

# Chapter

# 2

## Mission, goals and strategies

### Learning objectives

After reading this chapter, you should be able to:

- 1 Explain the difference between the stakeholder and the shareholder views.
- 2 Define corporate governance and discuss how it might influence the management control system of an organization.
- 3 Define corporate social responsibility, and discuss if and why you think organizations should work with it, or not.
- 4 Discuss what types of goal an organization might have and how they are related.
- 5 Describe different forms of strategies.
- 6 Describe the logic behind contingency theory, and exemplify how factors such as the environment, strategy and technology might influence management control system design in the organization.

## Real world vignette: Boeing 737 MAX

In October 2018 a flight from Jakarta crashed in the Java Sea soon after takeoff, leaving 189 passengers and crew dead. Only a few months later the same thing happened to a plane from Addis Ababa, which also crashed just a few minutes after takeoff. This time 157 people died. Both planes were of the same model, the Boeing 737 MAX. Both accidents are also believed to have been linked to automated commands from a malfunctioning manoeuvring system.

Because of the accidents, and the problems with the manoeuvring system, all Boeing 737 MAX planes were grounded and not allowed to fly as of March 2019. \$240 billion has been mentioned as an estimation of the total cost for Boeing, which includes a huge loss of goodwill for the company due to these tragic events.

It is difficult to determine how this could happen, but we are going to have a look at the arguments of Stan Sorscher.<sup>1</sup> He is a former Boeing engineer and a union representative; an engineer with an interest in management control systems. Sorscher blames what he calls the cost-cutting culture that was introduced in the Boeing organization in the late 1990s; a culture that favours cost-cutting initiatives from top managers, creating shareholder value for the owners and where engineers identifying problems are seen as making trouble, according to Sorscher. He also claims that it is the opposite of a culture built on productivity, innovation, safety and quality, and compares it with the culture Boeing had in the mid-1990s.

The old 'quality' culture focused, according to Sorscher, on increased productivity through the employees' engagement and initiative, strong integration between teams, as well as between employees and managers, and a strong customer focus. The new culture, on the other hand, focuses on top managers and shareholders instead of employees and customers. Sorscher also claims that the cost-cutting culture very well may be suited to suppliers of commodities like Wal-Mart and Amazon, but not to a high-end manufacturer of airplanes.

## Introduction

In Chapter 1, we defined a management control system as comprising a combination of control practices designed and implemented by top managers to increase the probability that lower-level managers and employees will behave in ways consistent with the organization's mission, goals and strategies. But in order to properly analyse if a certain behaviour is consistent with mission, goals and strategies, we need to understand how these come about. Any mission, goal or strategy needs to be related to what the purpose of the organizations is and for whom it exists. Not surprisingly, this depends on whom you ask, but in a market economy there are basically two major views on this topic: the *shareholder view* and the *stakeholder view*. According to the shareholder (or owner) view, organizations exist to satisfy the goals of their owners, or as Milton Friedman expressed it:

*... there is one and only one social responsibility of business [. . .] to use its resources and engage in activities designed to increase profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception and fraud.<sup>2</sup>*

<sup>1</sup> Adolph, C. (2019) SPEEA engineer breaks silence on Boeing's MAX 737. Read this letter. Available at: <https://www.kuow.org/stories/boeing-engineers-break-silence-on-max-737-read-this-letter> (accessed 25 September 2019).

<sup>2</sup> Friedman, M. and Friedman, R.D. (1962) *Capitalism and Freedom*. Chicago, IL: University of Chicago Press.



However, advocates of the stakeholder view claim that organizations exist to satisfy the goals of a broader set of groups, including employees, customers, suppliers, lenders and society.

The sometimes rather intense debate between shareholder and stakeholder proponents has been going on for a very long time; for instance, the quote above from Milton Friedman is from 1962! But even though the debate has been intense – Milton Friedman at one point accused his opponents of ‘preaching pure and unadulterated socialism’<sup>3</sup> – it is not necessarily a dichotomy where you need to fully adhere to one of the views.

For example, it is not at all unusual that long-term owners realize how important different stakeholder groups are for the survival and long-term success of the company. So even if the owners are considered the ultimate stakeholder, top managers may still act in a way that takes the needs of several stakeholders into account. Still, the difference between a short-term shareholder view and a stakeholder view is often significant, and so is its impact on the design and use of management control systems in companies.

To some extent the shareholder and stakeholder views tend to be linked to ownership structures, and the shareholder view in particular is often linked to the stock market. For companies on the stock market, keeping the share price up is usually a top priority for top management. One possible explanation for this is that a low share price creates a higher risk for a hostile takeover, something that top managers want to avoid. A hostile takeover means that an owner that is not wanted by top management or the major present owners – it may even be a competitor who wants to close down the company – buys shares in the company with the purpose to gain control of it.

The shareholder view has dominated over the stakeholder view for most of this century. One expression of this is the above described change from a customer and employee focus to a shareholder focus in Boeing, a change that we have seen in many other organizations. But there are also indications that this may be changing again, not least with regard to the increasing focus on climate change and sustainability. Another strong indication pointing in this direction was a Statement on the Purpose of a Corporation released by the Business Roundtable in America. In August 2019 this Roundtable, consisting of CEOs from many leading American companies, from Apple to Wal-Mart, issued this Statement, which was signed by 181 CEOs. It ended as follows:

*Each of our stakeholders is essential. We commit to deliver value to all of them, for the future success of our companies, our communities and our country.*<sup>4</sup>

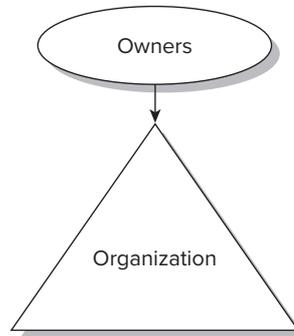
## The shareholder view

**T**he shareholder view implies that organizations exist to fulfil the demands of the owners, which often include a high return on the owners’ investment at as low a risk as possible. This view provides the owners with a special status compared to the other stakeholders and the arguments for this include those listed below.

- The original owners founded the organization and only the owners have the legal power to close it down as long it obeys the laws where it operates. The owners also have the formal power to impose their will on the organization, for instance regarding strategic direction. Legally the owners thus have a special status in most countries.
- The owners take a higher risk than the other stakeholders since the owners can claim only the residual. This means that the owners will get any money from the company only when everybody else – employees, suppliers, lenders, tax authorities – have had their ‘share’.

<sup>3</sup> Friedman, M. (1970) The social responsibility of business is to increase its profits, *New York Times Magazine*, 13 September.

<sup>4</sup> <https://www.businessroundtable.org/business-roundtable-redefines-the-purpose-of-a-corporation-to-promote-an-economy-that-serves-all-americans> (accessed 25 September 2019).

**FIGURE 2.1** The shareholder view

- The company cannot survive in the long run if the owners get no return on their investment. This means that all the other stakeholders are also dependent on the owners getting a fair return.

If we go back a hundred years or more, the situation concerning ownership was very different to what we often see in today's organizations. In those days, the owner was normally also the manager, which meant that the owner was in direct control over the organization. However, in the early twentieth century this started to change with a development that is often referred to as the separation of ownership and control.<sup>5</sup> The owners, especially in the United States, started to invest in companies through the stock market while the managers of the same companies often were people hired to do the job.

In agency theory<sup>6</sup> this relationship between the owners and the manager is referred to as the principal–agent relationship, where the owners are the principals and the managers the agents. The principal delegates the authority to manage the company to the agent. This was a very practical solution for companies with a dispersed ownership, as well as for owners with interests in several companies. However, it did also pose a problem since the owners (principals) could no longer be sure that the managers (agents) worked in their best interest. Were the managers not more likely to make decisions that were in their own best interest, rather than in the owner's best interest? This problem is commonly referred to as the principal–agent problem.

Today the principal–agent situation is common in most larger organizations, especially if they are listed on the stock exchange. This means that it is in the interest of the owners to address this problem in one way or another. This may be done in many different ways, and these may be more or less successful, but regardless of how this is being done it is usually referred to as being about 'corporate governance'.

## Corporate governance

Corporate governance relates to the shareholder view; it deals with how owners and owner representatives of different kinds act to influence the organization to work in the best interest of the owners. Corporate governance may include a wide range of activities, from extensive communication between the owners and the managers, to owners just selling off their shares when they no longer believe in the company. The concept of corporate governance began to attract attention in the 1980s, grew stronger in the 1990s and became a major force in the 2000s.

One important reason why corporate governance and the owners in general have received increased attention in recent decades is probably that owners look different now compared with how they looked

<sup>5</sup> Berle, A.A. and Means, G.C. (1932) *The Modern Corporation and Private Property*. New York, Macmillan.

