HR Professionals

KEY PERFORMANCE INDICATORS

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25 need-to-know key performance indicators

Bernard Marr

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Contents

To the people who have and will give me meaning and happiness beyond measure:

My wife Claire and our three children Sophia, James and Oliver as well as my parents, my brother Marc, Julie and Alan and all my friends.

About the author

Bernard Marr is a best-selling business author, keynote speaker and consultant in strategy management, performance management, analytics, KPIs and Big Data. He helps companies manage, measure and improve performance. His leading-edge work with major companies, organisations and governments across the world makes him a globally acclaimed and award-winning researcher, consultant and teacher.

Bernard Marr is acknowledged by the CEO Journal as one of today's leading business brains and LinkedIn nominated him as one of the world's top 100 business influencers. He has written a number of seminal books and over 200 high profile reports and articles on business performance. These include 'The Intelligent Company', 'Managing and Delivering Performance', 'Strategic Performance Management', and 'Doing More with Less'.

He has worked with and advised many of the world's best-known organisations including Accenture, AstraZeneca, the Bank of England, Barclays, BP, DHL, Fujitsu, Gartner, HSBC, Mars, the Ministry of Defence, Microsoft, Oracle, the Home Office, NHS, Orange, Tetley, T-Mobile, Toyota, the Royal Air Force, SAP and Shell, among many others.

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Publisher's acknowledgements

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Tables

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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. The other extreme is where companies have few or no performance measures.

Effective managers and decision makers understand the perform-ance 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 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:

- Measuring and understanding customers
- Measuring and understanding financial performance

- Measuring and understanding internal processes
- Measuring and understanding employees

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 the KPI is calculated. Each KPI description also includes a practical example as well as tips on where to find the data, how to set targets, how often to measure the KPI, and key pitfalls to avoid.

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 retro-fitting 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 website: **www.ap-institute.com**. There, you can find a lot of free material on how to develop and use KPIs in practice, including practical guides, a KPI library and many real-world case studies. 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 extensively 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 sample 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 analytics efforts is that there is a small list of important KPIs everyone should know about. They will give you a good 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 health care 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.

Top 10 do’s and don’ts of using key performance indicators

TOP 5 DO’S

1. Do: Start with your strategy

In order for any indicator to become ‘key’ it has to be related to the most important and critical aspects of your business. The strategy or strategic priorities of any organisation should outline what matters the most, and therefore key performance indicators (KPIs) should link to the strategy and strategic priorities.

The small set of strategic objectives should be the starting point for the development of KPIs. If the strategy outlines what a company needs to focus on in order to be successful, then the KPIs should help to measure the execution of this strategy.

The best way to develop a solid set of KPIs is to convert the strategy into a one-page strategy map. A strategy map outlines the overall performance goals as well as the key objectives and priorities that a company must deliver along the way. The strategic objectives are usually mapped along four perspectives that support each other:

- financial perspective – outlining the financial objectives
- customer perspective – outlining the objectives related to customers and the market
- internal process perspective – outlining the internal business process objectives
- learning and growth perspective – outlining the objectives related to employees, culture and information systems.

Mapping out how the objectives in each perspective support each other is one of the big benefits of a strategy map. Instead of itemising strategic objectives in a seemingly unrelated list, the strategy map depicts how each objective supports other objectives and how they all help to deliver the company's ultimate performance goals. For more information, read the white papers and case studies on strategy mapping at **www.ap-institute.com**.

2. Do: Define the questions you need an answer to

KPIs have to be relevant and meaningful. They are relevant if they are linked to your strategy. They become meaningful if they help you answer a key business question. My advice is that you develop between one and three so-called key performance questions (KPQs) for each of your strategic

objectives. KPQs help you identify your real information needs and will guide you to the right indicators. Develop your KPIs so that they help you answer your most important and strategic business questions.

Here is a quick example:

- Strategic objective: Grow customer satisfaction and loyalty
- KPQ: To what extent would our customers recommend our product to their friends?
- KPI: Net promoter score

For more information, read the white papers and case studies on key performance questions at **www.ap-institute.com**.

3. Do: Customise the KPIs to your needs

In the same way that every company has a different strategy and strategic priorities, every company requires a unique set of KPIs. There will be some that are common across most companies. For example, all commercial companies should monitor revenue growth, profit margins and cash flow as fundamental metrics of financial performance. In fact, the KPIs in this book have been chosen because they are all relevant to most organisations.

However, the KPIs might not be relevant in their generic format. For example, one company might be particularly interested in measuring customer lifetime value and such an indicator can be created by customising and combining the indicators listed in this book. To measure customer lifetime value a company might decide to create an index combining the net promoter score and customer churn data with profit margin KPIs for each customer.

In addition to customised KPIs based on the indicators listed in this book, you will probably need other KPIs – specific metrics or benchmarks used in your industry. If you have developed key performance questions that cannot be answered using the KPIs in this book, then you might have to look for industry-specific metrics or develop your own KPIs.

4. Do: Ensure that KPIs are owned and understood by people in your organisation

KPIs have to be owned and understood by everyone in the organisation. Unless people understand the rationale for measuring performance and have some level of ownership of the metric, the KPI will be ineffective. Ownership, buy-in and understanding of KPIs should go right through the organisation so that KPIs become the critical decision support tools they ought to be.

For every KPI you introduce, you have to explain the rationale to everyone. Explain how it is linked to your strategic priorities and how it will help answer your KPQ. Give people a chance to react to the KPI and provide feedback, especially on ways the KPI could become even more useful. This dialogue and engagement is the first step to understanding and buy-in, and often a great way of finding even better ways of measuring performance.

5. Do: Use KPIs to improve performance

In order for KPIs to add value, they have to improve performance and lead to better decision making. If they are not helping to improve performance or decision making then they should not be KPIs and are likely to destroy value by:

- adding to the workload of collecting, analysing and reporting performance; and
- making it harder to gain relevant insights.

This is especially true if useful and meaningful KPIs are buried in a large set of mediocre or less relevant metrics.

It is important to constantly ask yourself – are my KPIs really useful? Are they linked to what matters the most? Are they helping me to answer my most critical business questions? Are they being used to

improve performance? If the answer is ‘no’ to any of these questions, then you need to go back to the drawing board.

TOP 5 DON’TS

1. Don’t: Measure simply because other companies do

One of the biggest traps that companies fall into is simply measuring what everyone else seems to measure. A great example is the staff survey, where most companies seem to copy the questions from each other. Instead, it is important to think about what it is you really need to know. Only then will you create a list of meaningful and relevant KPIs.

I want to emphasise that the purpose of this book is not to give you 25 KPIs that you simply start measuring. The list of 25 presented here are global best practice KPIs that you can choose from or amend, but only if they meet your information needs.

2. Don’t: Just measure what is easy to collect

Another big trap is only measuring what is easy to collect or what is easiest to count. We often default to the metrics we already have in our systems or the measures we can most easily turn into numbers. This is usually a path to meaningless and mediocre business metrics.

In my experience, the best KPIs require a little more thought and often significant efforts in collecting and analysing. For many KPIs it is important to go beyond the face value of the numbers and analyse the meaning around the numbers. Remember what Albert Einstein said so aptly: 'Not everything that counts can be counted, and not everything that can be counted counts.'

3. Don't: Let your KPIs get out of date

Companies often go through a lengthy process of defining their KPIs and then end up reporting against the same KPIs for years on end. We rarely challenge or get rid of existing KPIs, and if we develop new ones, they are usually added on top of the existing KPIs. In the same way that your business challenges change all the time, your information needs will change with them. It is absolutely vital that companies review their KPIs regularly and get rid of KPIs that are no longer required.

4. Don't: Don't hard-wire your KPIs to incentive systems

KPIs are meant as tools to help you improve performance and decision making. However, if they are applied in a way where they are hard-wired to incentive systems (i.e. you hit these KPI targets and get a 10% bonus), they are likely to encourage the wrong behaviours. Ultimate

outcome KPIs can be linked to incentives, but if the entire set of KPIs is linked to pay and reward, then KPIs are no longer seen as information tools but as targets to hit. This changes the nature of KPIs and the culture in an organisation away from a performance improvement focus and towards a target-hitting culture.

5. Don't: Use KPIs as a command and control tool

If KPIs are used as command and control tools to micro-manage people then they quickly lose their original intent as performance improvement tools. As in the previous point, if KPIs are used to measure and check whether people have delivered performance, then they are again seen as performance targets that have to be achieved under any circumstances. In that environment, KPIs are no longer neutral indicators of performance but appraisal tools used to judge people.

Always remember: the most important role of a KPI is to inform decision making in order to improve performance.

part one

Measuring and understanding your customers

Chapter 1

Net promoter score (NPS)

- Why: To better understand customer satisfaction
- What: To measure how satisfied your customers are
- When: When customer satisfaction, repeat customers and positive recommendations matter
- The question this indicator helps you to answer: to what extent would customers recommend our company to their friends?

WHY DOES THIS KPI MATTER?

Understanding how satisfied and therefore how loyal your customers might be is important for any company because happy and returning customers are likely to grow future revenues and profits.

The problem is that most customer surveys are complex, expensive and hard to interpret. In response to this, the net promoter score (NPS) was developed as ‘the one number you need to know’

based on just one simple question: How likely is it that you would recommend [company X or product Y or service Z] to a friend or colleague?

The NPS is based on the fundamental premise that every company's customers can be divided into three groups:

- Promoters
- Passives
- Detractors.

This allows an organisation to track these groups and get a clear measure of their performance through its customers' eyes. Moreover, and of critical importance, empirical research has shown that there is a striking correlation between the customer's grouping and actual behaviour – repeat purchase and referral patterns – over time.

Further research mapped the growth rates of companies with high NPS scores and in comparison to their competitors. The results were striking. In most industries, this one simple statistic explained much of the variation in relative growth rates: that is, companies with a better ratio of Promoters to Detractors tend to grow more rapidly than competitors.

Developed by (and a registered trademark of) Fred Reichheld, Bain & Company and Satmetrix, the

NPS is a straightforward metric that holds companies and employees accountable for how they treat customers. When combined with appropriate diagnostics and follow-up actions, it drives improvements in customer loyalty and enables profitable growth.

HOW DO I MEASURE IT?

How do I collect the data?

NPS is collected using a survey (mail-based, online or conducted by phone). The best NPS practitioners collect the measurement in two ways:

1. Execute a top-down NPS. Set up an anonymous survey and contact existing customers to ask the NPS question – rating the overall customer/company relationship. At the same time, ask customers about the scores they would give to your competitors. This will enable a simple and direct comparison of performance through the eyes of the customer.
2. Measure NPS around transactions that are most vital (transactional NPS). Measure at a key customer touchpoint for a measurement that offers feedback on operational perform-ance at that key moment of truth.

What formula do I use?

Using a 0 to 10 scale, an organisation can calculate its NPS by taking the percentage of Promoters and subtracting the percentage of Detractors.

- Promoters (score 9–10) are loyal enthusiasts who will keep buying and refer others, fuelling growth.
- Passives (score 7–8) are satisfied but unenthusiastic customers who are vulnerable to competitive offerings.
- Detractors (score 0–6) are unhappy customers who can damage your brand and impede growth through negative word-of-mouth.

To calculate the NPS, take the percentage of customers who are Promoters (those who scored between 9 and 10) and subtract the percentage who are Detractors (those who scored between 0 and 6). See Figure 1.1.

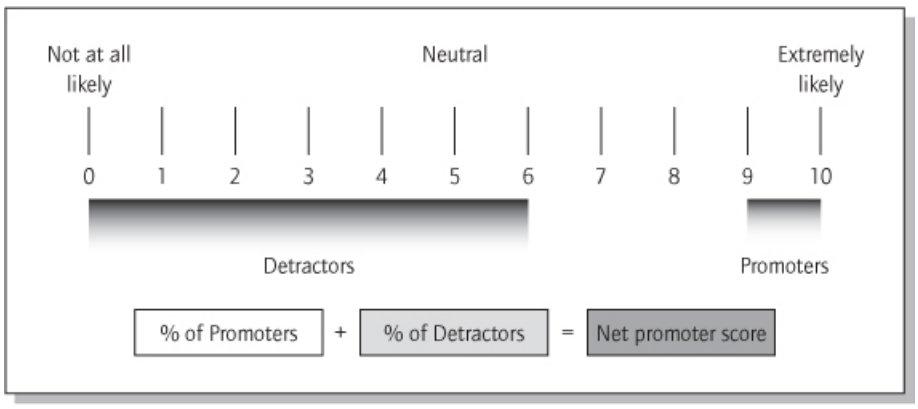

Figure 1.1

How often do I measure it?

Most companies don't collect customer data frequently enough. Instead of the 'big' annual customer survey, companies can use this simple one-question approach to collect data more frequently. A good idea is to collect data on NPS continuously, or at least monthly from a subset of your customers (e.g. 10% of customers). This way, you can get trends and avoid drawing conclusions on biased or outdated data.

Where do I find the data?

The data for your NPS come from surveying your existing customers.

How difficult or costly is it to measure?

The simple nature of this KPI makes it more cost efficient than more traditional customer satisfaction surveys. However, as with any customer satisfaction survey, costs can be significant. Costs are particularly high for hard copy and mail surveys. A way to reduce costs is to automate data collection.

How do I set targets for this KPI?

Here are some benchmarks from the NPS leader table compiled by Satmetrix:

Table 1.1 2011 Net promoter industry reports for the USA and the UK

NPS leaders – USA 2011		NPS leaders – UK 2011	
Company	NPS	Company	NPS
USAA – banking	87%	Apple – computer hardware	67%
Trader Joe's – grocery	82%	First Direct – banking	61%
Wegmans – grocery	78%	LG – television	39%
Costco – department store and wholesale	77%	Samsung – television	35%
Apple – computer hardware	72%	Sony – computer hardware	30%

Source: Satmetrix

PRACTICAL EXAMPLE

We can look at this simple calculation example. A company surveyed 1,000 customers with the question: 'How likely would you be to recommend the product from this company to a friend?' Respondents can then score their reply on a 0–10 scale (0 = not at all likely, 5 = neutral, 10 = extremely likely). Here is a breakdown of the replies:

Score	Counts
0	1
1	2

2	0
3	0
4	2
5	5
6	10
7	110
8	170
9	400
10	300

The NPS is therefore:

$$\text{Promoters: } \left[\frac{300 + 400}{1{,}000}\right] \times 100 = 70\%$$

$$\text{Detractors: } \left[\frac{1 + 2 + 0 + 0 + 2 + 5 + 10}{1{,}000}\right] \times 100 = 2\%$$

$$\text{NPS} = 70\% - 2\% = 68\%$$

Some tips and traps to consider

The NPS will give a nice, simple number; however, what it won't give you are the reasons why customers would or would not recommend you or your products or services. A very powerful supplement to the single-question survey is a set of open questions along the following lines:

- What do you particularly like about this company/product?
- What or which areas could be improved?

This way, the company will get insight not only into how many customers are Promoters versus Detractors but also into the areas that need to be improved. Take this example from the Canada-based online retailer Zappos. The NPS survey is administered in two different situations: 1) after an order; 2) after a customer speaks with a customer loyalty representative.

Zappos online questions ask the NPS (on the 0–10 scale): 'How likely are you to recommend Zappos to a friend or a family member?'

However, to gain further information that would help the company move its customers who are Detractors or Passive to Promoters status, Zappos also asks the customer: 'If you had to name one thing that we could improve upon, what would that be?'

Moreover, following the interaction with the customer loyalty representative (and again on the 0–10 scale) the customer is asked: 'If you had your own company that was focused upon service, how likely would you be to hire this person to work for you?' Further questions ask 'Overall, would you describe the service you received from (insert name of customer loyalty representative) as good, bad or fantastic?' and 'What exactly stood out as being good or bad about this service?'

As a point of warning, people highlight the fact that the NPS methodology lacks statistical integrity

because grouping the responses into just three categories causes the error interval to multiply nine-fold. It might be that the NPS oversimplifies the scoring a little and companies might be better off looking at the actual breakdown of answers from the 10-point scale and their changes over time.

FURTHER READING AND REFERENCES

Net promoter is a customer loyalty metric developed by (and a registered trademark of) Fred Reichheld, Bain & Company, and Satmetrix.

Frederick F. Reichheld, The one number you need to grow, *Harvard Business Review*, December 2003.

Fred Reichheld, *The Ultimate Question: Driving Good Profits and True Growth*, Boston, MA: Harvard Business School Press, 2006.

www.netpromoter.com

www.satmetrix.com

Chapter 2

Customer profitability score

- Why: To better understand customer profitability
- What: To measure the levels of profits that different customers are generating
- When: When profitability of customers is vital and when different customer groups are generating different levels of profits
- The question this indicator helps you to answer: to what extent are we generating profits from our customers?

WHY DOES THIS KPI MATTER?

Satisfying or, more likely, 'delighting' customers has, in recent times, become nothing less than a corporate mantra, the belief being that it is by satisfying the needs of customers that organisations can make a profit and therefore grow and prosper.

