subject to large amortisation charges (such as a company that has purchased a brand or a company that has recently made a large acquisition). Depreciation and amortisation are defined in the working example on pages 22–23.

#### How do I measure it?

#### Data collection method

EBITDA can be calculated using the company's income statement and accounting data.

#### Formula

EBITDA = Revenue – Expenses (excluding interest, tax, depreciation and amortisation)

#### Frequency

As with any earnings or cash-flow metric, EBITDA is usually calculated on a quarterly or monthly basis. But organisations will typically project EBITDA over a 12-month period and report over the previous 12-month period.

#### Source of the data

The EBITDA data can be extracted from the income statement.

#### Cost/effort in collecting the data

The cost of collecting the data for the EBITDA metric is small as the data has to be collected anyway for accounting purposes. Therefore the effort to populate the metric is also low.

#### Target setting/benchmarks

Many organisations will set EBITDA targets and report these to the investment community. The actual figure will depend on the industry and comparing performance will be against others in the same industry. Like any profitability measure, as long as the number is positive you are off the hook, and the bigger the better.

**Example** The EBITDA calculation can be made as follows:

- 1 Calculate net income. To calculate net income obtain total income and subtract total expenses.
- 2 Determine income taxes. Income taxes are the total amount of taxes paid to the government.

- 3 Compute interest charges. Interest is the fee paid to companies or individuals that reimburses the individual or companies for the use of credit or currency.
- 4 Establish the cost of depreciation. Depreciation is the term used to define a cash (machines or property) or non-cash asset (a copyright, a trademark or brand name recognition) that loses value over time whether through ageing, wear and tear, or the assets becoming obsolete. To explain, most assets lose their value over time (in other words, they depreciate), and must be replaced once the end of their useful life is reached. There are several accounting methods that are used in order to write off an asset's depreciation cost over the period of its useful life. Because it is a non-cash expense, depreciation lowers the company's reported earnings while increasing free cash flow (the cash that a company is able to generate after laying out the money required to maintain or expand its asset base).
- 5 Ascertain the cost of amortisation. Amortisation is a method of decreasing the amounts of financial instruments over time, including interest and other finance charges. As an example of amortisation, suppose XYZ Biotech spent \$30 million on a piece of medical equipment and that the patent on the equipment lasts 15 years; this would mean that \$2 million would be recorded each year as an amortisation expense. While amortisation and depreciation are often used interchangeably, technically this is an incorrect practice because amortisation refers to intangible assets and depreciation refers to tangible assets.
- 6 Add all previously defined components. The resulting figure is then subtracted from total expense. This final figure is then subtracted from total revenue to arrive at EBITDA.

#### **Tips/warnings**

A common misconception is that EBITDA represents cash earnings. EBITDA is a good metric to evaluate profitability, but not cash flow.

EBITDA also leaves out the cash required to fund working capital and the replacement of old equipment, which can be significant. Therefore EBITDA often comes in for criticism as it doesn't tell the full story of an organisation's financial performance. It is recommended, as with most of the financial measures, that to get a fuller picture of a company's financial health it is important to use EBITDA alongside other financial metrics.

As EBITDA is a non-GAAP (Generally Accepted Accounting Principles – a set of rules that accountants follow) measure, it allows a greater amount of discretion as to what is (and is not) included in the calculation. This also means that companies often change the items included in their EBITDA calculation from one reporting period to the next, which can cause confusion.

In general, EBITDA is a useful measure only for large companies with significant assets, and/or for companies with a significant amount of debt financing. It is rarely a useful measure for evaluating a small company with no significant loans.

Because it is difficult to compare companies using actual numbers, analysts and investors often deploy the EBITDA margin, a ratio which makes profitability more comparable by dividing EBITDA by Revenue.

#### References

www.investopedia.com/terms/e/ebitda.asp

http://moneyterms.co.uk/ebitda/

## Revenue growth rate

6

#### Strategic perspective Financial perspective

Key performance question this indicator helps to answer How well are we growing the business?

#### Why is this indicator important?

It is the basic fact of business that commercial organisations exist to make money. And although there are a number of factors to consider, the primary driver of 'making money' is to grow revenues.