<sup>6</sup> Agency theory will be discussed more thoroughly in Chapter 3 as well as Chapter 10.



a few decades ago. Perhaps the most important owner type in many countries today is pension and mutual funds, whose fund managers and analysts constantly seek to get the best return for their clients. A focus on daily indexes of value development, with incentive programmes linked to the index, does quite often create a rather short-term focus among these analysts. And even if many fund managers communicate with the top management in the companies they invest in, they probably do not have as good insight into the organizations as do traditional owner types, such as families and investment companies.

Some even claim<sup>7</sup> that we have seen a change from industrial capitalism to financial capitalism, implying that corporate governance shaped by financial actors and financial markets has established a dominating financial logic. At the most extreme, the organization becomes just a black box in the eyes of the owners, where the owners' only concern is that the organization delivers a return on their investment. The contrast with more traditional owner types is strong, where owner families develop a very good understanding of their organization and its business over decades.

The current logic of the financial markets places high demands on the organizations, their reporting and internal control. These demands have, in fact, increased significantly in the aftermath of the accounting scandals of the early 1990s, particularly those involving Enron and WorldCom. Because these scandals mainly appeared in the United States, that is also where this development originated. The major feature in the development is the federal law called the Sarbanes–Oxley Act, commonly known as SOX, passed in 2002. The purpose of the act is to give better protection to stock owners by strengthening the corporate governance, financial reporting, auditor independence and internal control in companies.

While SOX certainly has many supporters, it has also been the subject of heavy criticism because of the considerable costs this regulatory framework imposes on companies. The act is not only of interest for US companies but, indeed, also for many other companies, because all companies listed on the New York Stock Exchange must follow it. Moreover, this development has also reached Europe directly as many European countries have issued similar laws or codes. Some companies have even decided to leave the stock exchange because they want to avoid these frameworks and all the work they involve.

Corporate governance involves a large number of different means that can be used by the owners, or by others in the interest of the owners, in order to govern the company. Some of the more common ones are described below.

- *The board of directors:* The board is appointed by the owners and is the formal channel for the owners to govern the organization. Boards function differently in different countries, but usually a main task for the board is to hire and fire the CEO. The board usually also makes important strategic decisions and has an ongoing dialogue with the CEO.
- *Financial reports:* A stock listed company must supply quarterly financial reports, usually according to the accounting standard IFRS. The reports present the profitability and financial situation of the organization. These reports are usually highly anticipated by the financial markets and have a major impact on selling and buying decisions among actors in the market.
- *Auditing and internal control:* Practically all organizations of a certain size must engage auditing firms to audit their financial reporting. Stock listed companies also often have to follow a framework for internal control, depending on where they are listed. The purpose of auditing and internal control is mainly to secure the quality of the financial reporting, and the demand for this has increased significantly in the past decade following the aforementioned accounting scandals.
- *Incentive programmes:* different forms of incentive and bonus programmes are frequently used to align the goals of the owners with those of managers. The idea is basically that if managers make more money by making the owners happy, they will do so. However, how effective incentives are is heavily under debate and we return to this topic in Chapter 10.

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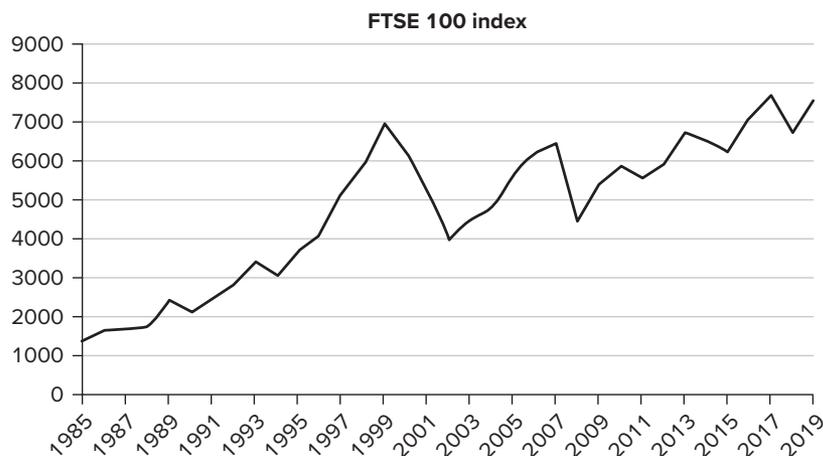
<sup>7</sup> Davis, G. F. (2009). The rise and fall of finance and the end of the society of organizations, *Academy of Management Perspectives*, 23(3): 27–44.

- *Investor meetings:* Just like privately held firms, stock listed companies often arrange meetings with representatives from important investors, including fund managers and analysts. The purpose of these meetings is for the top managers to be able to explain better the organization's situation to the investors and for the investors to explain better their expectations of the organization. One important function of these meetings can be to serve as a powerful reminder of the interest of the owners and for the investors to gain a permanent presence in the minds of the managers.
- *Media:* The expansion of business journalism is one important part of the rise of financial capitalism, as it enables shareholders to be better informed about the company they have invested in. What the media report about an organization is, therefore, extremely important for both the organization and its investors. A problem is, of course, that the quality of the media's reporting varies and sometimes is perhaps formulated to sell papers rather than to better inform investors.

A very interesting question is how the corporate governance discussed here influences the management control systems and internal affairs of organizations. There is also an extremely lively debate on this and, while some claim that corporate governance and a focus on the owners make organizations more effective, others claim that this instead makes them so short term in focus that it actually destroys value in the long run – which may be the case at Boeing as described in the Real World Vignette. Unfortunately, research does not have much to offer here to clarify the situation, because we know far too little about the topic. But something we do know is that managers in countries where the stock exchange dominates, such as the UK and the US, do seem to be more short term in outlook, and that financial incentives seem to encourage earnings management and manipulation of accounting numbers. However, we know less about whether or not these effects, in turn, will hurt the long-term performance of the organization.

What we can see in Figure 2.2 is that Europe's largest stock exchange, the London Stock Exchange, enjoyed remarkable development from 1985 to 2000 (in fact, it was good from the mid-1970s). The index increased steadily during this period. However, since 2000 the development has been a much rockier road. Given the number of factors that influence value creation this cannot be considered evidence of how corporate governance influences shareholder value. However, it is certainly not an indicator that corporate governance increases shareholder value, since the index development has been very weak during the time when corporate governance has been most pronounced.

**FIGURE 2.2** London Stock Exchange development 1985–2019



## The stakeholder view

The stakeholder view implies that organizations exist to fulfil the demands not just of the owners, but of several stakeholder groups. This means that no stakeholder permanently holds a special status as more important than the others. However, this does not exclude the possibility that some stakeholders, at least for the moment, are more important for the organization than others.

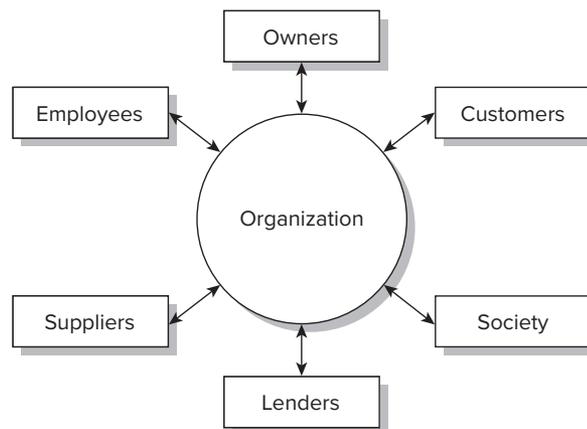
Some of the arguments for the stakeholder view are listed below.

- The organization is not just dependent on the owners for its survival and success, but on all the different stakeholder groups. Even if the owners are the only ones that have the legal right to close down the organization, if the customers stop buying from the organization, if no one wants to work for it or if no one will lend money to it, the result is very likely to be the same.
- It is ethically questionable to systematically favour one group over the others.
- Ensuring that stakeholder groups such as customers and employees are happy will also lead to higher profitability, since happy customers come back, and happy employees are more motivated.
- Considering all stakeholders is a more long-term view and thus more sustainable, especially if society is considered a stakeholder.

An organization's stakeholders are individuals and organizations who, in one way or another, contribute to and benefit from the organization in question. These groups of individuals or organizations have often been defined as follows.

- *Owners*: Among other things, owners invest capital in the organization and expect to get a return on their investment.
- *Customers*: Pay the organization in order to get products or services in return.
- *Employees*: Devote their time and competency, and in return they get paid and, hopefully, have a stimulating job.
- *Suppliers*: Provide the organization with products, material and services in return for payment.
- *Lenders*: Like the owners, the lenders supply the organization with capital, although in the form of loans, and in return they receive interest.
- *Society*: Society supplies the organization with infrastructure, education for future employees, protection from crime etc., and in return expects the organization to follow laws and regulations, pay tax, provide jobs, and so on.