Although the basic argument is fundamentally sound (organisations can only make money if their

customers buy the supplying organisation's products or services), there is a caveat: not all customers are equal. Some customers contribute substantially to an organisation's profit line, while others actually lead to the supplying organisation losing money – that is, the cost of delivering the product or service is more than the revenue generated from that transaction.

In their zeal to 'delight' customers, organisations run the serious risk of moving into a loss-making situation. Organisations offer, but do not recover the costs of delivering, additional product features and services to their customers.

This customer profitability 'inequality' has been known for several decades and verified by numerous studies. As one powerful example, a customer analysis of a US-based insurance company found that 15–20% of customers generate 100% (or more) of profits. Further analysis found that the most profitable customers generate 130% of annual profits, the middle 55% of customers break even and the least profitable 5% of customers incur losses equal to 30% of annual profits (see the practical example on page 16).

Simply put, a measure of customer profitability ensures that an organisation does not lose sight of its ultimate objective: to make a profit from selling products or services.

HOW DO I MEASURE IT?

How do I collect the data?

Data are collected through the analysis of marketing and accounting data as well as the output from activity-based costing exercises.

What formula do I use?

Customer profitability is the difference between the revenues earned from and the costs associated with the customer relationship in a specified period. Put another way, customer profitability is the net contribution made by individual customers to an organisation.

As customer profitability covers several time-frames, it is not in itself a single measure. There are four primary measurements of customer value:

- Historical value of a customer, which looks at the value earned from a customer relationship over an extended period of time, such as prior fiscal quarter, prior year or since the start of the relationship. It can be measured as a simple average of previous periods or can be time weighted, placing higher emphasis on recent periods. Averaging in this manner has the effect of smoothing reported results for a customer, lending consistency to the reported values.
- Current value of a customer, which looks to a shorter time-frame, often a month (in order to coincide with reporting cycles).

Current value is often volatile, since cyclical factors in the relationship are often not reflected within a single month. Current value has the advantage of highlighting the effects of changes in the customer relationship when compared to previous period current values. It is most useful for quantifying the benefit of campaigns, new offers and pricing changes on customer value.

- Present value of a customer, which is a future-oriented measurement that typically considers the future revenue and cost streams of the customer's existing business. This measure is usually only extended to include the contractual lifetime of ongoing products or services. Present value is useful for ranking customers according to value and determining sales compensation rates, and is frequently used as a basis for modelling the impact of decisions concerning price and service before they are implemented.
- Customer lifetime value, which is another future-oriented measurement. What distinguishes it from present value is a modelling component: lifetime value takes into account projected revenue and cost streams not only from the existing relationship but also from business that is

expected to be done with the customer in the future.

As part of their assessment of customer profitability, organisations will often also use time-based, activity-based costing, which essentially measures the present total cost of providing services or products to a customer. This requires obtaining information on only two parameters: the cost per hour of each group of resources performing work, such as a customer support department, and the unit times spent on these resources by specific activities for products, services and customers. For example, if a customer support department has a cost of $70 per hour, and a particular transaction for a customer takes 24 minutes (0.4 hours), the cost of this transaction for this customer is $28. This can be readily scaled up to companies with hundreds of thousands of products and services and thousands of customers.

How often do I measure it?

When customer profitability is measured depends on the metric being assessed (see the What formula do I use? section). Remember that there is no single measure of customer profitability as they relate to different time periods.

Where do I find the data?

These data can be extracted from the accounting and marketing data, but also from time-based,

activity-based costing analyses.

How difficult or costly is it to measure?

Measuring customer profitability is certainly important but it can be expensive, especially when an organisation is analysing the profitability of many customers. Many companies will use time-based activity-based costing to allocate appropriate costing. This requires training, resourcing and management, and requires the costing staff to spend some time in the business.

How do I set targets for this KPI?

Companies should look to move loss-making or break-even customers up the profitability categories.

PRACTICAL EXAMPLE

Here is an example of calculating customer profitability in a bank.

1. **Establish the costs per customer: Using activity-based costing models, the bank has established costs for different customer services or customer interactions. For example, mailing of statement = $1.00, calling the bank's contact centre = $2.00, visiting the branch = $3.00. It then estimates the behaviours of customers and might even be able to put them into different categories (e.g. customers over 50 who are more likely to visit the branch). However, to keep this example simple we say that on average a customer receives a statement once a month, visits the**

branch once a month and phones the contact centre once every two months. This now means that it costs the bank on average (12 × $1.00) + (12 × $3.00) + (6 × $2.00) = $12 + $36 + $12 = $60 per year to do business with an average customer.

2. **Establish profit per customer. In this example, the bank knows that on average it is able to generate a 3.5% profit on each dollar it can invest. So if customer A has a deposit of $1,500 and customer B has a deposit of $15,000, the customer profitability looks like this:**

Customer A:

- **generates a profit of $1,500 × 0.035 = $52.50**
- **but overall is not profitable when subtracting the average costs per customer from the profits. In this case the customer profitability score is $52.50 – £60 = –$7.50 (a loss of $7.50).**

Customer B:

- **generates a profit of $15,000 × 0.035 = $525.00**
- **and therefore a healthy profit. In this case the customer profitability score is $525.00 – $60.00 = $465 (a profit of $465).**

Some tips and traps to consider

Organisations need to ensure that they look holistically at the information generated from customer profitability metrics. For example, customers who are presently unprofitable can have

high customer lifetime values (and vice versa). Therefore, organisations should not be in a rush to cease trading with unprofitable customers.

A further warning is that, in acquisitions, organisations often focus heavily on the lifetime value profitability metric, without taking into account that there is usually high volatility in the purchasing behaviour of 'new' customers.

FURTHER READING AND REFERENCES

Robert S. Kaplan, A balanced scorecard approach to measure customer profitability, 8 August 2005, Working Knowledge, Harvard Business School, **http://hbswk.hbs.edu/item/4938.html**

Chapter 3
Customer retention rate

- Why: To better understand customer loyalty
- What: To measure the extent to which customers are satisfied and loyal
- When: When repeat customers and positive recommendations matter
- The question this indicator helps you to answer: to what extent are we keeping the customers we have acquired?

WHY DOES THIS KPI MATTER?

In order to keep making money, companies need customers who buy their products and services. Keeping the customers we already have is usually better and cheaper than trying to find and win new ones. First, attracting and converting leads to customers is expensive. It is generally cheaper to maintain an existing customer relationship than to create a new one from scratch. Second, once customers have made a decision to buy from you, it is generally easier to re-sell, cross-sell and up-sell to them.

This is why most businesses aim to convert their first-time buyers into long-term profitable customers. In his book *The Loyalty Effect*, Fred Reichheld makes the point that 'A 5% improvement in customer retention rates will yield between a 20 to 100% increase in profits across a wide range of industries.'

The customer retention rate is a powerful indicator of current customer performance as it demonstrates loyalty through real behaviours (customers have actually decided to come back or stay), instead of factors that might predict future loyalty, such as the net promoter score and brand equity (customers might be more likely to repurchase in the future but there is no guarantee). On the other hand, of course, current retention rates are no guarantee of future retention either, but as a rule of thumb it can be stated that customers who buy more frequently are more likely to continue to do so.

Customer retention is therefore a metric that allows you to understand what percentage of your existing customers remain customers or make a repeat purchase. If your retention rate is high, you can generally assume high customer satisfaction levels (unless the barriers to leaving are very high or the incentives you give to your customers outweigh the bad service they might receive). If retention is low, you want to know not just the actual numbers but more importantly the reasons

for dissatisfaction, especially relative to your competitors.

A final point to remember about retention is that you don't necessarily want to keep all the customers you have acquired. Reasons for this are that some might not be profitable or some might be more expensive to serve compared to others. This is why the customer retention rate needs to be understood in the context of other measures such as customer profitability and customer lifetime value.

A complementary measure of customer retention is the customer churn rate (or customer attrition), which measures the percentage of customers a business loses over a specified time-frame.

HOW DO I MEASURE IT?

How do I collect the data?

If your company has good and accurate customer data, data for your customer retention ratio come from your purchasing information, i.e. your general sales ledger or your CRM (customer relationship management) system. If no customer data are available, a survey could be used to estimate customer retention.

What formula do I use?

Retention rate measures the percentage of customers a company is able to retain over a specified period. The formula that is often provided

in textbooks just divides the number of active customers at the end of the time period by the number of active customers at the start of the time period. The problem with this formula is that it not only measures retained customers but includes newly acquired customers and therefore is not really a measure of retention.

A better formula is:

$$\text{Customer retention rate (CRR)} = \frac{\text{Number of customers at the beginning of a period}}{\text{Number of those customers who remained at the end of a period}}$$

A slight variation on this formula and an even better measure of customer retention would be to divide the number of customers at the beginning of a period who are at risk of leaving by the number of those customers who remained customers at the end of a period.

How often do I measure it?

The frequency of measurement depends on the average lifespan, contract duration or purchasing cycle. Monthly collection of the data usually makes sense in most industries.

Where do I find the data?

These data can in most cases be extracted from the sales ledger or CRM system.

How difficult or costly is it to measure?

The cost and effort involved in measuring retention rates depend very much on the quality and accuracy of your customer data. Banks, for example, which hold accurate data about customers, will find calculating retention very inexpensive. If you have no accurate data about your customers (e.g. in a restaurant chain), a survey might be necessary, which tends to raise the cost significantly and reduce the reliability.

How do I set targets for this KPI?

In a typical company, customers are defecting at the rate of 10–30% per year. However, customer retention rate and churn rate targets need to be set in the context of your industry and against past performance, because retention rates vary widely between industries. While the retention rate in retail banking is still fairly high (but coming down as more young people are willing to switch), the retention rate in the mobile phone or internet service provider sector is generally low, as customers are constantly looking for the best package deals. A recent study by J.D. Power and Associates of retention rates in the car industry found that Toyota (64.6%) leads the customer retention rankings, followed by Lexus (63.0%) and Honda (62.8%). Most commercial organisations will set customer retention targets as a key part of

their (annual) marketing strategy development process.

PRACTICAL EXAMPLE

One of my clients is a world-leading telecommunications company that wanted to understand customer retention as a key measure for its corporate dashboard. Using its CRM database, it can calculate what percentage of the customers who are at risk are renewing their contracts.

Let's say that in December of a given year 200,000 mobile phone contracts are coming up for renewal and the company is able to review 130,000 of those. The customer retention ratio is:

$$\frac{130{,}000}{200{,}000} = 65\% \text{ (customer retention rate)}$$

This is giving the company a very reliable picture of true retention and loyalty, as opposed to just measuring customer churn, which was hiding information such as customers who were counted as churn because they changed handset, changed phone number, moved from pay-as-you-go to pay-monthly contracts, or were disconnected by the company because they did not pay the bills.

Companies without customer contracts or good customer records that allow them to identify customers might find measuring customer retention rates a little harder. Retailers might find it difficult to track customers (unless they are using a loyalty card) and therefore might tend to track transactions rather than customers. The only way to track retention in that case is by surveying customers about their loyalty to specific retailers. Retail giant Wal-Mart does not identify its customers and therefore tracks only the number of transactions. The UK retailer Boots, on the other hand, now has an estimated 70% of sales revenue linked to its loyalty cards – which allows the company to get an understanding of retention rates based on past

purchase history and basket estimations (how often you are predicted to come back and how much you are predicted to spend). Based on this, it can determine whether you are returning or not.

Some tips and traps to consider

There are a number of difficulties in measuring retention. The main one is identifying and counting customers correctly. In order to calculate customer retention rates correctly, you need first to identify your customers and then count them correctly. For example, if you are a telecom company, do you count people with multiple contracts (phone, tablet, mobile, broadband) as one customer or multiple customers? How do you treat family contracts – as one customer or as multiple customers?

Another difficulty is measuring customer retention rates in industries where sales transactions are more sporadic and when they take place in non-defined intervals. A car company like Mercedes-Benz might use research to come to the conclusion that we buy cars in intervals of, let's say, five years. If the company is able to keep correct customer information, it can then estimate customer retention. The difficulty again is identifying a returning customer (especially if this person has changed address, credit card, etc.).

Finally, remember that looking at customer retention in isolation is no good; you need also to look at measures such as customer profitability and

customer satisfaction to get a more complete picture of customers.

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Chapter 4
Conversion rate

- Why: To better understand customer acquisition
- What: To measure how well you are converting prospects into actual customers
- When: When customer acquisition is a key priority
- The question this indicator helps you to answer: to what extent are we able to convert potential customers into actual customers?

WHY DOES THIS KPI MATTER?

The conversion rate basically looks at the success rate of turning leads or potential customers into actual customers. For example, once you have attracted visitors or potential customers (be this into your physical shop or to your website), your next challenge is to convert the visitors (or potential customers) into actual customers.

What constitutes a conversion can depend a little on your object-ives. In a physical environment it might mean a visitor entering a shop and then

purchasing a good or requesting a quote. In the online sphere a conversion could constitute the ordering of a product or it may refer to an online visitor making a phone call, signing up for membership, subscribing to a newsletter, downloading software, or other activity based on subtle or direct requests from marketers, advertisers and content creators.

Understanding the conversion rate will give companies an insight into how well their marketing and sales strategies and their oper-ations are aligned. For example, if you attract 500 people into your shop or to your website and all of them leave without purchasing anything, then this is obviously cause for concern. It might mean that what you offer on your website or in your shop is not what the potential customer was expecting, the visitors could not easily find what they were after, it was too expensive, etc.

Conversion rate stands as an umbrella term for many different types of conversion rate that companies might want to measure to gain more specific insights, such as:

- visitor sales conversion rates
- lead generation conversion rates
- click-through rates
- tender or quote conversion rates.

HOW DO I MEASURE IT?

How do I collect the data?

The data collection method will depend on whether the conversion rate is being calculated for physical shops or for websites. Online, free-to-use web analytics tools allow you to track conversion rates along the so-called conversion funnel – the path visitors take from the initial prompt to the targeted action (e.g. a purchase). In the physical world, retailers often use simple counting mechanisms that count the number of people who entered the shop and compare this with the number of sales transactions. However, more sophisticated tools are now available that allow shops to track customers using camera technology and software that will automatically report conversion rates.

What formula do I use?

In its simplest form, the conversion rate is calculated by dividing the number of goal achievements by the number of visitors:

$$\text{Conversion rate} = \left(\frac{\text{Number of goal achievements}}{\text{Visitors}}\right) \times 100$$

The goal achievements can be broken down into the different steps of the conversion funnel: for example, conversion from page view or ad view to visit – also called click-through rate (CTR); from click through to filled shopping basket; from shopping basket to order, etc.

How often do I measure it?

Conversion rate is an indicator that is best monitored continuously.

Where do I find the data?

The source of data will depend on the area of measurement. For websites, the data will come from an online tracking system or from web analytics tools. For shops and physical locations, the data will come from the visitor counting and tracking system and the sales data.

How difficult or costly is it to measure?

The costs for measuring conversion rates will depend on whether the conversion rate is calculated for websites or for physical shops and spaces. Online, the costs are minimal as analytics tools allow you to specify goals and track them automatically, providing you with the conversion rate.

In physical locations such as shops, shopping centres and airports, counting systems have to be installed, such as tracking cameras and software. This will push the costs of measuring conversion rates up considerably.

How do I set targets for this KPI?

Setting targets for conversion rates depends a lot on the products and the fact of whether it is online

or physical. Frequently mentioned numbers for online conversion rates are between 2 and 3%. However, according to ClickZ, retailers such as Amazon and eBay have a conversion rate of around 10% and higher. In the physical world you would expect conversion rates to go up significantly.

PRACTICAL EXAMPLE

Take an online retailer that is generating traffic from banner ads on Facebook. The company can get an insight into how many people visit the sites with the ad on and therefore get an idea of how many people see the ad – in this case, 1 million.

The click-through rate (the rate of people who then click on the banner and get directed to the company's website) is 2%, meaning that 20,000 people have clicked on the ad:

$$\left(\frac{20{,}000}{1{,}000{,}000}\right) \times 100 = 2\%$$

Of those 20,000 visitors, 3,000 put goods into their shopping basket, a conversion rate of:

$$\left(\frac{3{,}000}{20{,}000}\right) \times 100 = 15\%$$

Of those 3,000 people who have goods in their shopping basket, 2,300 end up purchasing goods. For the shopping basket to sale stage there is a conversion rate of:

$$\left(\frac{2{,}300}{3{,}000}\right) \times 100 = 76.6\%$$

The company measures its overall conversion rate from the time people reach its website to making a sale, which is therefore:

$$\left(\frac{2{,}300}{20{,}000}\right) \times 100 = 11.5\%$$

Another example comes from a leading retailer that wanted to track conversion in its physical shop network in order to get some comparative conversion figures. It installed counting technology that uses cameras at the store entrance to count the number of customers entering and leaving each store. The retailer then uses sales data to track the number of sales transactions that have taken place:

Store	Number of visitors in period t	Number of sales transactions in period t	Co rat
London	10,000	4,800	48
Paris	12,000	3,200	26
New York	11,000	5,800	52
Shanghai	15,000	7,600	50

Some tips and traps to consider

When calculating online conversion rates it is important to be aware of the fact that the web logs register many 'visitors' who are in fact not real visitors. For example, search engines use so-called robots ('bots', in short) or spiders to search the web. These and other factors mean that between 10 and 30% of traffic to your website is not caused by 'real visitors'. This is why it is important to count the number of 'unique visitors' – data that most web analytics tools will give you – as opposed to raw traffic data.