Revenue (sometimes referred to as turnover or sales) is simply the income that a company receives from its normal business activities, usually the sale of goods and/or services.

In accounting terms revenue represents the 'top line', to denote how it is reported on an income statement (at the very top). The 'bottom line' denotes net profit (what is left from the revenues once all expenses are deducted).

Generally, revenue might be understood as income received by an organisation in the form of cash or cash equivalents. However, sales revenue can be described as income received from selling goods or services over a given period of time.

Although revenue growth is a simple measure (in that all that is being measured is the rate of increase in the growth of revenues), its importance cannot be underestimated. Growth figures are, of course, a primary focus of senior management teams as they denote how well an organisation's strategic and operational goals are being realised.

Moreover, growth figures are of enduring interest to the investment community. Simply put, if a company can demonstrate solid 'top-line growth', analysts might view this as positive, even if bottom-line growth is sluggish. It has long been recognised that consistent revenue growth is considered essential for a company's publicly traded stock to be attractive to investors.

Analysts (and indeed senior teams and even competitors) will look at revenue growth compared to a previous period (most likely a quarter or series of quarters). The current quarter's sales figure will also usually be compared on a year-overyear basis. Such analyses provide insights into how much a company's sales are increasing over time and therefore how well the organisation is performing, especially in comparison to the competition.

#### How do I measure it?

#### Data collection method

Sales revenue data are collected from an organisation's general ledger (the main accounting record of a business) and will be summarised periodically under the heading Revenue or Revenues on an income statement. Revenue account names describe the type of revenue, such as 'Repair service revenue', 'Rent revenue earned' or 'Sales'.

#### Formula

Revenue growth is simply this quarter's (or any other time period) revenue compared to that of a previous quarter (or any other time period).

#### Frequency

Revenues are calculated monthly and reported in the monthly management accounts. Growth rates might be reported on a quarterly basis with multi-quarter and/or year-on-year comparisons.

#### Source of the data

This data can be extracted from the general ledger and captured in the income statement.

#### Cost/effort in collecting the data

By law, organisations must capture and report revenue data, so there's no cost in collecting this data apart from the normal cost of doing business. The simplicity of calculating growth rates means that there is little cost or effort in collecting this data.

#### Target setting/benchmarks

For publicly traded organisations it is straightforward to compare the revenue growth of different companies (especially those in the same or similar industries/ sectors), as all data are publicly available and most organisations will report growth rates (if not, it is simple to calculate).

Most commercial organisations will set growth targets as a key part of their annual budgeting process. Wherever possible, this should be based on an understanding of competitor targets.

Below are some example growth rates for well-known companies across different industries.

Company	Average revenue growth rates (over 5 years between 2007 and 2011)
Bank of America	Just over <b>3%</b>
Walt Disney	Just over 4%
Wal-Mart Stores	About <b>5.5%</b>
Colgate-Palmolive	Just under 7%
Exxon-Mobile	About <b>8.5%</b>
Pfizer	Just under 10%
The Coca-Cola Company	About 15%
Apple	Over <b>40%</b>

**Example** Revenue growth is remarkably simple to measure. For example, if Company X generated \$91.3 billion in revenue during its fourth quarter of 2010 and \$82.2 billion in the third quarter that year, the company would have seen quarterly revenue growth of 11% sequentially. If Company X generated \$80.2 billion in the fourth quarter of 2009, the company would have seen its revenue increase 13.8% on a year-over-year basis.

#### **Tips/warnings**

Although revenue and, in particular, revenue growth is a critical measure of business performance, business success also requires attention to be paid to other financial barometers such as expenses as a company's overall performance is measured by the extent to which its asset inflows (revenues) compare with its asset outflows (expenses). Net income is the result of this equation. In start-up mode, or in entering a new market, for example, an organisation might decide to drive revenues while sacrificing net income. This is a normal business strategy. When doing so, organisations must pay close attention to cash flow, another of the key barometers of an organisation's financial health. Healthy cash flow is critical to driving growth.

#### References

CNNMoney - http://money.cnn.com/

http://money.cnn.com/magazines/fortune/fortunefastestgrowing/2010/ companies/salesgrowth/