FIGURE 2.3 The stakeholder view



This group of stakeholders has tended to expand over time, and some also include what they call secondary stakeholders, such as the media and special interest groups. These groups do not necessarily interact directly with the organization, but rather through the primary stakeholders such as actual or potential owners, customers or employees. This does not mean that the secondary stakeholders are less important. A secondary stakeholder such as the media might very well be of major importance if it has substantial influence over the primary stakeholders.

## Corporate social responsibility

Just like corporate governance, CSR is an old phenomenon that has gained a lot of attention this century. It could be seen as a reaction to the strong shareholder and corporate governance trends, but may also be explained by changes in society. One such change is globalization, which has had positive effects such as increased communication and decreased poverty, but also has had negative effects. One such is that global companies are less influenced by governmental actions – for instance, concerning working conditions or environmental effects – since they can move their operations if they wish to avoid these.

The other change is that the pressure from stakeholders and society has increased in this respect. Some primary and secondary stakeholders that have put an increased pressure on companies in this way include consumers, business partners, national governments and NGOs. NGOs are non-governmental and non-profit organizations that strive for a certain goal such as, in the case of Greenpeace, protecting the environment. NGOs became key drivers in the development of CSR, often acting like a type of auditor evaluating companies' behaviour in this respect.

Even the United Nations has played a role in increasing the pressure on companies to work with CSR. One example was when the former secretary general of the UN, Kofi Annan, in 1999 launched the Global Compact initiative with the following statement:

*We have to choose between a global market driven only by calculations of short-term profit, and one which has a human face. Between a world which condemns a quarter of the human race to starvation and squalor, and one which offers everyone at least a chance of prosperity, in a healthy environment. Between a selfish free-for-all in which we ignore the fate of the losers, and a future in which the strong and successful accept their responsibilities, showing global vision and leadership.*<sup>8</sup>

The purpose of the initiative was to make companies more aware of their social responsibilities regarding issues on human rights, labour standards, environment and corruption.

The pressure also increased the media's attention on companies' role in society, and triggered greater examination of multinational and global companies' impact in less developed countries. CSR also soon became a lucrative business, seeing a large number of consultants and experts emerge. This group also became vital for the development, not least in the way they formulated the rhetoric around and arguments for working with CSR. Basically, there are three types of arguments for working with CSR:

- 1 *Ethical*: It is fair to other stakeholder groups besides the owners, and it is more sustainable.
- 2 *Business*: It is good business to have happy employees, and to offer the customers sustainable products and services.
- 3 *Fashion*: Everybody else seems to do it, so we must not be left behind.

Early on, CSR was often motivated by ethical concerns, and it was also often seen as being in conflict with profitability and the owners' interest in the way Milton Friedman described. But when the consultants became more involved, the rhetoric started to change in the direction that CSR was good for the business and a prerequisite for making a good profit. With this purpose it is often referred to as strategic CSR or creating shared value (CSV), but it has also become a fashion as almost every company of a certain size discuss CSR or corresponding concepts on their web pages.

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<sup>8</sup> UN Secretary General, Kofi Annan, proposes Global Compact in address to World Economic Forum in Davos, 1 February 1999.



However, what CSR really is about is far from clear, although one common definition is that it is about organizations' voluntary concern about social and environmental issues. It is about taking more action than the organization has to in order not to harm its own or suppliers' employees, people whose environment is affected by the organization or other groups affected by the organization in some way.

In practice the CSR work in organizations often includes a number of formal and informal tools such as those listed below.

- *Code of conduct*: A document that clarifies the corporate view on what is appropriate conduct in different situations. This is often used not only with employees, but also towards suppliers.
- *Sustainability reporting*: Public reporting, often following the global reporting initiative, on performance in social and environmental aspects.
- *Internal reporting channels*: Whistleblowing or ethical hotlines whereby employees can report on behaviour not in line with corporate policy.
- *Culture and values*: The prevailing values among managers and employees often have a greater impact on their behaviour than written rules.
- *Personal example*: How top managers behave often has a major impact on values and behaviour among employees.
- *Storytelling*: One important tool in shaping values is often the telling of stories in an organization. The stories often refer to how a certain individual – a top manager or perhaps the founder of the organization – behaved in a certain situation.
- *Training*: Often compulsory training programmes are used to inform managers and employees.
- *Intranet*: The intranet is often used in order to inform and influence employees.

Equally important is how the organization communicates to stakeholders, the media and the public what it does. In fact, sometimes CSR is accused of being more about communicating a positive image of the organization's CSR activities and less about the actual activities. This highlights the similarity with financial reporting, and the tension between what is reported externally and the internal control, in the sense that reporting a good financial performance does not necessarily imply a good performance in reality. There is always a great risk of window dressing in reporting, regardless of whether it is financial reporting, CSR reporting or something else.

**Real World Example:** The Volkswagen emissions scandal, Dieseltgate, is one of the best-known examples of when a company tries to look much better than it actually is. In order to understand how this could happen, we may have to go back to 2007, when Martin Winterkorn became CEO of the Volkswagen Group. He put up the very ambitious goal to make VW the biggest car producer in the world. This meant, among other things, that VW had to grow in the US market where it was quite small, since the US market was the largest in the world.

The plan to expand on the US market met with two problems. The first was that Americans preferred petrol, whereas VW competed mainly with diesel cars. The second was that emissions requirements in the United States were much tougher than in Europe. The solution to this problem was to launch a campaign together with other diesel car producers, called Clean Diesel. The idea was to make the emissions from diesel cars so low that they would appear as a better alternative than petrol cars.

One idea considered by VW was to use the BlueTEC technology used by Mercedes, in order to make the cleanest diesel possible. However, Winterkorn was strongly against this as he thought that VW should develop its own technique, which it tried to do. This meant that Winterkorn had invested a lot of prestige in this technique.

Allegedly, Winterkorn also had a hot temper, a very low acceptance for failure and the VW culture was known to put a lot of pressure on employees.<sup>9</sup> All this probably made the engineers working with the new

<sup>9</sup> Cremer, A. and Bergin, T. (2015) Fear and respect: VW's culture under Winterkorn, *Reuters*, 10 October. Available at: <https://www.reuters.com/article/us-volkswagen-emissions-culture-idUSKCN0S40MT20151010> (accessed 29 April 2020).

emissions technology less eager to tell Winterkorn that they had failed to develop the technique required by the clean diesel campaign. If we allow ourselves to speculate a little bit, the engineers may even have seen it as a better alternative to manipulate the software so that the emissions appeared much lower than they actually were, than to tell Winterkorn they had failed.

But regardless as to who made the decision to manipulate the software, it was manipulated so that the emissions technique worked only in a laboratory context. The emissions were very low in the laboratory tests, while the emissions during normal use of the car were actually were very high.

The board of directors and top management need to think their position through when it comes to the shareholder view vs. the stakeholder view. This position will have a major impact on how *mission*, *goals* and *strategies* are formulated. But what do these three terms really mean? We turn to this next.

## Mission

An organization's mission (or purpose, as some managers call it) is about the reason why the organization exists. As we can see in the examples below, the mission may address how to improve the lives of customers, but also how to improve environmental and social aspects of society.

**Real World Example:** IKEA's mission is described as follows:

*At IKEA our vision is to create a better everyday life for the many people. Our business idea supports this vision by offering a wide range of well-designed, functional home furnishing products at prices so low that as many people as possible will be able to afford them.*

The world's leading pet food producer, Mars Petcare, has the following mission:

*A better world for pets*

And Neste, a Finnish oil company that recently turned to renewable energy, has a mission that reflects this change:

*Creating responsible choices every day*

Unsurprisingly, Tesla has the following mission:

*Tesla's mission is to accelerate the world's transition to sustainable energy.*

The argument that organizations should focus more on the mission or purpose of the company is often linked to stakeholder thinking. But it is often also pragmatic, because most lower-level managers and employees do not find financial measures very motivating. They may very well accept them and find them perfectly reasonable, but they seldom become engaged in the daily job because of a goal to achieve a ROE (return on equity) of 12 per cent or a profit of €10 billion. This is usually far too abstract to inspire people.

A mission or purpose, on the other hand, can often be perceived as more tangible and thus is more motivating. Not only may the purpose be inspiring for the individual person working in the organization, it may also be something that managers and employees can gather around, thereby strengthening team spirit. Moreover, an inspiring mission may also attract people to the organization – people that sympathize with the mission. In this way the organization can attract more competent people and at the same time strengthen team spirit even further by employing people that care for the same purpose. As discussed in Chapter 1, the mission also forms the basis for an important input control, the value statement.