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www.countwise.com

www.clickz.com/clickz/column/1718099/the-average-conversion-rate-is-it-myth

www.kaushik.net/avinash/excellent-analytics-tip-8-measure-the-real-conversion-rate-opportunity-pie/

Chapter 5
Relative market share

- Why: To better understand your market position
- What: To measure how large your share of a market is compared to your competition
- When: When a company wants to grow or maintain market share in specific markets
- The question this indicator helps you to answer: how well are we developing our market share in comparison to our competitors?

WHY DOES THIS KPI MATTER?

The relative market share metric essentially indexes a firm's or a brand's market share against that of its leading competitor and therefore gauges its true market strength and identifies opportunities for improvement. To explain, whereas 20% might be the dominant market share in many markets, it might be a distant number two or lower than others: hence the importance of the word 'relative'. There are no global benchmark figures for market share that cross industries and

sectors – such a figure would simply not make sense.

Calculating relative market share (see What formula do I use?) enables managers to compare relative market positions across different product markets. As a measure, relative market share grew in popularity thanks to studies (in particular by The Boston Consulting Group – see below) that suggested that major players in a market tend to be more profitable than their competitors (although there are those who fiercely oppose this assertion: see Tips and traps on page 40).

Relative market share, it is argued, indicates likely cash generation because the higher the share, the more cash that will be generated. As a result of economies of scale (central to The Boston Consulting Group matrix – see below), it is assumed that these earnings will grow faster the higher the share.

The reason for choosing relative market share, rather than just profits, proponents argue, is that it carries more information than just cash flow. It shows where the brand is positioned against its main competitors, and indicates where it might be likely to go in the future. It can also show what type of marketing activities might be expected to be effective.

The relative market share metric was first developed in the 1960s but was further popularised

by The Boston Consulting Group in its famous matrix of relative share and market growth (Table 5.1).

In The Boston Consulting Group's growth–share matrix, one axis represents relative market share – a surrogate for competitive strength. The other represents market growth – a surrogate for potential. Along each dimension, products are classified as high or low, placing them in one of four quadrants. In the traditional interpretation of this matrix, products with high relative market shares in growing markets are deemed stars, suggesting that they should be supported with vigorous investment. The cash for that investment may be generated by cash cows, products with high relative shares in low-growth markets. Question mark or problem child products may have potential for future growth but hold weak competitive positions. Finally, dogs have neither a strong competitive position nor growth potential.

Table 5.1 The growth share matrix

		Market share	
		High	Low
Market growth rate	High	Stars	Question marks
	Low	Cash cows	Dogs

Source: The Boston Consulting Group (www.bcg.com)

HOW DO I MEASURE IT?

How do I collect the data?

Analysis of annual reports or market research that is in the public domain. Bespoke analysis can also be carried out, if data are more problematic to attain.

What formula do I use?

Formula:

$$\text{Relative market share (\%)} = \frac{\text{Organisation's market share}}{\text{Largest competitor's market share}}$$

As we can see, the exact measure is the brand's share relative to its largest competitor. Thus, if the brand had a share of 20%, and the largest competitor had the same, the ratio would be 1:1. If the largest competitor had a share of 60%, however, the ratio would be 1:3, implying that the organisation's brand was in a relatively weak position. If the largest competitor had a share of only 5%, the ratio would be 4:1, implying that the brand owned was in a relatively strong position, which might be reflected in profits and cash flows. If this technique is used in practice, this scale is logarithmic, not linear.

How often do I measure it?

Usually measured annually but perhaps more frequently in fast-moving markets.

Where do I find the data?

The figures required to calculate the relative market share of a company can usually be sourced from annual reports or market research that has been carried out.

How difficult or costly is it to measure?

Costs and effort for collecting market share can be very high, especially in those cases where no good-quality data are available and market research has to establish baseline data. Benchmark data are available in many industries but these can also be expensive. The lowest costs for collecting data are incurred when the data are readily available.

How do I set targets for this KPI?

Targets can be gleaned from existing market research. Benchmarks can be gleaned from articles etc. that explain how other organisations secured high relative market share positions.

PRACTICAL EXAMPLE

Consider the following example concerning small urban cars. As a starting point for making the relative market share calculation, we describe the performance of the key players:

	Units sold (thousands)	Revenue (thousands of US dollars)	Mar sha

	Units sold (thousands)	Revenue (thousands of US dollars)	Mar shar
Zipper	**25**	**375,000**	**40%**
Twister	**10**	**200,000**	**21.3**
A-One	**7.5**	**187,500**	**20%**
Bowlz	**5**	**125,000**	**13.3**
Chien	**2.5**	**50,000**	**5.3%**
Market total	**50**	**937,500**	**100**

In the market for small urban cars, managers at A-One wanted to know their firm's market share relative to its largest competitor. They did this by calculating it on the basis of revenues or unit sales.

In unit terms, A-One sells 7,500 cars per year. Zipper, the market leader, sells 25,000. A-One's relative market share in unit terms is thus 7,500/25,000 or 0.30. We arrive at the same number if we first calculate A-One's share (7,500/50,000 = 0.15) and Zipper's share (25,000/50,000 = 0.50) and then divide A-One's share by Zipper's share (0.15/0.50 = 0.30).

In revenue terms, A-One generates $187.5 million in car sales each year. Zipper, the market leader, generates $375 million. A-One's relative market share in revenue terms is thus $187.5m/$375m, or 0.5. Owing to its comparatively high average price per car, A-One's relative market share is greater in revenue than in unit terms.

Some tips and traps to consider

While relative market share (and indeed market share) is an import-ant metric, other measurements are needed to develop a complete picture. For one, it is important to keep an eye on the market itself and check market growth rates. Also, units, revenues and margin must be tracked in order to determine the ultimate value of an organisation's market share. There are many ways to measure share. The easiest is to rank revenue or measure absolute volume in units sold or gross sales generated. Volume measurements are a start but need to be further described by the value of an organisation's market share. Having 70% share of a market in which you are losing money is not a sustainable strategy. Indeed, the lack of a 'profit' dimension is a major criticism of the relative market share metric.

A useful way of depicting market share is over time and in comparison to market growth (see Figure 5.1). This provides the reader with a simple picture to understand whether their market share grows in line with the potential and growth of the overall market.

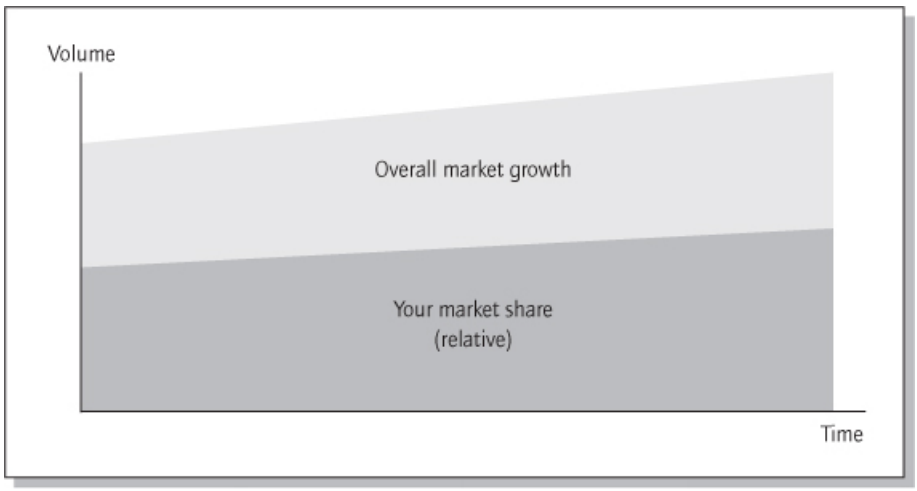

Figure 5.1

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Fast Company Staff, Why Market Share is the Most Important Metric, Fast Company, 8 August 2005.

The Boston Consulting Group: **www.bcg.com**

part two

Measuring and understanding your financial performance

Chapter 6
Revenue growth rate

- Why: To better understand your financial performance, particularly how well the business is growing
- What: To measure the growth in income a company receives
- When: When investors and managers want to understand to what extent the business is growing
- The question this indicator helps you to answer: how well are we growing the business?

WHY DOES THIS KPI MATTER?

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 activ-ities, 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 should not 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 (probably a quarter or series of quarters). The current quarter’s sales figure will

also usually be compared on a year-on-year 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?

How do I collect the data?

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'.

What formula do I use?

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

How often do I measure it?

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.

Where do I find the data?

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

How difficult or costly is it to measure?

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

How do I set targets for this KPI?

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, they are 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.

Table 6.1 gives some example growth rates for well-known com-panies across different industries.

Table 6.1 Revenue growth rates for selected companies

Company	**Average revenue growth rates (over 5 years between 2007 and 2011)**
Bank of	Just over 3%

America	
Walt Disney	Just over 4%
Wal-Mart Stores	About 5.5%
Colgate-Palmolive	Just under 7%
Exxon-Mobile	About 8.5%
Pfizer	Just under 10%
The Coca-Cola Company	About 15%
Apple	Over 40%

PRACTICAL 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 of 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-on-year basis.

Some tips and traps to consider

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.

FURTHER READING AND REFERENCES

CNNMoney – **http://money.cnn.com**

Chapter 7
Net profit

- Why: To better understand your financial bottom-line performance
- What: To measure how much money is left after all costs have been deducted from overall sales revenues
- When: When investors and managers want to understand how profitable a business is
- The question this indicator helps you to answer: to what extent are we generating bottom-line results?

WHY DOES THIS KPI MATTER?

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) typic-ally 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 re-invested 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?

How do I collect the data?

The data for the net profit metric are collected from the income statement (see the example on page 55).

What formula do I use?

Net profit ($) = Sales revenue ($) – Total costs ($)

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

1. Sales revenue = Price (of product) × 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. Pre-tax 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

How often do I measure it?

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

Where do I find the data?

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

How difficult or costly is it to measure?

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 these data in existing accounting systems, it is just a matter of adding a calculation routine to the existing system.

How do I set targets for this KPI?

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

PRACTICAL 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 Manufacturing 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 (000s)	
Gross sales revenues	33,329
Less returns and 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, manufacturing equipment	360
Other manufacturing overhead	4,000
Net manufacturing overhead	9,623
Net cost of goods sold	22,043
Gross profit	10,940

Operating expenses	
Selling expenses	
Sales salaries	4,200
Warranty expenses	730
Depreciation, store equip	120
Other selling expenses	972
Total selling expenses	6,022
General and admin expenses	
Administration salaries	1,229
Rent expenses	180
Depreciation, computers	179
Other general and admin expenses	200
Total general and admin expenses	1,788
Total operating expenses	7,810
Operating income before taxes	3,130
Financial revenue and expenses	
Revenue from investments	118
Less interest expense	511
Net financial gain (expense)	(393)
Income before tax and extraordinary items	2,737
Less income tax on operations	958
Income before extraordinary items	1,779
Extraordinary items	
Sale of land	610
Less initial cost	145
Net gain on sale of land	465
Less income tax on gain	118
Extraordinary items after tax	347
Net profit (income)	2,126

Some tips and traps to consider

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 and utility costs) 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, 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 needed to generate those resources, they argue.

FURTHER READING AND REFERENCES

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

Chapter 8
Net profit margin

- Why: To better understand your financial performance, especially how well a company is run and controls its costs
- What: To measure the percentage of net profits from the overall sales revenues
- When: When investors and managers want to understand and compare the profitability of businesses
- The question this indicator helps you to answer: how much net profit are we generating for each dollar of revenue generated?

WHY DOES THIS KPI MATTER?

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 COLLECT THE DATA?

Data collection method

The data for the net profit margin metric are collected from the income statement (see Chapter 7).

What formula do I use?

Net profit

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

Revenues

How often do I measure it?

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

Where do I find the data?

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

How difficult or costly is it to measure?

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 these data in existing accounting systems, it is just a matter of adding a calculation routine to the existing system.

How do I set targets for this KPI?

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%.

PRACTICAL EXAMPLE

In Chapter 7 we calculated the net profit and net sales revenues for Grande Corporation based on its income statement (see pages 55–6).

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

$$\text{Net profit margin} = \frac{\text{Net prof it}}{\text{Net sales revenues}}$$

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

Net profit margin = 6.4%

Some tips and traps to consider

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.

FURTHER READING AND 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-margin-interpretation.html

Chapter 9
Gross profit margin

- Why: To better understand your financial performance, especially how efficient a company is in producing its products or services
- What: To measure production efficiency by looking at all production costs relative to all sales revenue
- When: When investors and managers want to understand and compare the production efficiency of businesses
- The question this indicator helps you to answer: how much gross profit are we generating for each dollar of revenue generated?

WHY DOES THIS KPI MATTER?

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 that a company incurs for supplies, inventory, production and distribution of its 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 overheads, other expenses and of course retained earnings and dividends. This also means that the gross profit margin should be much higher than the net profit margin (see Chapter 8).

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?

How do I collect the data?

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

What formula do I use?

Revenue – Cost of goods sold

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

Revenues

How often do I measure it?

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

Where do I find the data?

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

How difficult or costly is it to measure?

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.

How do I set targets for this KPI?

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, such as clothing, 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.

PRACTICAL 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 equals $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 is:

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

Using the preceding example, the margin would be 70%.

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

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

Some tips and traps to consider

Although gross profit margin is 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 calculated 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%:

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.

FURTHER READING AND 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

Chapter 10
Operating profit margin

- Why: To better understand your financial performance, especially its operating efficiency and pricing strategy
- What: To measure the proportion of revenue that is left after removing all costs of operating the business
- When: When investors and managers want to understand and compare how profitable a business is, purely based on regular sales activities
- The question this indicator helps you to answer: to what extent are we operating our business efficiently?

WHY DOES THIS KPI MATTER?

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 mater-ials, overheads, depreciation, amortisation, selling, advertising, administration, etc.).

Because operating income includes only the sales revenue from regular business operations (and not revenues from extraordin-ary 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, 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?

How do I collect the data?

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

What formula do I use?

$$\text{Operating profit margin} = \left(\frac{\text{Operating profit}}{\text{Revenue}}\right) \times 100$$

where the operating profit = EBIT (earnings before interest and taxes).

Where do I find the data?

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

How difficult or costly is it to measure?

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.

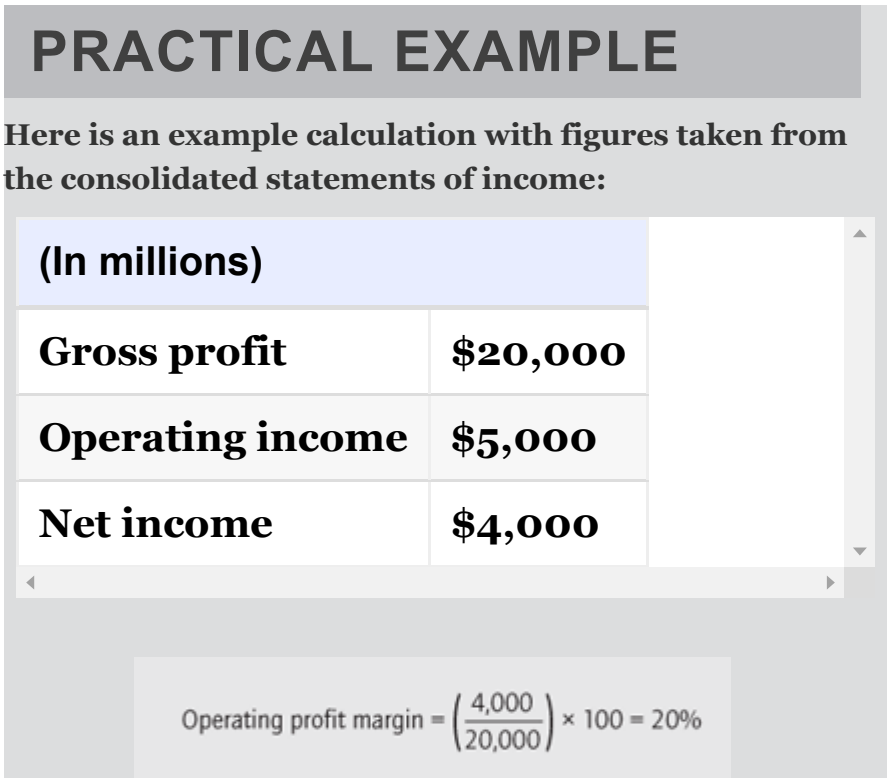
How do I set targets for this KPI?

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%.



PRACTICAL 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**

$$\text{Operating profit margin} = \left(\frac{4{,}000}{20{,}000}\right) \times 100 = 20\%$$

Some tips and traps to consider

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).

FURTHER READING AND 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

Chapter 11

Return on investment (ROI)

- Why: To better understand your financial performance, especially the efficiency of investments
- What: To measure the proportion of revenue that is left after removing all costs of operating the business
- When: When you want to assess or compare the efficiency of investments
- The question this indicator helps you to answer: to what extent are our investments generating a financial return?