## Different types of organizational goal

Organizational goals are important since they tend to be more concrete than the mission. There are financial goals and strategic goals, as described below. While the financial goals often, but not always, are linked to the owners, the strategic goals often relate to both missions – how we are going to contribute to society – and financial goals – how we are going to be profitable.

### Financial goals

Regardless of whether you acknowledge the shareholder view, the stakeholder view or something in between, the financial goals are very important for the organization. In financial theory, the goals of the owners are usually expressed as high *profitability* and low *risk*. This means that the owners want to get good money back on their investment and they want to be reasonably certain that they are going to get it regularly.

However, in so-called non-profit organizations, profit is not a goal at all. This is for instance the case in many public service organizations, sports clubs, churches and political organizations. Such organizations may, however, still have financially related goals such as amount of money raised or different types of cost measure.

#### *Profitability (for-profit organizations)*

Profitability is usually expressed as the *return on investment* – that is, profit (revenues minus costs) divided by invested capital. In the basic form of this equation, ‘invested capital’ refers to the shareholders’ investment, which consists of proceeds from the issuance of stock, plus retained earnings. The shareholders’ investment (i.e., equity) is the amount of financing that was not obtained by debt (i.e., by borrowing). This measure is also referred to as *return on equity* (ROE), defined as net profit/equity. For many purposes, the source of financing is not relevant; ‘invested capital’, therefore, means the total assets. This is the case in *return on assets* (ROA), defined as operating profit/total assets.

ROE and ROA are both ratios expressed as a percentage and there are some problems related to these that we will return to in Chapter 9. Other commonly used profitability measures are different types of absolute profits (such as operating profit and net profit) and profit margins (profit/sales; for instance operating margin and net margin).

Profitability is of course a very important measure in a profit-driven organization. It is a measure of to what extent the owners are getting a good return on the capital that they have put into the company. Owners normally want a return that is in line with the interest they for instance may get at the bank, plus an extra premium for the risk the owners are taking. The owners take a risk when they invest in the company since they may lose some or all of their investment. The higher this risk, the higher risk premium they usually want.

Profitability is, however, also important for other reasons. Since good profitability is a sign of a sound company, it is also very important for banks and others who consider lending money to the company. A profitable company is more likely to be able to pay interest and to pay back a loan. For similar reasons, profitability may be of interest to suppliers who consider selling to the company, potential employees who consider taking a job in the company and even customers who wish to have a long-term relationship with the company.

Moreover, profitability is also important for the financing of further investments in the company. So, if top management wants the company to grow this can be financed, fully or partly, through the profit the company is making every year. This means that top management does not have to go to the bank or issue more stocks every time they want to make investments. In some extreme cases, such as IKEA and H&M, strong profitability has made it possible for the companies to expand massively without borrowing money from the bank.

**Real World Example:** The Volvo Group recently updated its financial goals.<sup>10</sup> The aim is now that the Group's operating margin shall exceed 10 per cent measured over a business cycle. In addition, the Financial Services Unit's financial goal is to earn a return on equity of 12–15 per cent.

### Cost effectiveness (non-profit organizations)

If you are a for-profit organization, cost and cost effectiveness will be captured through the profitability calculations, but they can also be important goals in themselves. This is especially so in non-profit organizations where the profit cannot be calculated. In these organizations one important goal is not to spend more money than their allowance from the state or municipality. On the other hand, the organization should perhaps not spend considerably less money either, since that might imply it is not doing its job. Often the goal is to achieve as much as possible given the amount of money that is being spent or to put how much is achieved in relation to what is spent, sometimes popularly referred to as 'bang for the buck'. It could for instance be cured diseases put in relation to the cost of the hospital. But even if this does imply a sound ambition, it is often rather difficult to find good measures of this effectiveness.

### Strategic goals

Strategic goals complement the financial goals and can be of many kinds. They often describe how the organization is going to build or sustain a competitive advantage. Companies can compete with higher customer satisfaction – for instance, through higher quality, better design, higher service level or by being more innovative than competitors. They can also compete with lower prices than those of competitors, for instance if they have a more efficient manufacturing strategy, a better network of suppliers or a more efficient distribution system.

**Real World Example:** The fulfilment of IKEA's mission (mentioned above) calls for appropriate financial and strategic goals. IKEA combines the following goals: functionality, low prices and high volumes. In order to reach these goals the following aspects of the strategy are important:

- *Worldwide network of cheap but good suppliers:* The fact that IKEA often buys very large volumes makes it easier for its suppliers to charge a low price.
- *Efficient global logistics system:* This is partly made possible by the famous flat-pack system, which makes the transport of the products much cheaper.
- *Customers doing part of the work themselves:* The flat-pack system usually requires that customers assemble the products themselves. Although somewhat inconvenient (and sometimes very irritating!), this makes lower prices possible.

In some rare cases, companies have developed a strategy that makes it possible to reach both the goal of high customer satisfaction and the goal of lower cost compared to competitors. Case 2.3 offers one example of such a company.

## Strategy

So far, we have concluded that organizations have strategic goals and that these goals are supported by different strategies. However, we are now going to dig a little deeper into what a strategy really is. First, we are going to have a discussion on how the strategies are formed and then we are going to take a look at different types of strategy.

<sup>10</sup> Volvo Group, Financial Targets. Available at: <https://www.volvogroup.com/en-en/investors/financial-targets.html> (accessed 29 April 2020).



## Forming of strategies

### *Deliberate strategies*

According to one very established perspective, referred to as the *design perspective*, strategy should be designed to *fit* the organization's environment and capabilities. A firm develops its strategies by matching its core competencies with industry opportunities, often by the use of a SWOT analysis, where SWOT stands for Strengths, Weaknesses, Opportunities and Threats. Strategy formulation is a process that senior executives use to evaluate a company's strengths and weaknesses in light of the opportunities and threats present in the environment and then decide on strategies that fit the company's core competencies with environmental opportunities. This perspective is in line with contingency theory, and suggests that strategy should be based on both external and internal contingencies.

The *positioning perspective* is not so very far from the design perspective, but here the focus is more on choosing a more generic strategy than to carefully plan and design a very specific strategy suited to the specific organization. In a way this also moved the focus away from the technique to the actual strategy, but it also led to a simplification in at least two respects. The first was the aforementioned move from highly individual and unique strategies to more generic ones. The second was the relevant contingencies to consider when choosing the strategy. Instead of considering a number of external and internal contingencies as well as the organization's goals when designing strategy, the main focus was now moved to the structure of the industry.

So far we have discussed two traditional and well-known perspectives on strategy and they have some common features. One is that the design or choice of strategy is the result of a systematic analysis; it is about a *deliberate*, rational process where a number of well-based choices and decisions are made by top management or experts. It is also a forward-looking process where the strategy is first designed or chosen and then implemented, and there is not much concern in these perspectives about difficulties in implementing the strategy.

### *Emerging strategies*

Another perspective that we will take a closer look at is the *emerging strategy* perspective.<sup>11</sup> The background to the theory is that strategies, no matter how cleverly designed or chosen they are, might not be successfully implemented and, even if they are, might not work very well in practice. It is often argued that strategy implementation often fails, perhaps as often as in 90 per cent of cases, and this could be for a number of reasons, including insufficient communication, employee resistance, unadjusted management control system including incentive system, lack of competency, underestimation of the extent of the change, and so on. Moreover, what might look like an absolutely brilliant idea when sitting behind a desk or in a meeting room does surprisingly often not work so well when put into use. It is a very difficult task to take into account all factors and circumstances in reality, when designing a new strategy. This is the reason why political initiatives, even with the best of intentions, often fail.

These arguments above have led the proponents of this perspective to separate *deliberate* strategies from *emerging* ones. The deliberate strategies are formulated by top management in the way we have already discussed, while the emerging ones gradually emerge out of how problems are dealt with in practice.

When managers or employees face small problems in their daily work they try to think of ways to overcome them and if they do find a way and it works, they will probably make it part of their ordinary routines. Together with other solutions found by other employees, these small changes might actually change the direction of the organization and, therefore, change its strategy. This could be purchasers who discover that when they buy from old and established suppliers they always get the deliveries of the goods on time, whereas from new and perhaps cheaper suppliers they often do not. Therefore, the

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<sup>11</sup> For example, Mintzberg, H. (1994) *The Rise and Fall of Strategic Planning: Reconceiving Roles for Planning, Plans, Planners*. New York: Free Press.

purchasers might stop looking for cheaper suppliers and stick to the ones they know can deliver, and by that they change the strategy to select suppliers to experience-based instead of price-based. If salespeople discover that it is easier to sell the products or services to another type of customer than they traditionally have sold to, they are very likely to continue to do so and, by doing that, they have developed a new strategy regarding which customer groups to target.

The emerging strategy perspective has replaced designing, planning and choosing with *learning*. Organizations learn through experimenting how to handle different tasks and which direction to take. It is not about being exceptionally clever when sitting behind your desk; it is about trying out different methods in practice to see what actually works, as illustrated in Gordon Siu's story in the Real World Example below, about bees and flies trapped in a bottle.

**Real World Example:** 'If you place in a bottle half a dozen bees and the same number of flies, and lay the bottle horizontally, with its base to the window, you will find that the bees persist, till they die of exhaustion or hunger, in their endeavour to discover an opening through [the base] while the flies, in less than two minutes, will all have sallied forth through the neck on the opposite side . . . It is the bees' . . . intelligence that is their undoing in this experiment. They evidently imagine that the issue from every prison must be where the light shines clearest; and they act in accordance, and persist in too-logical action . . . and the greater their intelligence, the more inadmissible, more incomprehensible, will the strange obstacle appear.

'Whereas the featherbrained flies, careless of logic . . . flutter wildly hither and thither, and meeting here with the good fortune that often waits on the simple . . . end up by discovering the friendly opening that restores their liberty . . .'<sup>12</sup>

## Types of strategy

*Corporate strategy* is about being in the right mix of businesses. Thus, corporate strategy is concerned more with the question of *where* to compete than with *how* to compete in a particular industry; the latter is a *business unit strategy*.

### *Corporate strategy*

At the corporate level, one of the most significant dimensions along which strategic contexts differ is the extent and type of diversification undertaken by different firms. In terms of their corporate-level strategy, companies can be classified into one of three categories.

A *single industry* firm operates in one line of business. A single industry firm uses its core competencies to pursue growth within that industry.

**Real World Example:** Microsoft is a company devoted to one industry, namely software. Unlike Apple the company is not interested in making hardware, even if it has made some attempts in that direction. This means that Microsoft does not have control over the hardware development and cannot be certain that the software and hardware is always 100 per cent compatible. But this strategy still makes sense given that Microsoft wants to be the market leader. If it made its own hardware, it would probably have to be the market leader in hardware too in order to become the market leader in software, and not even Apple has managed to achieve that. Microsoft now develops software that is compatible with all PCs, and by becoming the dominating player it has made the hardware producers adjust their products to Microsoft's software. This also means that Microsoft can concentrate on what it does best, which is software, and leave the hardware to others who are better at it.

Another group consists of firms that operate in a number of industries, and their businesses are connected to each other through operating synergies. We refer to these firms as *related diversified firms*.

<sup>12</sup> Gordon Sui, quoted in Peters, T.J. and Waterman, R.H. (1982) *In Search of Excellence: Lessons from America's Best-Run Companies*. New York: Harper & Row.



Operating synergies consist of two types of linkage across business units: (1) ability to share common resources; and (2) ability to share common core competencies. One way related diversified firms create operating synergies is by having two or more business units share resources such as a common sales force, common manufacturing facilities and a common procurement function. Such a sharing of resources helps the firm reap the benefits of economies of scale and economies of scope.

An *unrelated business* firm operates in businesses that are not related to one another; the connection between business units is purely financial. In such an organization, except for financial transactions, its business units have little in common. There are few operating synergies across business units. The headquarters functions like a holding company, lending money to business units that are expected to generate high financial returns. We refer to such firms as *unrelated diversified firms* or *conglomerates*.

**Real World Example:** A well-known British conglomerate is Virgin,<sup>13</sup> which operates in a large number of industries, including airlines, the media, financial services, health clubs, travel agencies and radio. Virgin started out on a modest scale in the 1970s with a record shop followed by a small mail-order record company. However, everything changed when the very first album released by the record company, Mike Oldfield's *Tubular Bells*, became a huge hit, eventually selling an estimated 15 million copies. This turned the shop/record company into a major record company and became the start of the Virgin Group. Sir Richard Branson and Virgin have since sold Virgin Records and founded companies in a vast number of industries, which employ around 70,000 people with an estimated revenue of almost £13 billion.

According to Virgin's website ([www.virgin.com](http://www.virgin.com)) there are a number of factors that help the Virgin companies to be successful, including the brand, Branson's reputation and network, the management style and empowerment of the staff. Accounts of the management style and empowerment can be found in a number of public statements made by Sir Richard, such as: 'you can't be a good leader unless you generally like people', 'employees think for themselves' and 'I have to be willing to step back'. Virgin has also tried to avoid the traps of a huge corporation, and has very little hierarchy and a minimum amount of corporate bureaucracy. In order for the Virgin Group to start a new company, it has to have the potential to meet four out of five criteria: it must be innovative, challenge authority, be better than the competitors, offer good quality, and exist in a growing market.

These criteria do not include anything regarding synergies, but the companies, which are supposed to be part of a big family, are expected to actively help one another. This opens up the very interesting possibility of learning by doing different things, rather than doing the same thing, and that solutions from one specific industry can inspire solutions in other industries. This is a potential opportunity in conglomerates that is not present to the same extent in single industry or related diversified companies.

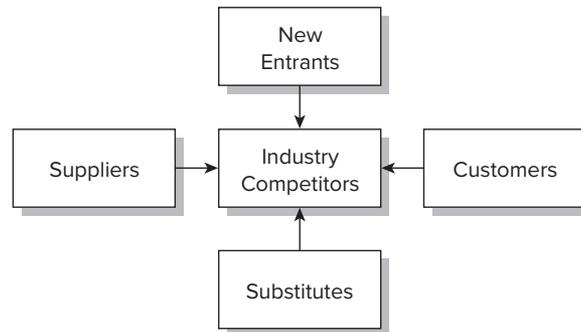
## Business unit strategy

When we discuss business unit strategy we are going to focus on Porter's generic strategies. Not necessarily because this is the only or even best description of business unit strategy, but rather because it is pedagogical and easy to understand. According to Porter,<sup>14</sup> the structure of an industry should be analysed in terms of the collective strength of five competitive forces (see Figure 2.4).

- 1 *The intensity of rivalry among existing competitors:* Factors affecting direct rivalry are industry growth, product differentiability, number and diversity of competitors, level of fixed costs, intermittent overcapacity and exit barriers.
- 2 *The bargaining power of customers:* Factors affecting buyer power are number of buyers, buyers' switching costs, buyers' ability to integrate backwards, impact of the business unit's product on buyers' total costs, impact of the business unit's product on buyers' product quality/performance and significance of the business unit's volume to buyers.

<sup>13</sup> This Real World Example is based on various sources, in particular this one: [www.esecourses.com/cfincase.pdf](http://www.esecourses.com/cfincase.pdf) (accessed 19 December 2012).

<sup>14</sup> Porter, M.E. (1980) *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.

**FIGURE 2.4** Industry structure analysis: Porter's five forces model

Source: Adapted from Porter, M.E. (1980) *Competitive Strategy: Techniques for Analyzing Industries and Competitors*. New York: Free Press.

- 3 *The bargaining power of suppliers*: Factors affecting supplier power are number of suppliers, suppliers' ability to integrate forwards, presence of substitute inputs and importance of the business unit's volume to suppliers.
- 4 *Threat from substitutes*: Factors affecting substitute threat are relative price/performance of substitutes, buyers' switching costs and buyers' propensity to substitute.
- 5 *The threat of new entry*: Factors affecting entry barriers are capital requirements, access to distribution channels, economies of scale, product differentiation, technological complexity of product or process, expected retaliation from existing firms, and government policy.

The five-force analysis is the starting point for developing a competitive advantage as it helps to identify the opportunities and threats in the external environment. With this understanding, Porter claims that the business unit has two generic ways of responding to the opportunities in the external environment and developing a sustainable competitive advantage: low cost and differentiation.

*Cost leadership* can be achieved through such approaches as economies of scale in production, experience curve effects, tight cost control and cost minimization (in such areas as R&D, service, sales force or advertising).

The primary focus of the *differentiation* strategy is to differentiate the product offering of the business unit, creating something that is perceived by customers as being unique. Approaches to product differentiation include brand loyalty, superior customer service, dealer network, product design and product features, and technology.

Porter is very convincing when he argues that an organization should not try to satisfy everyone if it wants to be competitive. It has to make a choice between these two strategies and should least of all 'be stuck in the middle', which means that it has neither a competitive advantage in cost leadership nor differentiation. However, as Case 2.3 illustrates, some organizations actually manage to find a strategy that will give them both a differentiation and cost advantage.

We will return to these two strategies when we discuss contingencies next.