WHY DOES THIS KPI MATTER?

Return on investment (ROI), also referred to as the rate of return or rate of profit, is a financial performance measure that is used to evaluate the efficiency of an investment (after or during the investment period) or to compare the efficiency of a number of different investments (before capital is allocated).

ROI is a calculation of the most tangible financial gains or benefits that can be expected from a project versus the costs of implementing the suggested programme or solution. In short, it is the ratio of money gained or lost (realised or unrealised) on an investment relative to the amount of money invested.

ROI is a very popular metric within organisations because its versatility and simplicity are powerful aids to the decision-making process. By running an ROI projection, organisations can determine the likely return on an investment. If there are other opportunities with a higher ROI, then it is probable that the lower ROI-yielding investment will not be undertaken or at least will become less of a priority.

Estimating ROI for a proposed expenditure will go a long way in aiding management to make a ‘go’ or ‘no go’ decision. ROI can be separated into two categories: micro and macro ROI.

Micro ROI is focused on elements of any project or programmes a company may become involved in. Most such initiatives would have a shorter time-frame (maybe up to a year). These may include such things as:

- a direct mail programme
- a print advertising programme
- a sales promotion.

Micro ROI can include almost anything a company would spend money on where it would expect a positive financial result in less than a year.

Macro ROI concerns the overall performance of major company initiatives. These may include:

- adding a new assembly line
- creating the company's own truck delivery system
- building a new production facility.

The payout for these types of initiative is probably more than a year and could extend for several years.

Although calculating ROI can be more difficult for intangible investments (such as knowledge development), it has been applied successfully to areas such as training.

Naturally, the ROI metric is a key metric tracked by the investment community, which looks for businesses that can demonstrate that they are adept at generating positive returns on their investments on an ongoing basis.

HOW DO I MEASURE IT?

How do I collect the data?

The data are collected from analysis of the accounting data.

What formula do I use?

Return on investment is calculated in several ways. For example:

$$\text{ROI} = \frac{(\text{Gain from investment} - \text{Cost of investment})}{\text{Cost of investment}}$$

In the above formula 'Gain from investment' refers to the proceeds obtained from selling the investment or income from the investment or the products / services resulting from the investment.

ROI can also be calculated as net benefits/net costs or as profit/costs × period

How often do I measure it?

ROI can be measured at the end of a programme (such as a marketing effort, where it is straightforward to calculate the ROI based on known and complete costs and benefits).

However, ROI is also measured as a percentage of return over a period of a year (most useful for longer-term projects), thus giving a calculation of how long it will take the organisation to cover its investment and then make a profit from that investment.

If the rate of return (ROR) is 33.3% in one year, then it will take three years to recover the complete investment (100%/33.3% = 3).

If ROR is 50%, then payback is two years; if 200%, then six months.

Where do I find the data?

These data can be extracted from the accounting data.

How difficult or costly is it to measure?

The cost and effort of calculating ROI depend on the complexity of calculating the benefits of the investments. This can be complex if data for the financial benefits are not already available or when more complex formulas are being used to, for example, convert intangible benefits into financial returns. However, if simple financial formulas are used, the cost and effort will be less, as the data should be readily available in the accounting system.

How do I set targets for this KPI?

Organisations will set their own ROI targets, and where possible will base these on industry benchmarks. In general, the higher the investment risk, the greater the potential investment return and the greater the potential investment loss (such an understanding will influence the setting of an ROI target).

Moreover, profitability ratios such as ROI are typically used by financial analysts to compare a company's profitability over time or to compare profitability between companies. The investment

community might be a good mechanism for identifying benchmark targets.

PRACTICAL EXAMPLE

Let's look at a simple ROI calculation. Take a parcel-mapping project that costs $50,000 to implement, and you demonstrate $25,000 in net benefits, then the calculation would appear as follows:

$$ROI = \frac{25{,}000}{50{,}000}$$

As a further example, consider this 90-day promotion:

- **Period: 90 days**
- **Sales: $320,000**
- **Profit: $120,000**
- **Programme cost: $200,000**
- $$ROI = \left(\frac{Profit}{Cost}\right) \times \left(\frac{Year\ days}{Period}\right)$$
- $$\left(\frac{\$120{,}000}{\$200{,}000}\right) \times \left(\frac{360}{90}\right)$$
- **ROI = 60% × 4 = 240% annual rate of return**

In this example, the company recouped its initial investment of $200,000 from its sales of $320,000, leaving a profit of $120,000.

Since the promotion was over a 90-day period, the company got 60% return on its investment in 90 days. Annually, the return is four times the 60% or 240% for annualised ROI.

Some tips and traps to consider

It is worth keeping in mind that the calculation for return on investment and, therefore, the definition

can be modified to suit the situation. Basically, it all depends on what the organisation (or part of it) decides to include as returns and costs. The definition of the term in the broadest sense just attempts to measure the profitability of an investment and, as such, there is no one 'right' calculation.

For example, a marketer may compare two different products by dividing the gross profit that each product has generated by its respective marketing expenses. A financial analyst, however, may compare the same two products using an entirely different ROI calculation, perhaps by dividing the net income of an investment by the total value of all resources that have been employed to make and sell the product.

This flexibility has a downside, as ROI calculations can be easily manipulated to suit the user's purposes, and the result can be expressed in many different ways. When using this metric, an organisation must have a clear understanding of what inputs are being used.

Furthermore, care must be taken not to confuse annual and annualised returns. An annual rate of return is a single-period return, while an annualised rate of return is a multi-period, average return.

An annual rate of return is the return on an investment over a one-year period, such as 1 January to 31 December. An annualised rate of

return is the return on an investment over a period other than one year (such as a month, or two years) multiplied or divided to give a comparable one-year return. For instance, a one-month ROI of 1% could be stated as an annualised rate of return of 12%. Or a two-year ROI of 10% could be stated as an annualised rate of return of 5%.

FURTHER READING AND REFERENCES

The ROI Institute: **www.roiinstitute.net**

www.investopedia.com

Jack J. Phillips and Patti P. Phillips, The Business Case for ROI, Measuring the Return on Investment in Human Resources, paper by Jack Phillips Center for Research, 2001.

Patricia Pulliam Phillips and Jack J. Phillips, *Return on Investment (ROI) Basics* (ASTD Training Basics), 2006.

Chapter 12

Cash conversion cycle (CCC)

- Why: To better understand your financial performance, especially the way cash flow is managed
- What: Measure the time it takes from spending money on producing goods or services to money coming back into the business
- When: When you want to assess how well a company manages its cash flow
- The question this indicator helps you to answer: how well are we doing at maintaining a healthy cash position?

WHY DOES THIS KPI MATTER?

A main reason why companies get into difficulties is not necessarily a lack of sales but the company running out of money in the bank (cash) to pay for the day-to-day costs of the business. An old business saying is that ‘cash is king’. With this recognition, a number of KPIs have been developed to assess a company’s cash position, generally

known as ‘cash flow’. The cash conversion cycle (CCC) is such a measure.

The CCC metric assesses the length of time, in days, that it takes for an organisation to convert resource input into cash flow. It measures the amount of time each net input dollar is tied up in the production and sales process before it is converted into cash through sales to customers.

In essence, the metric calculation captures three steps:

1. the amount of time needed to sell inventory;
2. the amount of time needed to collect receivables;
3. the length of time the company is afforded to pay its bills without incurring penalties.

Also known as ‘cash cycle’, in simple terms CCC measures the time between the outlay of cash and cash recovery (i.e. when the account is actually paid and not when a sale is made).

The longer it takes to convert the initial outlay back into cash in the bank, the more it will reduce, or squeeze, a company’s cash availabilities. Conversely, a positive trend in the cash conversion cycle will add to a company’s liquidity.

Generally speaking, the lower the CCC number in days, the better for the organisation (although there are caveats – see the Tips and traps section on page 91). A shorter CCC means greater liquidity, which translates into less of a need to borrow, more opportunity to realise price discounts with cash purchases for raw materials, and an increased capacity to fund the expansion of the business into new product lines and markets.

HOW DO I MEASURE IT?

How do I collect the data?

Data for the CCC are collected through analysing sales records, inventory levels, payments outstanding/paid by customers (days sales outstanding) and payments outstanding/paid to suppliers (days payable outstanding).

What formula do I use?

Measured in days, CCC is calculated as:

$$CCC = DIO + DSO - DPO$$

where:

- DIO represents days inventory outstanding
- DSO represents days sales outstanding
- DPO represents days payable outstanding.

How often do I measure it?

Organisations typically measure CCC on an annual basis but might report it quarterly on a rolling annual basis.

Where do I find the data?

The data are drawn from inventory levels, sales records and accounting data.

How difficult or costly is it to measure?

All organisations must collect data for payments made/received and should keep good records of inventory levels, so there is little extra cost or effort in creating this KPI over and above that already expended.

There are also organisations that collect CCC benchmark data, which are often arranged according to industry sector. Perhaps the most useful example is the annual North American and European survey by REL Consultancy, which shows industry performance against the DIO + DSO – DPO performance indicator.

PRACTICAL EXAMPLE

Here we explain DIO/DSO and DPO and illustrate it through the fictitious company XYZ Corp.

DIO is computed by:

1. **Dividing the cost of sales (income statement) by 365 to get a cost of sales per day figure.**
2. **Calculating the average inventory figure by adding the year's beginning (previous year-end**

amount) and ending inventory figures (both are in the balance sheet) and dividing by 2 to obtain an average amount of inventory for any given year.

3. **Dividing the average inventory figure by the cost of sales per day figure.**

For XYZ Corp's financial year 2014 (in $ millions), its DIO would be computed with these figures:

1. **cost of sales per day 800 ÷ 365 = 2.2**
2. **average inventory 2014 620 + 700 = 1,320 ÷ 2 = 660**
3. **days inventory outstanding 660 ÷ 2.2 = 300**

DIO gives a measure of the number of days it takes for the company's inventory to turn over, i.e. to be converted to sales, either as cash or as accounts receivable.

DSO is computed by:

1. **Dividing net sales (income statement) by 365 to get a net sales per day figure.**
2. **Calculating the average accounts receivable figure by adding the year's beginning (previous year-end amount) and ending accounts receivable amounts (both figures are in the balance sheet) and dividing by 2 to obtain an average amount of accounts receivable for any given year.**
3. **Dividing the average accounts receivable figure by the net sales per day figure.**

For XYZ Corp's financial year 2014 (in $ millions), its DSO would be computed with these figures:

1. **net sales per day 3,500 ÷ 365 = 9.6**
2. **average accounts receivable 540 + 538 = 1,078 ÷ 2 = 539**
3. **days sales outstanding 539 ÷ 9.6 = 56.1**

DSO gives a measure of the number of days it takes a company to collect on sales that go into accounts receivables (credit purchases).

DPO is computed by:

1. **Dividing the cost of sales (income statement) by 365 to get a cost of sales per day figure.**
2. **Calculating the average accounts payable figure by adding the year's beginning (previous year-end amount) and ending accounts payable amounts (both figures are in the balance sheet), and dividing by 2 to get an average accounts payable amount for any given year.**
3. **Dividing the average accounts payable figure by the cost of sales per day figure.**

For XYZ Corp's financial year 2014 (in $ millions), its DPO would be computed with these figures:

1. **cost of sales per day 800 ÷365 = 2.2**
2. **average accounts payable 140 + 136 = 276 ÷ 2 = 138**
3. **days payable outstanding 138 ÷ 2.0 = 69**

DPO gives a measure of how long it takes the company to pay its obligations to suppliers.

XYZ Corp's cash conversion cycle for financial year 2014 would be computed with these numbers (rounded):

DIO 300 days

DSO + 56.1 days

DPO –69 days

CCC 287.1 days

Some tips and traps to consider

It should be noted that shortening the CCC number does carry some risks. While an organisation could potentially achieve a negative CCC by always collecting from customers before paying suppliers, a policy of strict collections and lax payments is not always advisable. For instance, it can lead to the firm gaining a reputation as difficult to work with, which can negatively impact its ability to attract quality suppliers and so damage customer service.

Also, the CCC performance indicator is not an end in itself. It should be used as the starting point for performance improvement interventions, such as reducing inventory levels (so introducing techniques such as lean or just-in-time production) and techniques to smooth the accounts receivable process (such as improved customer relationship management).

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M. Theodore Farris II, Paul D. Hutchison and Ronald W. Hasty, Using cash-to-cash to benchmark service level performance, *Journal of Applied Business Research*, 21(2), 2005. **http://journals.cluteonline.com/index.php/JABR/article/view/1494**

REL Consultancy: **www.relconsultancy.com**

part three

Measuring and understanding your internal processes

Chapter 13

Capacity utilisation rate (CUR)

- Why: To better understand how efficiently internal processes are run
- What: To measure the rate to which full process potential is leveraged
- When: When you want to understand the internal process efficiency
- The question this indicator helps you to answer: to what extent are we working to our full work/production capacity?

WHY DOES THIS KPI MATTER?

When companies invest in production units (e.g. a machine or a factory) or in people and processes, they want to ensure that they get the intended benefit from this investment (i.e. produce products and deliver services for customers). Capacity is the ability to produce work or output in a given time-frame: for example, a machine has the capacity to produce 40 widgets per hour and a factory has the capacity of 10,000 machine-hours in each 40-hour week.

Capacity utilisation is a measure that provides insights into the extent to which a company actually uses its installed productive capacity. Thus, it refers to the relationship between actual output that *is* being produced with the installed equipment and the potential output that *could* be produced with it, if capacity were fully used.

Asset utilisation is a KPI that is most closely associated with manufacturing, but it can be equally used in the services sector where, for example, a team or a department can have a capacity to deliver outputs such as 3 projects per month or 15 consultations per day.

Low-capacity utilisation highlights slack and potential inefficiencies in the internal processes of an organisation and indicates areas for improvement. It also means that if a company is running at, let's say, 70% capacity utilisation rate, it has room to increase production up to 100% capacity utilisation rate without incurring costs of increasing capacity through, for example, buying new machines, building a new plant or hiring more people.

HOW DO I MEASURE IT?

How do I collect the data?

Data for the capacity (actual and potential) will be collected and estimated by hand (at least for the first time). Once the data for potential capacity are

established, the calculation can be automated based on the actual capacity information that is available.

What formula do I use?

$$\text{Capacity utilisation rate} = \left(\frac{\text{Actual capacity in time period } t}{\text{Possible capacity in time period } t} \right) \times 100$$

How often do I measure it?

CUR is often measured daily or weekly, but depending on the unit of production that is being assessed, this can vary. For a single machine, for example, the CUR could be calculated hourly, while for an entire factory or company the frequency would be weekly or monthly.

Where do I find the data?

Data for the CUR come from the manufacturing or internal processes system that tracks the amount of work or output that has been achieved in a given time period. The data for the possible level of capacity can be estimated based on machine data and the US Federal Reserve Board's definition for the FRB capacity utilisation index, which looks at the maximum level of production that a production unit could reasonably expect to attain under normal and realistic operating conditions.

How difficult or costly is it to measure?

Unless automated through a software program that calculates the CUR score based on the actual production data, the costs for collecting data for this KPI can be quite high owing to the manual efforts required to collect and calculate the data.

How do I set targets for this KPI?

It is difficult to provide benchmarks here that are generic. A good starting point might be to look at the economy-wide CUR, which is around 80% in the USA (according to the Federal Reserve) and marginally higher in Europe (at about 82%).

PRACTICAL EXAMPLE

Here is a simple calculation example for the CUR performance indicator:

A production unit (say, a plant or machine) can produce 10,000 units per day. The actual production is 8,500 units per day. The CUR is therefore:

$$CUR = \frac{8{,}500}{10{,}000} \times 100$$

$$CUR = 85\%$$

Some tips and traps to consider

Capacity utilisation rates can also be used to determine the level at which unit costs will rise. Let's say, for example, that a company currently produces 10,000 units at a cost of $0.50 per unit and has a capacity utilisation score of 66%. This means that it could produce up to 15,000 units without raising the cost per unit.

Also, based on capacity information, a derivative indicator, the 'output gap percentage', can be used as a measure of actual output (AO) less potential output (PO) divided by potential output × 100.

$$\text{Output gap percentage} = \frac{(AO - PO)}{PO} \times 100$$

FURTHER READING AND REFERENCES

www.newyorkfed.org/research/quarterly_review/1976v1/v1n1article2.pdf

www.fabtime.com/files/MIMFINL.PDF

http://tutor2u.net/business/production/capacity_introduction.htm

Chapter 14

Project schedule variance (PSV)

- Why: To better understand whether your projects are on schedule
- What: To measure the proportion of projects on or behind schedule
- When: When project performance matters
- The question this indicator helps you to answer: to what extent are our projects delivered on schedule?

WHY DOES THIS KPI MATTER?

Most strategic or change initiatives in companies are delivered in projects. Projects are temporary concerted efforts to achieve specific goals or objectives. Projects usually have a defined beginning and end as well as a defined budget. In fact, projects encompass every initiative in a business that is not 'business as usual' (or operations), which is the permanent functional work to produce products or services.