## Contingencies

**F**or an organization to deliver on its mission and reach its goals it is important to consider what situation it is in – or, as it is often expressed in the literature, what the contingencies are. The contingencies of an organization include for instance the business environment, the strategy (which was discussed



above), the technology, its size and national culture. All of these contingencies may be very important to consider when the management control system of the organization is designed and used, but we are going to focus on three of them, namely the environment the organization is working in, the strategy of the organization and what technology the organization deploys.

## The environment

A fashionable expression today is that ‘We live in a VUCA world!’ Even though the abbreviation VUCA was coined in the 1980s<sup>15</sup> and has been used for a long time in the United States Armed Forces, it now seems to have spread to the field of business. VUCA stands for:

- *Volatility*: The world is changing very fast, perhaps faster than ever.
- *Uncertainty*: It is very difficult to foresee how the world is going to change.
- *Complexity*: Change is driven by several, contradictory forces.
- *Ambiguity*: Reality is blurred, and cause–effect chains are unclear.

It can be discussed to what extent this is a reasonable description of the environment that most organizations are facing or not. But it is probably fair to say that more organizations are facing this environment today compared to some decades ago. However, let us go back to a time when the situation was quite different from today . . .

**Real World Example:** When Henry Ford started to produce cars on an industrial scale about a century ago, he faced a situation that probably many car producers today envy. He had, at least for quite some time, no or very little competition. He had a reliable level of demand so that he could always sell everything he produced and the demand increased at a steady pace every year. Moreover, he produced only one car model, the Model T, with no variances at all. Or, as he so famously put it, ‘The customers can have any colour they like as long as it is black!’ The production planning was not complicated at all because Ford produced only one type of car that looked exactly the same year after year, and the company knew exactly how many cars to produce. In an extremely stable situation like this, staff on the shop floor did not need to think very much, nor did they need to communicate with one another. They performed only the same standardized task day in and day out, year in and year out. They could not even talk to each other and they probably did not understand one another, because the workforce spoke 50 different languages. They usually stayed in the company since they knew that they made twice as much money at Ford compared to any alternative employer. Decisions can very well be centralized in an organization like this as they are rather infrequent, and Henry Ford also insisted on making all important decisions himself. So, it was an extremely hierarchical and centralized organization where decisions were made at the top and executed on the shop floor. The work tasks were very much standardized, repetitive, and called for very little thinking or communication on the part of the workforce, and important performance measures probably focused on aspects such as productivity and cost.

The management control system design, especially with regards to throughput control, in the above example worked very well, at least until General Motors started to introduce, among other things, different colours. But would it work in a business today? Many would answer ‘no’ to that question. The situation for most organizations today is often said to be totally different. Competition is fiercer, customers make greater demands on variety among other things and their preferences change much faster. Take the smartphone industry as an example where technology changes all the time along with customers’ preferences, and nobody knows which smartphone producer will be the winner tomorrow.

In this situation, lower-level managers and employees need to be more customer focused and decisions need to be decentralized down the hierarchy. Making all the important decisions at the top would not be possible because that would make the organization too slow. People in operations need to work in teams and cooperate well in order to be flexible and able to meet changing demands in the market. Productivity and costs are still measured but so are quality, lead times, technical innovation, customer satisfaction, market share and many other things.

<sup>15</sup> By the two leadership scholars Warren Bennis and Burt Nanus.

**Real World Example:** Spotify<sup>16</sup> is a modern company with a very special system for throughput control. The employees are organized in small teams called squads. A squad does not have a budget, but what it does have is a long-term mission that is set by management, such as: ‘Make the car a better place to listen to music.’ The mission and how many people there are in a squad is basically all that the teams do not decide for themselves.

The squads set their own goals and priorities, and decide for themselves how they are going to conduct their work. A performance measure might be ‘How much more music people are listening to in the car.’ Empowerment and trust are at the heart of the system, which means that the employees are allowed a very high degree of autonomy. The squads are then organized in a structure similar to that of a matrix organization in order to increase the communication in different dimensions.

There are two main reasons for all this. The first is that Spotify believes that the squads make better decisions, but above all they make faster decisions and the whole organization thus becomes more flexible. The other reason is that employees like working in an environment like this and Spotify wants to attract the best people to the organization.

The management control systems in the two organizations described in our Real World Examples are of course extremely different, almost like the opposite poles on a continuum. The Ford system to a very large extent relied on throughput controls that followed a ‘coercive’ logic, whereas Spotify focuses on throughput and input controls that follow an ‘enabling’ logic. The two systems are also very similar to the mechanistic and organic systems, as described in Table 2.1.

**TABLE 2.1** Mechanistic and organic management control systems

Mechanistic MCS	Organic MCS
Motivation through pay	Motivation through contributing to goals
Specialized, defined responsibilities	Cooperation, teamwork and interaction
Hierarchic communication	Horizontal communication
Formal and tight	Informal and loose
Supervision	Encouragement
Internal focus	External focus
Narrow cost and productivity measures for evaluation	Broader and mainly non-financial measures for learning
Planning and budgeting	Flexibility and creativeness
Technology and routines	People and culture

Source: Based on Burns, T. and Stalker, G.M. (1961) *The Management of Innovation*. London: Tavistock.

According to the creators of this framework, it is the need for innovation in the organization that determines what framework is the best fit for the organization. In an organization with a great need for innovation the organic system is the best fit, while a mechanistic system works very well in an organization with very little need for innovation. Of course, the need for innovation is to a large degree dependent on the environment of the organization. If the environment resembles that of a VUCA world – and Spotify would probably argue that it does – the need for innovation is very likely to be significant.

But if the organization’s environment is better described as stable, certain, simple and clear – as in the case of Ford – a mechanistic system may very well make a better fit, since cost-efficiency is probably more important than innovation and creativeness. It could be argued that McDonald’s is such a company, with stable demand and very little change in its offerings – a Big Mac looks more or less the same today as it did 40 years ago. Accordingly, the management control system of McDonald’s also has many similarities with the mechanistic system.

<sup>16</sup> The Agile Warrior (2017) The Spotify playbook. Available at: <https://agilewarrior.wordpress.com/2017/11/21/the-spotify-playbook/> (accessed 25 September 2019).



## Strategy

We discussed strategic goals and strategy above, and the strategy of the company is also a contingency that often has a significant influence on what type of management control system is best fitted to an organization. We are going to illustrate this with two Real World Examples of Porter's strategies.

**Real World Example:** When Ryanair restructured in 1992 it was with the clear strategy of becoming a low-cost alternative in the airline industry. This was going to be achieved through a strategy that included a number of features. Quick turnaround times in order to keep the planes in the air and an increase in the utilization of assets were important features. Another was working with smaller regional airports, because regional airports charge less for takeoffs and landings. Operating one single aircraft model was also an aspect of the strategy, as this reduces costs and increases flexibility for both maintenance and staff, since everybody is trained on the same type of plane. But perhaps the best-known feature is the 'no frills' strategy. By charging extra for whatever additional service the passenger wants, the basic price can be kept down. Later Ryanair also added online ordering and check-in, and even closed its check-in desks at airports to drive costs down further. Recently, Ryanair has received negative publicity since it refuses to give compensation to customers whose flights have been cancelled.

**Real World Example:** Linn Products is a Scottish audio equipment company involved in several technologies, ranging from vinyl to digital streaming. The company supplies Aston Martin cars as well as the royal household in the UK with sound systems. Linn is extremely devoted to product development and often comes up with original technical solutions. However, product development does not stop once the product is finished, as Linn continually develops the product after it is put on the market. This means that if you happen to be the owner of a Linn Sondek LP 12 turntable from 1973, you can upgrade it with the latest technology and make it sound as good as a new one.

Another aspect that Linn focuses on is the dealer, and certain demands are placed on the 'real' Linn dealers. One of the most important demands is that they have a separate listening room in the shop, decorated like a living room, which must contain only one set of loudspeakers at a time. At a conventional audio dealer the dealer has only to push a button if you want to compare different speakers, but at a Linn dealer the dealer will have to take out the two (or five if you are listening to a surround system) speakers in the listening room, carry in the others that you would like to listen to and plug them in.

This will, of course, cause much more work for the dealer, especially if you listen to many sets of loudspeakers! But the reason for this, according to Linn, is that if you are going to really hear what a set of speakers sounds like, you cannot have other, passive speakers in the room as they will interfere with the sound. However, Linn dealers claim that they make more money selling Linn, and this is because the customers value the extra quality in Linn's products and are willing to pay more for them. Linn customers are, in fact, extremely loyal and there is a joke in the industry claiming that Linn is not so much about technology as it is a religion!

What Ryanair needs is low costs, including cheap employees, in order to succeed with its strategy. Ryanair's management control system to a large degree resembles the mechanistic system, which according to contingency theory constitutes a good fit with this strategy. Linn, on the other hand, needs innovative and passionate product developers as well as equally passionate or 'religious' retailers to succeed. With this strategy a mechanistic management control system would probably have been a catastrophe, since it might have killed everybody's passion. An organic system, on the other hand, seems much more appropriate, even if it probably leads to higher costs.

We can also compare this discussion with the arguments put forward by Stan Sorscher in the Real World Vignette at the start of this chapter. The cost-cutting culture in Boeing that Sorscher talks about resembles the mechanistic system, whereas the quality culture Boeing had before resembles more the organic system. And when Sorscher claims that the cost-cutting culture may fit a commodity dealer such as Wal-Mart but not a high-end airplane producer such as Boeing, his arguments are perfectly in line with contingency theory!

However, it should be pointed out that not all examples are as clear-cut as these. At the beginning of the chapter and in the section titled 'Different types of organizational goal', we discussed IKEA, which just

like Ryanair, has a low-cost strategy. Does this mean that the management control system in IKEA resembles the mechanistic system? Even if parts of it might do that, corporate culture and loyalty from the workforce are some very important elements in IKEA and in these respects it definitely resembles more an organic system.

## Technology

Technology – that is, how the goods or services are produced – is also very important for the design of a management control system. Technology is important for many reasons, not least because management control system theory has predominantly been developed for manufacturing organizations. By manufacturing organizations, we mean organizations whose main activity is to produce and market tangible goods, and which carry those goods in inventory before selling them on markets to earn a monetary return.

In contrast, we talk of service organizations where service delivery is the main activity an organization performs. Such organizations typically differ from manufacturing organizations in that they produce and market intangible services, are highly reliant on the expertise and creativity of professional employees, and are less able to rely on standardization of operations and procedures. Even if this is something of a generalization as manufacturing can be very complicated and service highly standardized, let us for the sake of argument accept this generalization for the moment. These characteristics, then, have several consequences for the nature of the control problems in such organizations and the way in which management control systems can be designed and used to help handle those problems. Let us take a closer look at some of the common differences between manufacturing and service industries.

Goods can be held in an inventory, which is a buffer that dampens the impact on production activity of fluctuations in sales volume. Services cannot be stored. The airplane seat, hotel room, hospital operating room, or the hours of lawyers, physicians, scientists and other professionals that are not used today are gone for ever. Thus, although a manufacturing company can earn revenue in the future from products that are on hand today, a service company cannot do so. It must try to minimize its unused capacity.

Moreover, the costs of many service organizations are essentially fixed in the short run. In the short run, a hotel cannot reduce its costs substantially by closing off some of its rooms. Accounting firms, law firms and other professional organizations are reluctant to lay off professional personnel during periods of low sales volume because of the effect on morale and the costs of rehiring and training.

A key variable in most service organizations, therefore, is the extent to which current capacity is matched with demand. Service organizations attempt this matching in two ways. First, they try to stimulate demand in off-peak periods by marketing efforts and price concessions. Cruise lines and resort hotels offer low rates in the off season; airlines and hotels offer low rates at weekends; and public utilities offer low rates on slack periods during the day. Second, if feasible, service organizations adjust the size of the workforce to the anticipated demand by such measures as scheduling training activities in slack periods and compensating for long hours in busy periods with time off later. The loss from unsold services is so important that occupancy rates, 'sold hours', load factors, student enrolment, hospital admissions and similar indications of success in selling available services are normally key variables in service organizations.

Another difference is that a manufacturing company can inspect its products before they are shipped to the consumer, and their quality can be measured visually or with instruments (tolerances, purity, weight, colour, and so on). A service company cannot judge product quality until the moment the service is rendered, and even then the judgements are often subjective. Restaurant management can examine the food in the kitchen, but customer satisfaction depends to a considerable extent on the way it is served. The quality of education is so difficult to measure that few educational organizations have a formal quality control system.

A major difference is that manufacturing companies add equipment and automate production lines, thereby replacing labour and reducing costs. Most service companies are labour intensive and cannot do this. Hospitals do add expensive equipment, but mostly to provide better treatment, and this increases costs. A law firm expands by adding partners and new support personnel.

Some service organizations operate many units in various locations; each unit is relatively small. These organizations include banks, fast-food restaurant chains, car rental companies, petrol service



stations and many others. Some of the units are owned; others operate under a franchise. The similarity of the separate units provides a common basis for benchmarking and evaluating performance not available to most manufacturing companies. The information for each unit can be compared with system-wide or regional averages, and high performers and low performers can be identified. However, because units differ in the mix of services they provide, in the resources they use and in other ways, care must be taken in making such comparisons.

For many service organizations, comparison between goal and output is complicated, impossible or even misleading. For example, in the financial services industry, the 2008 financial crisis showed that performance in the short run was inconsistent with performance in the long run. Selling subprime mortgage loans to people who would not be able to repay them in the future is a good example of the resulting problem. Selling loans may, indeed, contribute to the organizational goal of turnover in the short run, but loans not repaid clearly work against goal attainment in terms of value maximization in the long run. Such timing differences are especially frequent in service delivery, because of the lack of hard and timely measurements of actual outputs with many services.

The problematic measurement of actual outputs is also dominant in service organizations that are part of the semi-governmental sector. For example, the actual outputs of hospitals are also notoriously hard to describe in real time, as some cures and treatments deliver their true effects many years down the road. Some of these effects can best be described in terms of preventing certain illnesses or further health deterioration, which again does not lend itself to immediate and objective measurement. Organizations with a not-for-profit goal face comparable difficulties, with outputs sometimes best described in terms of their societal impact, and in other cases by the amount of funds collected.

This discussion seems to imply that while manufacturing organizations often benefit from management control systems with a focus on throughput and output controls, service organizations more often benefit from systems with a focus on throughput and input controls. While manufacturing organizations often benefit from a mechanistic system, service organizations rather benefit from an organic system. That services often are produced in cooperation with the customer while goods are not, that service production often requires highly skilled professionals while manufacturing does not, and that service organizations often can rely less on standardization, all point in that direction.

However, even if this quite often is the case, it is as stated above also something of a generalization. We have already mentioned that McDonald's has a rather mechanistic management control system, while audio system manufacturer Linn has a much more organic one. But if we consider that the service process of McDonald's, serving hamburgers, is rather simple, standardized and that the company wants to keep costs down, it still makes sense. Likewise, if we consider that Linn produces complicated, high-end products and competes on quality rather than price, it also makes sense. This is a good illustration that different contingencies actually may, and often do, point in different directions and that reality is often more complicated than we think!

## Summary

There are two main views on why and for whom organizations exist. According to the shareholder view, the purpose of organizations is to fulfil the goals of their owners. When we discuss the goals of the owners we usually think about high profitability and low risk, but they can have other or additional goals depending on the owners and what type of organizations we are referring to. According to the stakeholder view, organizations do not exist just to satisfy the owners' goals, but to satisfy the demands of a number of different groups, including the owners. Stakeholders are groups that both contribute to and benefit from the organization, and groups commonly referred to as stakeholders include, apart from owners, customers, employees, suppliers, lenders and society. All these groups must be adequately satisfied to continue to contribute to the organization in order for the organization to survive.

There are two strong movements that relate to this discussion. These are corporate governance, which relates to the shareholder view, and CSR, which relates to the stakeholder view. There are at least two important drivers behind the increased focus on corporate governance. One is the expansion of new owner categories such as pension funds and mutual funds. Another is the increased legislation, such as SOX in the United States, following a number of accounting scandals there. Corporate governance can be executed in a number of different ways, including the appointment of board members, meetings between owner representatives and managers, auditing or, quite simply, the owners selling their shares if they are not satisfied.

CSR is about an organization's voluntary concern about social and environmental issues. The drivers behind the increased interest in these issues during this millennium include globalization and increased pressure from stakeholders including the media. In order to protect themselves from bad publicity most organizations have started to work systematically with CSR. Just like corporate governance there are many methods to use when working with CSR, including formulation of a code of conduct, sustainability reporting, and nurturing of organizational values and culture in line with good ethics.

The board of directors and top management need to think through their position when it comes to the shareholder view vs. the stakeholder view. This position will have a major impact on how mission, goals and strategies are formulated. An organization's mission (or purpose, as some managers call it) concerns the reason why the organization exists. Organizational goals may be of many different kinds, such as financial and strategic goals. Financial goals are related, for instance, to how fruitful the owner's investment is. Strategic goals often describe how the organization is going to gain or sustain its competitive advantage.

When deciding how to design a management control system, top management also needs to consider the contingencies of the organization. The contingencies include, among other things, the environment, the strategy and the technology. An organization facing a stable and certain environment, deploying a low-cost strategy and a manufacturing technology, is likely to benefit from a mechanistic approach, including a focus on throughput controls in a 'coercive' manner. On the other hand, an organization facing a dynamic and uncertain environment, deploying a differentiation strategy and a service technology, is more likely to benefit from an organic approach, including a focus on input controls in an 'enabling' manner.