Projects therefore make up a large part of what companies do, which makes it important that project performance is being monitored and reported. Keeping an eye on project performance will enable companies to assess current performance levels, provide input into future goal setting and help anticipate any potential performance deviation. There are three key questions that help companies understand project performance:

1. Is the project on schedule?
2. Is the project on budget?
3. Is the project delivering the specified outcomes?

Understanding performance against schedule, budget and quality outcomes enables companies to plan and budget appropriately.

In this chapter we will look at the project variance against schedule, which provides information on whether projects are delivered within the timeline they were scheduled for. Also, when projects run over schedule they tend to overrun on costs too. Take, for example, the new Wembley Stadium in London, which opened in 2007. It was originally scheduled to open in 2003. Or the Sydney Opera House, which was scheduled to open in 1963 at a

cost of $7 million and actually opened in 1973 at a cost of $102 million.

PSV is a simple comparison of the planned or scheduled project time and the actual time taken to complete the project. If PSV is zero then the project was completed on scheduled time; if the variance is negative it shows an overrun; and if the variance is positive it highlights completion ahead of the planned completion date.

HOW DO I MEASURE IT?

How do I collect the data?

The data collection method for PSV is a simple comparison of the scheduled project completion time and the actual completion time.

What formula do I use?

PSV = SCT – ACT

where ACT is the actual completion time

and SCT is the scheduled completion time.

ACT and SCT are measured in time intervals such as days or weeks.

For overall PSV (a number of different projects taken together), you can simply add the individual project variances together for an actual number or calculate a straight or weighted average variance score.

How often do I measure it?

The measurement frequency for project schedule variance is usually monthly but it could be monitored more frequently for important short-term projects.

Where do I find the data?

The data for this KPI will usually come from a project management software application or, if this is not available, from manual records.

How difficult or costly is it to measure?

If a project management tool is in place and being used to track project performance then the effort to calculate project schedule variance is negligible. However, if manual data collection and calculations are required then costs will go up.

How do I set targets for this KPI?

If your planning is reliable then project completions should be close to the scheduled completion date. The target for PSV should therefore be anything close to zero. Negative numbers will indicate an overrun, which usually has cost implications, and positive numbers might indicate weak planning, when projects are completed long before their scheduled completion dates.

PRACTICAL EXAMPLE

Let's look at this example, where a division is running three key projects:

	SCT	ACT
Project A	**72 days**	**85 days**
Project B	**30 days**	**33 days**
Project C	**15 days**	**12 days**

PSV Project A = 72 – 85 = –13

PSV Project B = 30 – 33 = –3

PSV Project C = 15 – 12 = 3

PSV Department = (–13) + (–3) + (3) = –13

Some tips and traps to consider

Instead of calculating the variance between the scheduled time and the actual completion time of a project, some companies prefer to calculate the Project Schedule Performance Index (PSPI), which puts the actual time in relation to the scheduled time = SCT/ACT.

This means that if PSPI is less than 1, the project is behind schedule. If PSPI is greater than 1, the project is ahead of schedule.

Furthermore, it is important to look at project performance KPIs not in isolation but in the context of the other two project parameters (budget and quality).

FURTHER READING AND REFERENCES

http://management.energy.gov/documents/performance_measures_final.pdf

www.ajdesigner.com/phpearnedvalue/schedule_variance_equation.php

Chapter 15

Project cost variance (PCV)

- Why: To better understand whether your projects are on budget
- What: To measure the proportion of projects that are delivered on budget
- When: When project performance matters
- The question this indicator helps you to answer: to what extent are our projects delivered on budget?

WHY DOES THIS KPI MATTER?

According to the Standish Group, 70% of projects are over budget and 52% of all projects finish at almost 200% of their initial budget. There are many famous examples, such as the Concorde supersonic aeroplane, which cost 12 times more than scheduled, the Channel Tunnel between the UK and France, which had a construction cost overrun of 80%; and one of the most famous budget overruns at Boston's 'Big Dig' tunnel construction pro-ject, which was 275% ($11 billion) over budget. The project was originally priced at

$2.8 billion. *The Boston Globe* estimated that the project will ultimately cost $22 billion, including interest, and that it will not be paid off until 2038.

No company can afford significant cost overruns. What's more, overruns can have not only severe financial consequences but also reputational or legal consequences. For example, the software giant Oracle has recently been sued for an alleged $20 million budget overrun of one of its software implementation projects.

We have already looked at whether the project was on time (see Chapter 14). We now look at the budget. Here we will look at the project cost against schedule, which provides information on whether projects are delivered within the planned costs.

PCV is a simple comparison of the planned or scheduled project costs and the actual costs incurred to complete the project. If PCV is zero then the project was completed on budget, if the variance is negative it shows a cost overrun, and if the variance is positive it highlights completion below the planned costs.

HOW DO I MEASURE IT?

How do I collect the data?

The data collection method for PCV is a simple comparison of the scheduled project costs and the actual completion costs.

What formula do I use?

PCV = SPC – APC

where SPC is the scheduled project costs

and APC is the actual project costs

To obtain overall PCV (a number of different projects taken together), you can simply add the individual project variances together for an actual number or calculate a straight or weighted average variance score.

How often do I measure it?

The measurement frequency for PCV is usually monthly but it could be monitored more frequently for important short-term projects.

Where do I find the data?

The data for this KPI will usually come from a project management software application or the financial planning applications, if it is not available from manual records.

How difficult or costly is it to measure?

If the project costing is available in a system then the effort to calculate project schedule variance is negligible. However, if manual data collection and calculations are required then costs will go up.

How do I set targets for this KPI?

Actual project costs should be close to the scheduled project costs. The target for PCV should

therefore be anything close to zero. Negative numbers will indicate a cost overrun, and positive numbers might indicate weak planning when projects are completed within or below planned costs.

PRACTICAL EXAMPLE

Let's look at this example, where a division is running three key projects:

	SPC (in $)	APC (in $)
Project A	**500,000**	**600,000**
Project B	**250,000**	**270,000**
Project C	**75,000**	**70,000**

PCV Project A = 500,000 – 600,000 = –100,000

PCV Project B = 250,000 – 270,000 = –20,000

PCV Project C = 75,000 – 70,000 = 5,000

PCV Department = (–100,000) + (–20,000) + (5,000) = –115,000

Some tips and traps to consider

For longer projects it might make sense to break the costs down into milestones along the project to ensure that insights are gained as the project continues and to avoid any surprises at the very end.

Instead of calculating the variance between the scheduled costs and the actual costs of a project, some companies prefer to calculate the Project Cost

Performance Index (PCPI), which puts the actual costs in relation to the scheduled costs = SCC/ACC. This means that if PCPI is less than 1, the project is over budget. If PCPI is greater than 1, the project is below budget.

Furthermore, it is important to look at project performance KPIs not in isolation but in the context of the other two project parameters (time and quality).

FURTHER READING AND REFERENCES

http://management.energy.gov/documents/performance_measures_final.pdf

www.ajdesigner.com/phpearnedvalue/schedule_variance_equation.php

Chapter 16
Earned value (EV) metric

- To what extent are our projects making the desired progress?
- Why: To better understand whether your projects are delivering the value you expect
- What: To measure the project progress to date
- When: When project performance matters
- The question this indicator helps you to answer: to what extent are our projects making the desired progress?

WHY DOES THIS KPI MATTER?

With the two previous KPIs (PSV and PCV) we looked at the performance level after project completion. Especially for bigger and longer projects it is useful to monitor actual progress to date to get an understanding of where we are compared to where we should be.

To this end the earned value (EV) metric has been developed. EV is a project tracking measure that looks at the cost of work in progress and allows

companies to understand how much work has been completed compared to how much was expected to be completed at a given point.

The user guide for Microsoft Project 2003 defines earned value as: ‘A method for measuring project performance. It indicates how much of the budget should have been spent, in view of the amount of work done so far and the baseline cost for the task, assignment, or resources.’ EV basically tracks the percentage of the total project budget actually completed at any given point in time.

In addition to assessing progress to date, EV allows companies to project what the likely costs of the complete project will be, assuming that performance levels remain as they have been to date.

HOW DO I MEASURE IT?

How do I collect the data?

Data for the EV metric will be collected from the project management system and requires data for project plan, actual work and work-completed value.

What formula do I use?

EV = % complete × BCWP

where BCWP is the budgeted cost of work performed = the total budgeted costs for labour and resources for the project.

$$\text{Performance level} = \frac{\text{ACWC}}{\text{EV}} \times 100$$

where ACWC is the actual cost of work scheduled or the total amount in labour and resources that has been spent on the project to date.

How often do I measure it?

The frequency for collecting EV data depends a little on the project type; however, as a rule of thumb, weekly (or for longer projects, monthly) assessments would make sense.

Where do I find the data?

The data for this KPI will usually come from a project management software application or any project records.

How difficult or costly is it to measure?

The costs of measuring EV can be quite high because of the amount of effort that has to go into updating the records. If the records are updated automatically and sophisticated project management software tools are in place and being used, costs will come down significantly.

How do I set targets for this KPI?

The benchmarks and targets for this KPI will come from the project plan and the calculations – they will be unique to every project.

PRACTICAL EXAMPLE

The following example[1] shows how EV can be calculated and used:

The total cost of project A was estimated at £600. So far, the ACWP (the cost of the work done on it) is £200, but it is only 20% complete.

The earned cost is £600 × 20% = £120.

$$\text{The performance ratio is } \frac{120}{200} = 0.6$$

$$\text{Using these values, the predicted forecast} = \frac{£400}{[\text{remaining cost}]} + £200 =$$

£866.67, which is worse than planned and will mean the project is over budget.

Project B was estimated to cost £800. The ACWP is £400 and the task is 70% complete.

The earned hours are £800 × 70% = £560 hours

$$\text{The performance ratio is } \frac{560}{400} = 1.4$$

$$\text{The predicted forecast is } \frac{£400}{1.4} + £400 = £685.71, \text{ which is less than}$$

the estimate.

[1] Based on an example provided by Linda Russell http://abirdseyeview.wordpress.com/2008/05/08/earned-value/

Some tips and traps to consider

EV is easily misinterpreted, especially given the rhetoric surrounding this indicator claiming it to be an objective quantitative measure of project performance. It is very important to understand that the EV metric hinges on how project progress is reported.

As with so many KPIs, it is important not just to see the final number of the EV metric, but to use the metric as a tool to identify and rectify potential problems in project delivery.

Take the above two EV scores as an example. The data would indicate that project B is doing really well compared to project A. However, one needs to take into account the earned hours and the time performance. For example, the company might have used a more experienced (and hence more expensive) resource in order to reduce the amount of effort needed to complete the task, which could in fact be ahead of schedule. On the other hand, if the task is under budget, lower-value resources may have been allocated, and they may be underperforming.

As EV relies on good reporting and evaluations, it is important to be aware of some possible unwanted behaviours which could quickly skew the data and show better EV scores:

- Scheduling projects for longer than actually anticipated, e.g. schedule a six-month project time when only three months are needed.
- Putting the easiest tasks at the beginning of the project and the hardest tasks at the end, which can keep a project EV score looking good for a long time.

- Exaggerating the task completion percentages.

FURTHER READING AND REFERENCES

www.projectsmart.co.uk/what-is-earned-value.html

www.innovel.net/?p=55

www.acq.osd.mil/evm/

http://abirdseyeview.wordpress.com/2008/05/08/earned-value/

www.cioinsight.com/c/a/Past-Opinions/How-to-Lie-with-Earned-Value/

Chapter 17

Order fulfilment cycle time (OFCT)

- Why: To better understand your end-to-end business process performance
- What: To measure how long it takes from a customer order to product or service delivery
- When: When end-to-end process efficiency matters
- The question this indicator helps you to answer: how efficient are our internal business processes?

WHY DOES THIS KPI MATTER?

Order fulfilment cycle time (OFCT) is a continuous measurement defined as the amount of time from customer authorisation of a sales order to customer receipt of the product. This improvement concept applies equally well to manufacturing and service businesses.

OFCT (often known as customer order cycle time) is an important measure because it considers the

performance of end-to-end business operations and therefore opens up significant improvement opportunities that are often missed in conventional efficiency programmes. For example, a manufacturing company might focus on reducing 'machine time'. However, machine time might represent just 5% of total OFCT, so efficiency gains will be minimal.

Driving improvements across the whole OFCT process is a powerful metric, as customers increasingly emphasise flawless delivery (i.e. very short cycle times) and responsiveness to their changing needs in addition to price and quality.

Today, the customer largely dictates what products are manufactured and when. The customer says: 'I'll let you know what and how many I want, and when I'm ready to buy, and then you ship it exactly as I want the product configured, and in a very short lead time.' In fact, in today's competitive environment flawless delivery and responsiveness can very often be the differentiator in getting new customers and keeping old ones.

As well as improving efficiency, the process re-engineering that is usually required to reduce cycle time can also lead to significant effectiveness improvements as the process becomes more responsive to internal and external customer needs.

HOW DO I MEASURE IT?

How do I collect the data?

Data are collected through an analysis of the end-to-end order fulfilment process, paying attention to the time taken to complete each step of each sub-step within the overall process.

What formula do I use?

OFCT is the average actual cycle time consistently achieved to fulfil customer orders. For each individual order, this cycle time starts from order receipt and ends with customer acceptance of the order.

OFCT = Source cycle time + Make cycle time + Delivery cycle time

How often do I measure it?

Data can be collected (or recorded) whenever an order is made, and reporting timescales will depend on the order being tracked.

Where do I find the data?

Data might be collected through electronic devices (such as within manufacturing) or from written records detailing the time the work is received until the time completed.

How difficult or costly is it to measure?

If few records are available then initial set-up of the data collection process might be costly, especially if the process has many sub-steps. Once in place, the

cost/effort of maintaining the data collection process is typically relatively small – as it should be fully automated.

How do I set targets for this KPI?

Targets and benchmarks will depend on the OFCT process being tracked and improved. Also, each sub-process might be separately benchmarked – for instance, inventory cycle times. Organisations such as the Supply Chain Council (which benchmarks the order fulfilment cycle time) and the Hackett Group (which benchmarks the end-to-end order–cash process) are useful sources of relevant benchmarking information (see Further reading and references).

PRACTICAL EXAMPLE

This example is abridged from a white paper from the management consultancy Satistar (see Further reading and references).

An examination of an organisation's OFCT highlighted a major opportunity upstream from the core manufacturing process.

In three weeks, a detailed process design and detailed rollout plan was created, approved and kicked off that slashed cycle time from 18 days to just 4 hours without the addition of any labour or capital equipment. $400,000 in annual overtime costs were eliminated while allowing a one-time increase in working capital of $22 million and an inventory reduction of $11,500,000.

All of the significant cycle time improvements were generated through improving cycle times within the engineering, order entry, planning, scheduling . . . work in process and quality control steps. The results

from this particular intervention are typical. The overwhelming contributors to cycle time are usually in the support activities (order entry, scheduling, logistics, engineering, quality control, etc.) that surround the manufacturing process, and this is the area where dramatic improvements are possible.

Some tips and traps to consider

Measuring end-to-end processes comes with significant challenges as it crosses various functions (and therefore power bases). An end-to-end process manager should be appointed (with the authority to order any required improvements) and change management techniques should be deployed.

FURTHER READING AND REFERENCES

http://satistar.com/whitepapers/Cycle%20Time%20Reduction.pdf

www.thehackettgroup.com

The Supply Council: **https://supply-chain.org/**

Chapter 18

Delivery in full, on time (DIFOT) rate

- Why: To better understand your supply performance
- What: To measure how well you fulfil orders and meet customer expectations
- When: When order fulfilment matters
- The question this indicator helps you to answer: to what extent are our customers getting what they want at the time they want it?

WHY DOES THIS KPI MATTER?

Delivery reliability is an important performance criterion that matters to customers and businesses alike. As consumers we all live ever-busier lives and expect to receive our orders in full at the time we specify. Not doing so can seriously impact customer satisfaction. However, delivering on time can be even more critical when supplying businesses that run just-in-time supply chains to minimise inventory levels or when we deliver to

supermarkets that need to ensure their aisles are stocked.

On-time delivery metrics therefore provide an insight into the ability of a business to fulfil orders and meet customer expect-ations. More importantly, on-time delivery performance gives you an insight into the effectiveness and efficiency of your internal processes and your supply chain. If delivery reliability is too low, it can signal problems along the supply chain, such as bottlenecks, inefficiencies in the production process or glitches in the performance of delivery partners.

Measuring whether the delivery has arrived at the customer on time and in full ensures that the entire supply chain is measured – not just part of it (e.g. measuring whether products have shipped in time). Products might leave your business promptly but get held up further down the supply chain. However, the customer will judge your performance not on whether you have shipped the product on time, but on whether the product reached them on time and in full.

HOW DO I MEASURE IT?

DIFOT is simply calculated as the number of units or shipments delivered in full and on time versus total orders shipped.

How do I collect the data?

The easiest way to collect data for DIFOT is when you already have an order tracking system that allows you to track the order from order placement through to delivery to your customer. The difficulty might be the ability to track delivery right through to your customers (e.g. if you rely on third parties for parts of your supply chain). In this case you have two options: the easier is to rely on delivery information from your supply partner (most shipping companies allow you to track deliveries), or, if no system is in place to track delivery, you can measure the delivery to the point the shipment leaves your business and then use a survey tool to assess delivery to end users.

What formula do I use?

OFCT = Source cycle time + Make cycle time + Delivery cycle time

How often do I measure it?

The best way is to measure DIFOT continuously for every delivery you make. If data collection is automated, this is no problem.

Where do I find the data?

The data can come from the order tracking system or in some cases can be supplemented with customer surveys.

How difficult or costly is it to measure?

The cost and effort involved in measuring DIFOT depend on whether an order tracking system is already in place. Most companies will have the ability to track order fulfilment as part of their accounting or quality monitoring systems. In this case, costs for extracting the data are minimal. However, should this not be the case and systems have to be put in place especially, then the initial set-up costs can be high. Also, having to conduct a survey will add significant costs to your data collection.

How do I set targets for this KPI?

A rough target or benchmark is that no company should let its DIFOT rate slip below 95%. However, this benchmark can easily go much higher (to 98% or 99%) in specific industries where delivery reliability is critical.

PRACTICAL EXAMPLE

Let's look at an online grocery business as an example. Here customers place orders for their weekly groceries and select a time window for the home delivery of their groceries. In this sector it is very important not to let people wait for their shopping and to ensure that everything customers have ordered is delivered. When the originally ordered product is not available, it has to be replaced with a similar suitable product that the customer will be happy with. If not, the customer can reject the replacement and the order will be deemed incomplete.

The data are collected from the company ERP (enterprise resource planning) system, which tracks orders coming in. Every delivery van also has a mobile

device that tracks deliveries and on which customers sign when they receive their order. The device is also used to mark rejected items, which are then refunded to the customer.

Here is how they measure it:

Say 1,000 orders were placed in a given week, 980 orders were delivered on time (within the customer-specified time window), 20 were outside this window and arrived late, 550 orders were delivered with replacements and 50 of these were rejected. Three of those that were rejected were also late arrivals.

$$\text{On-time delivery: } \frac{980}{1{,}000} = 0.98 = 98\%$$

$$\text{In-full delivery: } \frac{950}{1{,}000} = 0.95 = 95\%$$

$$\text{DIFOT: } \frac{1{,}000 - (50 + 20 - 3)}{1{,}000} = 0.933 = 93.3\%$$

The company therefore identifies the orders that were late and those that were not complete, adds them up and takes away any double counts. Then it divides this by the total number of orders to identify the percentage of orders delivered in full and on time.

Some tips and traps to consider

DIFOT measurement can be difficult if there is no internal or automated delivery tracking system in place that ensures easy and accurate data collection. In that case companies have to rely on their customers to provide the data, which can sometimes be difficult.

FURTHER READING AND REFERENCES

www.leanmanufacture.net/kpi/ontimedelivery.aspx

Patrik Ertler, *Supply Performance Measurement in der Praxis*, VDM Verlag Dr Müller, 2010

Chapter 19
Quality index

- Why: To better understand the quality of your products and services
- What: To measure whether the product or service attributes meet customer expectations
- When: When product and service quality matter to customers
- The question this indicator helps you to answer: to what extent do our products or services meet the quality expectations of our customers?

WHY DOES THIS KPI MATTER?

The pursuit of ‘quality’ has been something of an obsession within many organisations across most industries and sectors since quality gurus such as W. Edwards Deming, Josef Juran and Philip Crosby introduced the principles of Total Quality Management (TQM) to Western firms struggling to compete with quality-savvy Eastern competitors (most notably from Japan).

However, the challenge is that there are many definitions of what the term ‘quality’ means in an organisational setting. For instance, it might mean perfect aesthetics for a furniture manufacturer, colour and texture for a paper manufacturer, or ingredients and taste in a restaurant. In general, though, quality can be defined as ‘the ability of a product or service to fully meet the customer’s expectations, or fit for the intended use of the customer’. In this definition, quality is all about the customer and what is expected from the product or service and how it is delivered. TQM thought leaders such as Deming, Juran and Crosby all had the same goal – to achieve fit-for-use products and services. However, it is also important that products and services are provided at a cost that is acceptable to the supplier (to allow for a profit in commercial enterprise and to deliver within budget for a non-commercial organisation).

A quality index should therefore consist of a group of KPIs (perhaps between five and ten) that enable the supplying organisation to ensure that the customer-facing processes are operating at a level at which customer expectations are met (and, in many cases, exceeded) and are fit for intended use (often known as ‘fit for purpose’) at an acceptable cost to the supplier.

Given the cited industry/sector variances in understanding of the word ‘quality’, there is no single quality index template that can be applied

within any organisation. However, example KPIs that will make up the index are:

- First pass yield (percentage of units produced which pass without rework in first pass).
- Predicted quality, defects per million opportunities (the number of components that failed a quality inspection. As stated, it is expressed as a number per million parts. Alternatively, it may be expressed as a percentage of all like components).
- Order delivery quality (quality of goods received or services delivered as per contract and/or purchase order).
- Cost of quality (total cost of quality includes the price of non-conformance and the price of conformance).
- % customer complaints due to quality of services/products.
- Order cycle time (elapsed time from receipt of order to delivery of product).

HOW DO I MEASURE IT?

How do I collect the data?

The broad range of KPIs that might be included within a quality index means that various data

collection methods will probably be employed. Data might be captured automatically within the manufacturing process (such as for first pass yield) or through various surveying tools (such as customer complaints due to quality of products or services). Other methods will be used as required.

What formula do I use?

A quality index will comprise a number of measures (perhaps between five and ten). Each measure will be weighted according to its importance (although some indexes will comprise KPIs of equal weighting). The final index score is the total points (expressed as a percentage), accounting for weightings. So if customer complaints due to quality of products or services has a 50% weighting score then its points account for half the overall score.

How often do I measure it?

The frequency of quality indexes varies according to industry and sector, with some manufacturing firms compiling indexes on a near real-time basis whereas quarterly might suffice for a non-commercial organisation.

Where do I find the data?

Data can come from various sources, such as process performance reports generated by manufacturing (for defect-type data) or

marketing/customer management (for complaints and other customer metrics).

How difficult or costly is it to measure?

Initial costs might be high if data are presently not available or are in an inappropriate format. Moreover, it is not unusual for staff to be dedicated full time (or at least part time) to managing quality (and compiling an index will be within their remit), which has cost implications. But organisations should look to keeping such departments small and focused. These departments should also teach the business how to capture appropriate data, therefore making quality an everyday part of an employee's life.

How do I set targets for this KPI?

It is likely that there will be global or industry/sector-specific benchmarks for each KPI within the index. Industry/sector bodies or relevant benchmarking organisations should hold such information.

PRACTICAL EXAMPLE

Take a manufacturing organisation with a simple quality index as an example. It decides to use three indicators in its quality index, namely: first pass yield, rework level and customer complaints (for more information on these indicators, see the KPI Library at www.ap-institute.com).

For the index, the company decides to weight first pass yield with 50% and rework level and customer

complaints with 25% each.

Some tips and traps to consider

Organisations should be careful that they don't turn the creation and maintenance of a quality index into a 'tick box' exercise, but rather use the data findings for continuous improvement purposes. This is especially true when dedicated quality departments have responsibility for managing the index.

Moreover, a quality index is most powerful when the people/technology inputs into the index and customer/financial outcomes are also monitored and understood: this ensures that key internal processes are not viewed in isolation. The use of a strategic map and accompanying scorecard will be useful for this purpose.

FURTHER READING AND REFERENCES

www.leanmanufacture.net/quality.aspx

http://kpilibrary.com

The W. Edwards Deming Institute: **www.deming.org**

Juran Institute: **www.juran.com**

Chapter 20
Process downtime level

- Why: To better understand your process performance
- What: To measure the proportion of non-productive time
- When: When you want to understand the internal process efficiency
- The question this indicator helps you to answer: to what extent are we operating our processes or machines effectively?

WHY DOES THIS KPI MATTER?

Any business wants to minimise non-productive time. If machines or processes are not available when they are needed, this reduces the output that can be generated and therefore reduces profits and margins for the business.

Downtime is any productive time in which a machine or process is not available due to circumstances such as faults or maintenance.

While machine downtime is traditionally associated with the manufacturing industry, process downtime is relevant to any industry. Take,

for example, call centres that need to track the downtime of their help-desk processes or hospitals that want to monitor the non-availability of diagnostic equipment.

Understanding the level of downtime provides companies with an insight into how effective their internal operational processes are (whether they are equipment- or process-based).

HOW DO I MEASURE IT?

How do I collect the data?

Data for machine or process downtime will come either directly from the machine or process or from records.

What formula do I use?

Machine or process downtime level can be measured as a ratio:

$$\text{Machine or process downtime level} = \left(\frac{\text{TA}_t}{\text{PPT}_t}\right) \times 100$$

where:

PPT_t is the planned productive time that a process or machine should be available in a given time period *t*.

TA_t is the actual productive time that a process or machine has been available in a given time period *t*.

Or it can be measured as an actual time level:

Machine or process downtime level = PPT – TA*t*

How often do I measure it?

Machine or process downtime is a measure that can, especially if monitoring is automated, be measured continuously and reported as an indicator if the downtime reaches a predefined threshold. Alternatively, monthly or quarterly reporting might be sufficient.

Where do I find the data?

Data can be taken from the machine itself, as many machines track their own downtime automatically. If automated process monitoring is in place then the same applies to processes. In some cases, manual record keeping might be required.

How difficult or costly is it to measure?

Costs for measuring process or machine downtime are moderate, depending on the level of data already available. If machines and processes are automatically generating downtime data, the calculations are relatively simple. If manual record keeping is required, this will push up costs.

How do I set targets for this KPI?

The target for downtime level should be zero, with the aim of eliminating or at least minimising any unplanned interruptions to the production process – especially if a process or machine is not used

around the clock and maintenance can be scheduled for non-productive times.

PRACTICAL EXAMPLE

Let's look at a radiography department in a hospital, for example. The department has two CT (computed tomography) scanners for which it wants to measure downtime. The aim is to have at least one available 24 hours a day but both available during 'routine business hours' (between 9 a.m. and 5 p.m. = 8 hours).

The hospital is measuring downtime as any time when one of the scanners is not available during routine business hours and critical downtime as any time when both CT scanners are not available.

Here is an example of a 24-hour time-frame:

CT scanner 1 was not available between 1 p.m. and 3 p.m. because of a fault and between 7 p.m. and 10 p.m. it was undergoing maintenance.

CT scanner 2 was not available between 7 p.m. and 8 p.m. because of a fault.

$$\text{Downtime level for CT scanner 1} = \frac{2 \text{ hours}}{8 \text{ hours}} \times 100 = 25\% \text{ or 2 hours}$$

$$\text{Downtime level for CT scanner 2} = 0\%$$

$$\text{Critical downtime} = \frac{1}{24} = 4.17\% \text{ or 1 hour}$$

Some tips and traps to consider

When measuring machine downtime level it is useful to understand the cost implications, such as the direct labour costs that you are losing because the machine is not available but you still have to pay for the people who are there to operate the machine.

FURTHER READING AND REFERENCES

www.downtimedb.com/calculator.asp

part four

Measuring and understanding your employees

Chapter 21
Staff advocacy score

- Why: To better understand how employees feel about working here
- What: To measure how satisfied your employees are
- When: When employee satisfaction, loyalty and positive recommendations matter
- The question this indicator helps you to answer: to what extent are our employees advocates of our business?

WHY DOES THIS KPI MATTER?

Having employees who believe in your business is important as this shines through in the way they interact with customers and deliver operations. What's more, employees who are advocates of your business not only refer your company to their friends and family members, as potential customers, but also refer them to you as a potential employer.

Having your own employees on your side is critical in an era where personal views spread like wildfire through the social media and online universe. In a

world where we compete for the best talent and where professionals connect through social media platforms such as LinkedIn, it becomes very apparent whether a business is a good employer or not.

Companies can basically look at their employees as ‘internal customers’ with their own wants and needs. Similarly to the idea of the customer KPI net promoter score (NPS) (see Chapter 1), a staff advocacy score can be derived just by asking one question: ‘How likely is it that you would recommend this company as an employer to a friend?’

Understanding to what extent employees are advocates of the business they are working for is therefore an important indicator for understanding not only staff satisfaction and staff loyalty but the potential implications it has for your brand and the ability to attract new talent.

Based on responses to this single-question approach, organisations can group their employees into the following three categories:

- advocates
- passives
- detractors.

The staff advocacy index is therefore a simple and direct metric that holds companies accountable for how they treat their own employees.

HOW DO I MEASURE IT?

How do I collect the data?

The staff advocacy score is collected using a survey, which can be mail-based or conducted through the internet or phone.

What formula do I use?

Using a 0 to 10 scale, an organisation can calculate its staff advocacy score by taking the percentage of advocates and subtracting the percentage of detractors.

- Advocates (score 9–10) are loyal and enthusiastic employees who will promote you as a potential employer.
- Passives (score 7–8) are satisfied but unenthusiastic employees who are vulnerable to competitive offerings.
- Detractors (score 0–6) are unhappy employees who can damage your brand and impede growth through negative word-of-mouth.

Staff advocacy score = (% of employees who are advocates) – (% of employees who are detractors)

How often do I measure it?

Most companies collect their staff advocacy data annually. However, it is much better to create smaller sets of surveys that look at a sample of employees (e.g. 10%). This way, data can be collected on, for example, a monthly basis to provide important trend information. It means that over a year a company will have surveyed everyone but on a monthly basis it gets data to identify trends throughout the year.

Where do I find the data?

Data will come from surveys of your employees.

How difficult or costly is it to measure?

The costs of collecting data for the staff advocacy score can be high, especially if an external surveying company is used to design, collect, analyse and report the data. However, measuring the staff advocacy score is a lot cheaper than more complex employee surveys, which are much more common practice.

Costs for the staff advocacy score also tend to spiral upwards for hard-copy surveys that have to be printed, distributed and manually transferred into IT systems for analysis. The more automated the data collection is, the cheaper it will become.

How do I set targets for this KPI?

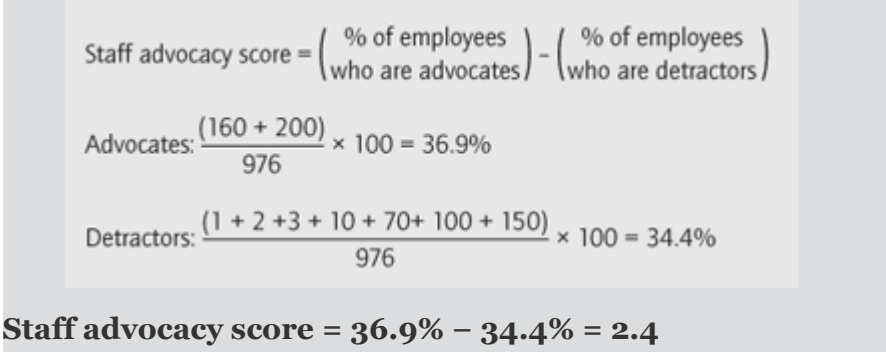
There are few existing benchmarks for the staff advocacy score to go by, so the best bet is to look at some of the customer scores for the net promoter score. Here, good companies can score between 30 and 90%.

PRACTICAL EXAMPLE

Let's take this example of a company that employs 1,000 people. The staff advocacy survey returned 976 responses with the following breakdown of scores:

Score	Counts
0	1
1	2
2	3
3	10
4	70
5	100
6	150
7	170
8	110
9	200
10	160

The staff advocacy index is therefore:



Staff advocacy score = 36.9% – 34.4% = 2.4

SOME TIPS AND TRAPS TO CONSIDER

The staff advocacy score will give a nice, simple number; however, it won't give you the reasons why employees are happy or unhappy. A very powerful supplement to the single-question survey is a set of open questions along the following lines:

- What do you particularly like about being employed here?
- What or which areas could be improved?

This way, the company will get insight not only into how many employees are advocates, neutrals or detractors, but also into the areas that employees value or want to see improved.

FURTHER READING AND REFERENCES

www.netpromoter.com/

www.satmetrix.com (2008)

Fred Reicheld, *The Ultimate Question 2.0: How Net Promoter Companies Thrive in a Customer Driven World*, HBR Press, Boston, MA, 2010.

Chapter 22

Employee engagement level

- Why: To better understand how engaged your employees are
- What: To measure the extent to which employees are engaged
- When: When employee engagement and commitment matter
- The question this indicator helps you to answer: to what extent are our employees committed to delivering to the vision and mission of the organisation?

WHY DOES THIS KPI MATTER?

The level of employee engagement is one of the most important indicators of the likelihood of an organisation succeeding financially and delivering to its vision and mission statements.

Crucially, an employee engagement survey differs from the trad-itional employee satisfaction surveying instruments that have been used extensively by organisations for decades.

Indeed, engagement surveys emerged when leading organisations began to realise that 'satisfaction' does not tell the whole employee story. An employee might be 'satisfied' because he or she has an easy job, is not stretched (and doesn't want to be), is paid well and receives an excellent benefits package. This does not necessarily mean that he or she is committed to delivering to the vision/mission. The most dissatisfied employees might well be the ones who are performance-oriented and really want to do all that they can to deliver to the organisational vision and mission.

Employee engagement surveys emerged as a way not of measuring mere satisfaction (which will probably still be measured but as a subordinate measure to engagement) but as a mechanism for assessing the contribution of the employee to performance, productivity and ultimately sustainable financial results. Indeed, in a well-formulated engagement survey, satisfaction is not a focus area.

Yet for all the discussion around whether or not employees are engaged, a critical question is what tangible difference an 'engaged' employee makes to performance over one who is 'disengaged' (I explain the categories below in the What formula do I use? section). The research findings are compelling. The US-headquartered Gallup Organisation (which has what we can safely describe as the most mature and widely used of all

the employee engagement surveys deployed today, although this is not to say that we necessarily recommend Gallup over alternatives such as Towers Watson and Blessing White) estimates that fully 73% of North American employees are disengaged from the organisation for which they work (according to 2007 results, and we can expect similar findings from other geographical regions). This means that they either just turn up at work and go through the motions or, worse, do all they can to do as little as they can. Gallup estimates that this disengagement collectively costs the US economy up to $350 billion per year in lost productivity, including absence, illness and other problems.

The bottom line is that if employees are disengaged, the organisation will almost certainly be haemorrhaging money, as well as losing key talent.

Moreover, research by the leading global HR consultancy Towers Watson found that companies with highly engaged employees generate more marketplace power than their competitors. Towers Watson analysed three years of employee data for 40 global companies. The firm separated these organisations into high-engagement and low-engagement categories according to their employee engagement survey scores. The data showed that over a period of 36 months those companies with a highly engaged employee population turned in

significantly better financial performance (a 5.75% difference in operating margins and a 3.44% difference in net profit) than did low-engagement workplaces. In a separate analysis, Towers Watson found that organisations that consistently show higher engagement levels than average organisations produced shareholder returns 9.3% higher than the returns for the S&P 500 Index from 2002 to 2006.

HOW DO I MEASURE IT?

How do I collect the data?

The data are derived from online employee surveys.

What formula do I use?

The most famous employee engagement survey is probably the one devised and deployed by the Gallup Organisation, although alternatives should be considered. Gallup's survey consists of just 12 questions. Gallup is interested in uncovering those behaviours or characteristics that will make a quantifiable difference to performance in the workplace.

Employees answer Gallup's questions, through straight yes/no responses, in order to generate a score (**www.gallup.com**).

Based on the responses, organisations can see the percentage of employees who are actively engaged, engaged, disengaged or actively disengaged and

from the Gallup analysis can get insights into the likely financial consequences.

How often do I measure it?

This is normally done annually. However, in order to make data more actionable it is better practice to sample the workforce, so a subset of them is surveyed every month. This allows organisations to collect the full data set over a year. It means that individuals receive a survey only once a year but the organisation will have valid data available every month, which helps with spotting trends and overcoming bias.

Where do I find the data?

The data are drawn from the employee engagement survey that is distributed to all employees.

How difficult or costly is it to measure?

Costs and effort of collecting employee engagement levels can be very high. As with any survey-type data collection, the costs can be reduced by minimising the logistics and the administrative costs of collecting and analysing the data. Online tools and electronic data collection and analysis can bring costs down considerably.

How do I set targets for this KPI?

Employee engagement surveys are generally externally administered and therefore providers

typically have extensive databases of benchmarks of best practice performance from which the client organisation can identify and work towards its own targets.

PRACTICAL EXAMPLE

The Toronto, Canada headquartered Scotiabank was a pioneer in using an employee engagement survey (at the turn of the century). Historically, the bank carried out an employee satisfaction survey that consisted of about 90 questions and provided an overall employee satisfaction score. However, on recognising the limitations, this survey was redesigned to capture measures of whether the employee is actively 'engaged' in working for the bank, rather than just passively satisfied.

So the engagement survey focused on areas such as the employee's willingness to recommend the bank to other people as a company to work for and willingness to recommend Scotiabank products to potential customers. The employee engagement survey is focused on understanding what drives performance and measures commitment, loyalty, trust and those behavioural traits which inspire employees to perform to their ultimate capacity.

Some tips and traps to consider

Employee engagement surveys should be short and focused, and the external provider should be able to demonstrate a link between high engagement scores and superior financial performance. It is also important to be able to drill down and see which parts of the organisation have large numbers of disengaged employees so that corrective actions can be launched. A single overall measure of

engagement is not enough to drive performance forward. Also, the employee engagement survey should trigger behavioural change. If nothing changes as a result of the findings then it will only further demotivate a disengaged workforce.

FURTHER READING AND REFERENCES

www.gallup.com

www.towersperrin.com

www.blessingwhite.com

Marsh Makhijani and James Creelman, *Creating Engaged Employees: The Role of Employee Engagement Surveys*, OTI Indonesia, 2010. **www.otiinternational.com**

Chapter 23

Absenteeism Bradford Factor

- Why: To better understand employee absenteeism
- What: To measure the level of unauthorised absenteeism
- When: When employee absenteeism is an issue
- The question this indicator helps you to answer: to what extent is unauthorised employee absenteeism a problem in our business?

WHY DOES THIS KPI MATTER?

When employees are absent from work, it costs the business money and causes disruptions. In terms of costs it is not just the direct costs that matter but the indirect costs of absenteeism, such as the cost of replacing absent employees in critical positions and possible overtime payments to these replacement workers, as well as the effect the absenteeism has on workforce levels, medical aid costs, and group life and disability premiums. It is

estimated that the indirect cost of absenteeism can easily be 200% or more of the direct cost of absenteeism. As a ball-park figure and depending on the industry, worker absenteeism totals an average of between 5 and 9% of annual profits.

Absenteeism is traditionally defined as an employee's unavailability for work. There are different types of absenteeism: legal (such as public holidays), authorised (such as approved holidays) and unauthorised. While legal and authorised absenteeism need to be managed and costed, it is unauthorised absence that causes the majority of problems. This is why most organisations strive to avoid unauthorised absenteeism and keep it to a minimum.

There are many reasons why people take time off work. The main reasons include personal illness, family issues and stress, as well as the attitude that people feel 'entitled to a day off'. Research finds that the level of disruption (and therefore cost to the business) is particularly high when employees take frequent, short and unauthorised or unplanned absences. This is where the Bradford Factor comes in as a key performance indicator that is used to help identify staff whose sickness absenteeism needs reviewing in greater detail.

The Bradford calculation is believed to originate from the Bradford University of Management, which developed the KPI as a way of highlighting the disproportionate level of disruption to an

organisation's performance that can be caused by persistent short-term absence compared to single incidences of prolonged absence. The Bradford Factor measures an employee's irregularity of attendance by combining measures of absence frequency and duration, and is designed to highlight employees who take many short-term absences from work. It can be used to monitor trends in absence and generate 'trigger' points at which the absenteeism of individuals needs to be reviewed.

HOW DO I MEASURE IT?

How do I collect the data?

The data can extracted from Human Resources records and systems.

What formula do I use?

The Bradford Factor score can be calculated by looking at unplanned absence over a period (often a year, but it could be any time period) and counting the number of days absent and multiplying them by the squared number of absence episodes.

$$\text{Bradford Factor} = Dt \times Et \times Et$$

where Dt = total number of days of unplanned absence

and Et = total number of individual spells or episodes of absence

How often do I measure it?

In most cases it makes sense to calculate this Bradford Factor annually (calendar year or rolling 12 months), but some companies might want to measure it quarterly or even monthly to identify issues in the short term and monitor progress against absenteeism reduction targets.

Where do I find the data?

Most HR systems will track absenteeism and break it down into unplanned and unauthorised absenteeism. If this is not the case, sickness absenteeism can be used instead.

How difficult or costly is it to measure?

The costs and effort of collecting the data depend on the level of available information. If the HR system contains a good record and categorisation of the absenteeism data then the costs of calculating the Bradford Factor are small. The costs are reduced further if the HR system allows you to calculate the score automatically (which quite a few do). The costs will go up if manual data transfer and calculations are required.

How do I set targets for this KPI?

Targets are best set in industry comparisons or in relation to your historic performance. As an initial benchmark you might want to trigger reviews of

individual absenteeism for the following Bradford Factors:

Annually: Bradford Factor of 80 or higher

Quarterly: Bradford Factor of 27 or higher

Monthly: Bradford Factor of 12 or higher.

PRACTICAL EXAMPLE

Let's look at a number of example calculations:

If you get a person taking 10 one-day unplanned absences in a given period (say a quarter), then the Bradford Factor would be: 10 × 10 × 10 = 1,000.

If you get a person taking one 10-day unplanned absence in a given period, then the Bradford Factor would be: 10 × 1 × 1 = 10.

If you get a person taking five two-day absences in a given period, the Bradford Factor would be: 10 × 5 × 5 = 250.

If you get a person taking two five-day absences in a given period, the Bradford Factor would be: 10 × 2 × 2 = 40.

In May 2001, Her Majesty's Prison Service in the UK began using the Bradford Factor (which it calls an attendance score) to identify staff with high absenteeism due to short-term illness. They tied the factor to a sliding scale of management action:

- **51 points in 6 months leads to a verbal warning;**
- **201 points to a written warning; and**
- **401 points to a final warning.**

This provides a clear framework for tackling persistent short-term absence, where a member of staff with an attendance score of 601 points in 12 months but with a

final warning may be dismissed on the grounds of unsatisfactory attendance. This approach has had a significant effect in reducing short-term absence by an average of 0.4 days per person.

Some tips and traps to consider

While the Bradford Factor is a useful key performance indicator, there are often good reasons for employees taking unplanned leave. This means that taking the score as the only criterion is not recommended; instead, it should only be used as a trigger to prompt line managers to investigate an individual's absenteeism further.

There is another danger, as with so many indicators. If staff are made aware of the trigger points, the factor can be counterproductive because staff 'work up to their limits'.

FURTHER READING AND REFERENCES

www.cipd.co.uk/hr-resources/factsheets/absence-measurement-management.aspx

http://camsolutions.blogspot.com/2007/11/calculation-of-absenteeism-rates.html

Ministerial Task Force for Health, Safety and Productivity and the Cabinet Office, *Managing Sickness Absence in the Public Sector*, Department for Work and Pensions, London.
http://www.hse.gov.uk/gse/sickness.pdf

www.teamseer.com/features/bradford-factor/

Chapter 24

Human capital value added (HCVA)

- Why: To better understand the financial value employees are generating
- What: To measure the financial contribution each employee makes to the organisation
- When: When companies and shareholders want to understand the financial contribution per employee
- The question this indicator helps you to answer: to what extent are our employees adding value to the bottom line?

WHY DOES THIS KPI MATTER?

In many businesses, employees are not only the most important assets and key enablers of future success but often the biggest expense (or rather investment). It is therefore important to understand to what extent employees add value to the financial performance of the organisation. Employees are often a missing ingredient in accounting and finance (except as an expense) and

with a little effort we can calculate the effects of people on financial performance.

Research finds that while most businesses have a range of HR indicators, less than half actively track the impact of employees on financial business performance. The reason I am often given for not using such measures is the argument that there are no agreed or valid ways of calculating this. Here I would like to quote human capital guru Dr Jac Fitz-enz, who says: 'To contend that there is no valid and consistent way to do this is simply to admit one's ignorance.'

In the past, companies used over-simplified KPIs such as revenue per employee. If businesses are to understand the real profit impact of employees then we need to calculate human capital value added (HCVA). To get to the HCVA we take all non-employee-related expenses away from the revenue generated and divide this (adjusted profit figure) by the number of full-time employees. HCVA therefore gives us the profitability of the average employee.

HOW DO I MEASURE IT?

How do I collect the data?

The data for this can be easily extracted from the financial accounting systems or the financial statements.

What formula do I use?

The PWC Saratoga Institute suggests calculating HCVA by subtracting all corporate expenses except for pay and benefits from the revenue generated and dividing the adjusted profit by the average headcount.

$$\text{HCVA} = \text{Revenue} - \frac{(\text{Total costs} - \text{Employment cost})}{\text{FTE}}$$

where total costs are the difference between revenue and profit before taxes, employee cost is pay and benefits, and FTE is the average number of full-time employees.

How often do I measure it?

A quarterly calculation of HCVA is recommended.

Where do I find the data?

The source of the data will be the financial accounting system.

How difficult or costly is it to measure?

The costs for collecting and calculating this KPI are minimal, as companies will already have all the financial information in their financial statements.

How do I set targets for this KPI?

As profitability per employee goes, the bigger the better really. It is impossible to provide a generic benchmark here and it is probably best to track this indicator over time with an aim of increasing the figure.

PRACTICAL EXAMPLE

Let's look at a company with the following figures:

- **Revenue is $100,000,000.**
- **Total costs are $80,000,000.**
- **Employee costs are $30,000,000 ($20,000,000 in pay and $10,000,000 in benefits).**
- **Number of employees is 650.**

$$\text{HCVA} = \text{Revenue} - \frac{(\text{Total costs} - \text{Employment cost})}{\text{FTE}}$$

$$\text{HCVA} = \$100{,}000{,}000 - \frac{(\$80{,}000{,}000 - \$30{,}000{,}000)}{650}$$

$$\text{HCVA} = \frac{\$50{,}000{,}000}{650}$$

$$\text{HCVA} = \$76{,}923.08$$

Some tips and traps to consider

Just looking at the costs for full-time employees can sometimes slightly distort the picture, as most businesses incur further employee-related expenses such as the cost for contingencies, absence and turnover. These can be added to the formula.

Also, some suggest[1] that the profit before tax figure is not a correct profit item, as foreign exchange losses are included in it. The benchmark may be reasonable in developed countries where devaluation does not exist. Instead, you can calculate total cost as the difference between

revenue and operating profit. The formula then will be:

$$\text{HCVA} = \frac{\text{Revenue} - (\text{Revenue} - \text{Operating profit} - \text{Employment cost})}{\text{FTE}}$$

And to simplify the calculation:

$$\text{HCVA} = \frac{\text{Operating profit} + \text{Employment cost}}{\text{FTE}}$$

FURTHER READING AND REFERENCES

Jac Fitz-enz, *The ROI of Human Capital: Measuring the Economic Value of Employee Performance*, New York: AMACOM, 2009.

www.pwc.com/saratoga

Nancy R. Lockwood, *Maximizing Human Capital: Demonstrating HR Value with Key Performance Indicators*, SHRM, 2006.
www.shrm.org/Research/Articles/Documents/0906RQuartpdf.pdf

Leslie A Weatherly, *The Value of People: The Challenges and Opportunities of Human Capital Measurement and Reporting*, SHRM.
www.shrm.org/Research/Articles/Articles/Documents/0303measurement.pdf

[1]

http://humancapitalstrategy.blogspot.com/2009/09/measuring-employee-value-added.html

Chapter 25

360-degree feedback score

- Why: To better understand how our employees are performing
- What: To measure employee performance based on the views of multiple co-workers
- When: When you want to assess relative performance of employees
- The question this indicator helps you to answer: how well are our people performing in the eyes of those who have a stake in their performance?

WHY DOES THIS KPI MATTER?

360-degree feedback provides an individual with a broad assessment of their performance based on the views of those who have a stake in their performance, such as supervisor/boss, reporting staff members, co-workers, customers, suppliers, etc. Most 360-degree feedback tools are also responded to by each individual in a self-assessment. How they assess themselves can be easily compared with those providing the feedback

(or raters, as they are often called), using a scoring method of, for example, 1–10. Therefore, feedback allows each individual to understand how his or her effectiveness as a leader, co-worker, staff member or supplier/customer is viewed by others. Such insight is often used for training and development purposes.

Results are also used by some organisations in making administrative decisions, such as pay or promotion, and are therefore more valuable than traditional top-down appraisal systems, which are very subjective and often based solely on whether or not the supervisor likes the person being appraised. However, there is a great deal of controversy as to whether 360-degree feedback should be used exclusively for development purposes, or used for appraisal purposes as well.

HOW DO I MEASURE IT?

How do I collect the data?

Data are usually collected through an annual survey of those who are rating the performance of the individual employee being subjected to a 360-degree assessment. The questionnaires today are normally web-based (although paper-based and even face-to-face interviews can be used to collect data).

What formula do I use?

There is no single formula used within a 360-degree assessment, as there are many consultants in the field. That said, a 360-degree appraisal template typically contains the following column headings or fields, also shown in the template example on the next page:

- Key skill/capability type (e.g. communications, planning, reporting, creativity and problem solving, etc. – whatever the relevant key skills and capabilities are for the role in question).
- Skill component/element (e.g. 'active listening and understanding', within a 'communications' key skill, or 'generates ideas/options', within a 'creativity/problem solving' key skill). The number of elements per key skill varies – for some key skills there could be just one element; for others there could be five or six.
- Question number (purely for reference and ease of analysis).
- Specific feedback question (relating to skill component, e.g. 'does the person take care to listen and understand properly when you/others are speaking to him/her?' – for the active listening skill).
- Tick-box or grade box (typically using a Likert-scale rating of, for example, very

poor to excellent and on a 1–5 or 1–10 scale. Note that providing clarification and definitions of a ratings system to participants and respondents is crucial, especially if analysing or comparing results within a group, when consistency of interpretation of scoring is important).

Consider this as a sample 360-degree feedback questionnaire.

Feedback form headings and instructions: appraisee name, date, feedback respondent name, position (if applicable) plus local instructions and guidelines for completion, etc.				
Key skill/capability area	Skill/capability element	Question number	Feedback question	Feedback score
		1 2 3 etc. etc.		

See also the example on the following page.

How often do I measure it?

360-degree feedback is usually measured annually.

Where do I find the data?

Those ‘raters’ providing feedback on the individual’s performance.

How difficult or costly is it to measure?

Costs and effort of collecting 360-degree feedback scores can be very high as it will require significant time commitment for scoring, evaluation and feedback. There are few ways of bringing costs down other than simplifying data collection through the use of software and electronic data collection.

How do I set targets for this KPI?

It is possible to compare performance against others with the same or similar job profiles. An overall performance score can be given for an individual (the average of all scores) and the individual can compare this with others and with their own past performance, and the score can be used for setting future targets.

PRACTICAL EXAMPLE

This example can be found on the www.360-degreefeedback.com website. The following are extracts from the feedback reports for 'Steve Kane'.

The report begins with a category summary, which includes overall score (average, as well as from self, manager, peer and direct report) and then high-level results for the categories of 'leading change', 'results oriented' and 'team leadership', among others. A 1–10 rating score is used.

This is followed by open questions that consider Steve's strengths and priority improvement opportunities.

Then there are a number of questions that provide a score from each rater and that can be compared with the project average. Questions such as Steve's abilities in 'leading change', 'works toward team, departmental and organisational goals in addition to personal

objectives', 'communicates respectfully during stressful times', and 'questions accepted practices and assumptions' are examples.

Some tips and traps to consider

Since 360-degree feedback processes are usually anonymous, people receiving feedback have no recourse if they want to understand the feedback further. They have no one to ask for clarification of unclear comments or for more information about particular ratings and their basis.

For this reason, developing 360-degree process coaches is import-ant. Supervisors, HR staff, interested managers and others are taught to assist people to understand their feedback. They are trained to help people develop action plans based on the feedback.

Confidentiality is important to both the feedback recipient and the respondents. If the feedback recipient is not guaranteed that the results will remain confidential, they will tend to feel anxiety about the purpose of the process and the use of the data. If the respondents are not guaranteed that their names will not appear on the report or be linked to specific comments or ratings, then they may not provide accurate responses and be completely open. To ensure confidentiality:

- Select a neutral administrator (e.g. an external consultant or human resources representative).

- Print only one report per person.
- User-names and passwords should be required to access the survey and the response data should be encrypted.
- Ensure that online systems are encrypting the data and storing the results on a secure server.

There is a checklist of seven criteria used in constructing a good 360-degree survey (**www.360-degreefeedback.com**):

- Does the item utilise an ACTION VERB?
- Does the item describe an OBSERVABLE behaviour?
- Does the item describe ONLY ONE behaviour?
- Is the item described in CLEAR LANGUAGE?
- Is the item described as a POSITIVE, desired behaviour?
- Does the item describe an IMPORTANT behaviour?
- Does this item, taken together with all of the other items, SUFFICIENTLY DEFINE the category?

Finally, to ensure that people take adequate time to consider each question and provide positive and constructive feedback, the survey should contain as few questions as possible. If survey items are carefully researched to ensure relevance, the number of questions should not exceed 50.

FURTHER READING AND REFERENCES

Susan M. Heathfield, *360 Degree Feedback: The Good, the Bad, and the Ugly*, **http://humanresources.about.com/od/360feedback/a/360feedback_3.htm**

www.businessballs.com

www.360-degreefeedback.com

Richard Lepsinger and Anntoinette D. Lucia, *The Art and Science of 360 Degree Feedback*, San Francisco, CA: Pfeiffer, 2009.

10 useful books to read next

If you would like to get a more comprehensive list of KPIs, we recommend:

1. *Key Performance Indicators: The 75 Measures Every Manager Needs to Know* by Bernard Marr (Pearson, 2012)

This includes the 25 KPIs covered in this book but also contains 50 additional metrics across the following perspectives: financial, customer, sales and marketing, operational processes and supply chain, employee, and corporate social responsibility.

ADDITIONAL RECOMMENDED READING

2. *Balanced Scorecard Step-by-Step: Maximizing Performance and Maintaining Results* by Paul R. Niven (John Wiley & Sons, 2008)

If you are thinking about implementing a balanced scorecard to identify the KPIs you need for your business then this book provides a good and practical workbook with many practical tips and step-by-step guidance.

3. *Coaching for Performance: GROWing Human Potential and Purpose* by John Whitmore (Nicholas Brealey, 2010)

This is an interesting overview of how coaching can be used to develop performance. While primarily aimed at professional business coaches, there is much that every manager can take from the book on how to apply coaching to their people development responsibilities.

4. *Competing on Analytics: The New Science of Winning* by Thomas H. Davenport and Jeanne G. Harris (Harvard Business School Press, 2007)

This is a fantastic book that outlines how KPIs and data are the building blocks of competitive advantage in most industries today. Companies that become more fact-based and data-driven in their decision making will outperform their competition.

5. *How to Measure Anything: Finding the Value of Intangibles in Business* by Douglas W. Hubbard (John Wiley & Sons, third edition, 2014)

This is a great book that shows how anything can be measured. Many companies shy away from collecting metrics and data on things they consider hard or impossible to measure. This book will help anyone to understand that everything can be

measured, no matter how immeasurable it might seem.

6. *Metrics: How to Improve Key Business Results* by Martin Klubeck (APRESS, 2011)

This book outlines many best practices and practical tips for how to develop KPIs and use them effectively in companies for data-based decisions. The book will help you develop better metrics and avoid many of the pitfalls managers often fall into when developing and using KPIs.

7. *The Execution Premium: Linking Strategy to Operations for Competitive Advantage* by Robert S. Kaplan and David P. Norton (Harvard Business School Press, 2008)

This book by the inventors of the balanced scorecard outlines how KPIs and measurement are a vital component of the strategy execution process in any company. Without the right KPIs companies will not be able to monitor where they are going and learn where to improve. For me, this book summarises the 20 years of work that has gone into the development of the balanced scorecard.

8. *The Intelligent Company: Five Steps to Success with Evidence-based Management* by Bernard Marr (John Wiley & Sons, 2010)

In this book I outline how companies can use their KPIs and data better to improve evidence-based decision making. Intelligent companies bring

together tools such as KPIs, analytics, balanced scorecards, management reporting and strategic decision making to generate real competitive advantages. This practical book is loaded with step-by-step guidance, simple tools and real-life examples of how leading organisations such as Google, Coca-Cola, Capital One, Saatchi & Saatchi, Tesco, Yahoo, as well as government departments and agencies have put the principles into practice.

9. *The Performance Management Pocketbook* by Pam Jones (Management Pocketbooks, 2013)

A practical little toolkit on how to manage the performance of your people. It includes both the skills of performance management and the processes to use, and features handy tips on topics such as managing difficult conversations.

10. *Transforming Performance Measurement: Rethinking the Way We Measure and Drive Organizational Success* by Dean R. Spitzer (Amacom, 2007)

This book provides a wonderful overview of the many challenges, flaws and inconsistencies in many performance measurement systems and how companies can address them to improve the way they use measures to drive organisational performance.

Glossary of terms

Analytics The collection and analysis of data to generate insights that inform fact-based decision making.

Appraisal system A structured process to evaluate employee performance, usually performed once or twice a year.

Balanced scorecard (BSC) A BSC is a strategy execution tool that, at the most basic level, helps companies to:

- clarify strategy – articulate and communicate their business priorities and objectives across four perspectives
- monitor progress – measure to what extent the priorities and strategic objectives are being delivered
- define and manage action plans – ensure activities and initiatives are in place to deliver the priorities and strategic objectives.

A balanced scorecard consists of:

- a **strategy map**

- **key performance indicators**
- an action plan.

The four traditional BSC perspectives are:

- financial perspective – outlining the financial objectives
- customer perspective – outlining the objectives related to customers and the market
- internal process perspective – outlining the internal business process objectives
- learning and growth perspective – outlining the objectives related to employees, culture and the information system.

Benchmark Used to put performance data into context by providing a standard or reference point against which performance levels can be evaluated. Benchmarks can be set based on internal baseline data, as well as industry best practice or global best practice.

Benchmarking The process of comparing and improving one company's performance (and practices) against others.

Big data Refers to the ever-increasing amounts of data we are now generating in the world. It is often

characterised using the '4 Vs':

- Volume – the vast amounts of data generated every second.
- Velocity – the speed at which new data are generated and move around (credit card fraud detection is a good example where millions of transactions are checked for unusual patterns in almost real time).
- Variety – the increasingly different types of data (from financial data to social media feeds, from photos to sensor data, from video capture to voice recordings).
- Veracity – the messiness of the data (think of Twitter posts with hash tags, abbreviations, typos and colloquial speech).

Big data analytics Refers to the analysis of data that come in vast volumes, are often fast-moving and are usually varied in formats (structured and unstructured). Big data are too messy for traditional business intelligence and analytics approaches.

BSC See **balanced scorecard**.

Business intelligence (BI) Refers to technologies, applications, and practices for collecting, integrating, analysing, and presenting business information. It should be defined more

widely than just referring to BI software applications and analytics to incorporate a more strategic approach to better decision making.

Cash conversion cycle (CCC) A financial measure to assess the cash-flow position of a company. It measures how long it takes a company from initial resource input into actual cash flowing back in.

CCC See **cash conversion cycle**.

Chart A visual representation of metrics in symbols, such as bars, slices of a pie, lines, etc.

Customer perspective The customer perspective covers the customer objectives such as customer satisfaction, market share goals and product and service attributes.

Customer profitability A KPI to measure the extent to which a company is generating profits from its customers.

Dashboard Provides an at-a-glance representation of performance information using graphs, charts, gauges, **RAG ratings**, etc. It is usually presented on a single-page screen to provide a complete overview of the key elements of performance.

Data Data come in a myriad of forms. They include numbers, word, sounds or pictures, but without context (e.g. 15/3, 5, 68).

Data visualisation The visual representation of data using different tools such as graphs and charts.

D/E ratio Debt to equity ratio. A financial metric to assess the extent to which a company is financed through debts versus equity.

EBITDA Earnings before interest, tax, depreciation and amortisation. A financial performance indicator measuring the efficiency of the business's operations.

Evidence-based management A management approach where decision making is based on data, analysis and facts.

Fact-based decision making Fact-based decision making simply means using good data, business intelligence and analytics to gain insights and then acting on those insights to gain competitive advantages. It is built on the premise that the best decisions are those supported by good data. The overall approach to fact-based decision making is called **evidence-based management**.

Financial perspective The financial perspective covers the financial objectives of an organisation and allows managers to track financial success and shareholder value.

Graph A graph is a visual representation of a relationship between two or more metrics. It usually compares the metrics along two axes (x and y).

Index A measure of performance that comprises a number of different metrics.

Info-graphic The artistic representation of data and information using different elements, including graphs, diagrams, narrative, timelines, checklists, etc.

Information A collection of words, numbers, sounds, or pictures that have meaning (e.g. on 15 March at 5 p.m., we were all at No. 68 Victoria Street).

Internal process perspective The internal process perspective covers internal operational goals and outlines the key processes necessary to deliver the customer objectives.

Key performance indicator (KPI) KPIs can be defined as measures that provide managers with the most important performance information to enable them or their stakeholders to understand the performance level of the organisation. KPIs should clearly link to the strategic objectives of the organisation and therefore help monitor the execution of the business strategy.

Key performance question (KPQ) A KPQ is a management question that captures exactly what it is that managers need to know to better understand the performance of the company or organisation. A KPQ articulates the vital information needs and the biggest unanswered

questions in relation to strategic business performance.

Knowledge This is acquired when we take in and understand information about a subject, which then allows us to form judgements to support decision making, and then act on it. We do this by using rules about how the world works that we have worked out based on lots of information from the past.

KPI See **key performance indicator**.

KPI library A free online library of key performance indicators at **www.ap-institute.com**.

KPQ See **key performance question**.

Lagging indicator A lagging indicator is a performance indicator that is influenced by changes in other leading indicators. Lagging indicators measure performance outcomes that are determined by other input factors. For example, today's financial performance is a lagging indicator of customer satisfaction, which in turn is a lagging indicator of product quality.

Leading indicator A leading indicator is a performance indicator that predicts or influences changes in other performance indicators. For example, customer satisfaction and customer loyalty could be leading indicators for future sales and market share.

Learning and growth perspective The learning and growth perspective covers the intangible drivers of future success, such as human capital, organisational capital and information capital, including skills, training, organisational culture, leadership, systems and databases.

Measure A measure is a defined and agreed unit to quantify the size, amount or degree of something.

Metric A metric is any type of measure that is used to assess elements of performance.

Net profit A financial KPI measuring bottom-line performance.

Net promoter score (NPS) A customer satisfaction KPI based on a single question: How likely is it that you would recommend [company X, product Y, etc.] to a friend or colleague?

NPS See **net promoter score**.

Performance management A set of management processes, often supported by information technology, that help to improve the management, strategy execution and decision making in organisations. Performance management processes help companies define strategic objectives, measure performance, analyse and report performance as well as align people and culture.

Performance management framework A performance management framework is used to organise KPIs. The **balanced scorecard** is a popular performance management framework.

Performance measurement The process of measuring business performance. It usually involves collecting, analysing and reporting KPIs and performance metrics.

Performance report A report that communicates the performance of an organisation (or sub-division). It usually contains narrative, performance indicators, and graphs or charts. Increasingly, performance reports include **RAG ratings** and show trends and predictions of future performance. Performance reports can be delivered in hard copy or electronic format.

Predictive analytics The collection and analysis of data to make predictions about otherwise unknown events or the future.

RAG rating RAG rating stands for Red, Amber and Green rating, also referred to as traffic light reporting. It is a way of scoring performance indicators into three categories, where:

- Green indicates that performance is on or above target.
- Amber indicates that performance is below target but within acceptable levels.

- Red indicates that performance is below target and below acceptable levels.

Ratio A ratio is a comparison of two quantities to show how many times one quantity is contained within the other.

Return on assets (ROA) A financial performance indicator used to assess how well a company is able to generate profits from the assets it controls.

Return on capital employed (ROCE) A financial performance indicator used to assess how well a company is able to generate earnings from its capital investments

Return on equity (ROE) A financial performance indicator used to assess how well a company is using the investments made by shareholders to generate profits.

Return on investment (ROI) A financial measure used to evaluate the efficiency of an investment.

Scorecard Displays a collection of KPIs with some visual tools (e.g. **RAG ratings**, trend arrows, symbols) to indicate performance versus targets and benchmarks.

Six Sigma The Six Sigma metric (which was pioneered by Motorola in the late 1980s and later adopted very successfully by global giants such as

General Electric and Honeywell as well as many other companies of various sizes) informs managers as to the stability and predictability of process results. The goal is that process defect or error rates will be no more than 3.4 per 1 million opportunities. As an analogy, consider a goalkeeper of a football team who plays 50 games in a season and who faces 50 shots from the opposing team in each game. If a defect is when the team scores, then a Six Sigma goalkeeper would concede one goal every 147 years!

Strategy A high-level plan outlining the most important objectives that have to be delivered in order to succeed or improve performance.

Strategy map A strategy map is a visual one-page representation of a company's strategy. A strategy map places the four BSC perspectives in relation to each other to show that the strategic objectives in each perspective support each other.

A strategy map highlights that delivering the right performance in one perspective (e.g. financial success) can only be achieved by delivering the objectives in the other perspectives (e.g. delivering what customers want). You basically create a map of interlinked objectives. For example:

- The objectives in the learning and growth perspective (e.g. developing the right competencies) underpin the objectives in

the internal process perspective (e.g. delivering high-quality business processes).

- The objectives in the internal process perspective (e.g. delivering high-quality business processes) underpin the objectives in the customer perspectives (e.g. gaining market share and repeat business).
- Delivering the customer objectives should then lead to the achievement of the financial objectives in the financial perspective.

Strategy maps therefore outline what an organisation wants to accomplish (financial and customer objectives) and how it plans to accomplish it (internal process and learning and growth objectives). This cause-and-effect logic is one of the most important elements of best-practice **balanced scorecards**. It allows companies to create a truly integrated set of strategic objectives on a single page. For a large number of real-world best-practice examples, please visit our website: **www.ap-institute.com**

Survey A survey is used to collect data from a specific group of people (e.g. your customers or employees). Surveys can be used to gather data from the entire set of customers, employees, etc. (the population) or a sub-set (a sample) and can be

administered by mail (in hard copy) or in electronic format (e.g. e-mail or web-based).

Target Every KPI needs a target or benchmark to put current performance levels into context.

Traffic light reporting See **RAG rating**.

Index

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