## Suggested additional reading

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## Case 2.1

# Gyros: a drama in three acts\*

by Göran Nilsson and Jaan Grünberg

### Act I: Euphoria

The biotechnology company Gyros is based in Uppsala, Sweden, and supplies a technology for analysis of liquid through micro-channels in what looks like a CD. It was founded as a spin-off from the major life science company Pharmacia around the turn of the century. Around this time there was great optimism in society in general, and among investors in particular, concerning high-tech companies in industries such as IT, telecoms and biotech. These kinds of enterprises received substantial coverage in the media and were generally valued very highly on the stock market. Accordingly, access to capital was very good for those who wanted to start new ventures. The same was also true of human capital, since Pharmacia moved out and left literally hundreds of highly competent researchers in the Uppsala region for other employers like Gyros to hire.

The generosity among the investors continued during the whole first act, which lasted for a couple of years. Whenever there was a need for more capital it was usually only a matter of asking somebody in top management, who would pick up the phone, call one of the owners/board representatives and get a positive confirmation on the request.

The enthusiasm in society and among investors was very much shared by the CEO and his management team. Since the CEO was very charismatic he also spread his enthusiasm down through the organization. The willingness of the owners to put in more capital whenever it was needed also sent a signal that supported this process. Management also invested in a great many social activities and parties for employees. The impact of this on the organization was also positive since the employees became very enthusiastic, worked hard and had lots of fun. Spirits in the organization were thus very high and Gyros was a pleasant company to work for.

The main task during this period was product development and this was also where the attention was directed. When prioritizing between speed, cost and quality it appears as if speed came first. Gyros also managed to create a product that it tried to establish on the market during this act, but the quality was not very good nor was the product sufficiently adjusted to specific customer groups' needs. In hindsight, top management think that the organization was far too focused on technology and not sufficiently focused on customer needs during this act.

### Act II: Turmoil

The environment characterized by great optimism turned to pessimism during Act II, which lasted for more than half a decade. This was partly due to factors like 9/11 and the global recession, but it was also due to the fact that the investor market now began to think that many companies similar to Gyros were probably significantly overvalued. One possible reason contributing to this was that many companies like Gyros failed to live up to the very optimistic and possibly unrealistic expectations of the market. This drastically decreased investors' willingness to invest. The situation changed from one where the investors were more or less throwing money at projects like this, to one where they were extremely cautious.

The owners of Gyros had by now become rather fragmented, which resulted in a complicated situation where the nervous owners were not only edgy towards Gyros and its management, but also to some

\* This case is based on a research study conducted by Göran Nilsson and Jaan Grünberg, both from Uppsala University.

extent in conflict with one another. The board meetings also became much more frequent and often rather stormy. The situation, according to top management, also resulted in a lot of demands on them to produce (preferably) optimistic plans and forecasts, followed by extensive evaluations, analyses and explanations as to why the goals in these forecasts were not met.

This situation put three tough demands on Gyros, in particular on its top management, which now also included a new CEO. The first demand was to supply the board with all the information it requested. The second demand was to secure enough financing to keep the ship afloat. The demands were both urgent. If they did not meet the demands concerning information to the board the board members would surely come back to them until they did, and if they still refused the managers could probably start looking for other jobs. The financing issue was equally urgent since Gyros could not survive without infusions of capital as long as they did not have any sales revenues worth mentioning. This brings us to the third and more long-term demand, which is to get a product out on the market and start selling.

Perhaps due to the very urgent nature of the first two demands, these took up virtually all of the managers' attention. For most of this act the managers were all occupied with serving the board as well as looking for additional sources of capital. But that did not mean that the managers were not aware of the third and more long-term demand. They were very much aware of it. The board reminded them of it constantly, they made several forecasts about how they would get a product out on the market and, perhaps most importantly, they were also very much aware of how important this was for the survival and success of the company. But there was simply no time to act on this demand since all of their time was devoted to fulfilling the other two more urgent demands.

This meant that top management had very limited time to manage and control the organization, which was left more or less to take care of itself. However, this does not mean that the organization was totally unaffected by the situation. Far from it. The most obvious impact was that it had to cut down significantly on employees, another was that the high spirits and optimism had evaporated. But when it concerned their daily work the employees had to conduct it more or less as they saw fit with very little direction or interference from top management. The employees thus continued their work and did not have to concern themselves much with top management's problems. This was seen as a much bigger problem by management than by the employees. According to top management this prevented them from managing the organization in a more customer- and market-oriented direction, and therefore delayed the time it took to get a product out on the market.

### Act III: ?

Your task is to put yourself in the situation of the top-management team in Gyros, during Act II. The members of the team are fully occupied with serving the existing and potential new owners with information. At the same time they understand that they cannot go on like this for ever. They have been in this frustrating situation for several years now and they increasingly realize that it is not going to change unless they do something radical about it.

As members of the top-management team in Gyros you need to answer the following questions.

#### Questions

- 1 Which are the most important problems that management is facing and how do these problems relate to one another? Which problems are at the root of the problems and which problems are more a consequence of the root problems?
- 2 What can management do about the situation? Can they do anything? Discuss one or more possible routes of action. Also discuss why you think or why you do not think that management would be successful if they choose this route (or these routes).



## Case 2.2

# Northern Light: growing pains\*

by Göran Nilsson and Jaan Grünberg

Joanna is the business development manager at a small but growing smart TV producer called Northern Light. The company has managed to compete with the elephants in the business through high quality, technological development and exclusive design, even though its prices generally are much higher than its competitors'. Even if the company is still very small compared to its competitors, it is growing steadily and has very good profitability. But what worries Joanna is that everything seems to be so unstructured and ad hoc at the company. People do not seem to have a plan or processes to follow, and just keep chasing whatever ball that they happen to put their eyes on.

The people in marketing come with new ideas to R&D all the time, and R&D seem to hear about or invent new technologies and functions all the time, especially since smart TVs took over. 'We have to be in the front line!', they keep saying. This also means that there are lots of last-minute changes when a new product is set into production and many of the changes are not very well prepared from a production perspective. If we then add the large number of varieties that are being produced and the fact that marketing always wants products a week ago, the situation gets very hectic. It may have worked well when there were only a few dozen people in the company, but now there are more than a hundred, and increasing.

Joanna got a degree in business administration a few years ago, but unlike most of her friends at the university she did not want to become a management consultant. She preferred to work for one organization and follow its development, rather than to move around all the time. When she meets her old friends she often says, 'I am a management consultant too, but I am faithful to one company!' The reason she ended up at a high-tech, male-dominated company like this is probably because of her father who is an engineer and used to be the manager of an ABB company. All of his stories about these kinds of organization have probably left a mark on her.

. . . but let's get back to her problems. The trouble is that there is no stability in the organization; everything seems to be changing all the time. The technology changes, customer demands change, the products change, and production orders and priorities also change all the time. Everything changes except the employees, that is. They seem to stay on, even if the company has to employ more people all the time. The employees are to a large extent technology buffs, who want everything to be as high-tech and sophisticated as possible. Joanna can't help thinking that the employees have a lot of freedom and that it is a bit of a kindergarten sometimes, especially in R&D.

A very popular trend is agile project management, but Joanna is not really sure what it is actually about. She has also been thinking about some other management and control models that have been discussed a lot. Lean management is of course something that has been discussed a great deal. Joanna is particularly interested in 5S and the standardizing of processes, and how this can create some structure in the organization. She has also been thinking about the balanced scorecard model and how it could help to measure things like costs, lead time and quality. She thinks that one problem is that they do not know how well they perform since they do not do much follow-up at all. She also wonders what other management and/or control models might help them. Neither lean management nor the balanced scorecard seem to be as fashionable as they once were.

Speaking of the balanced scorecard leads Joanna back to some of her father's stories about ABB and how it worked with what it called T50, autonomous teams and EVITA, the latter of which was balanced

\* This case is based on a research study conducted by Göran Nilsson and Jaan Grünberg, both from Uppsala University.

scorecards designed by the teams themselves. But somehow it does not sound very much like the twenty-first century, just like his old Pink Floyd records that he loves to play, she thinks and smiles.

#### Task

Your task is to help Joanna with her problem. Your discussion should address the following points.

- An analysis of the contingencies and problems that Northern Light is facing. Also discuss the important strategic considerations it must bear in mind and the choices it may have to make.
- An analysis and discussion of what you think will help Northern Light in its current situation. The discussion may be more general and/or could include more specific management concepts that you would recommend (or perhaps advise against). The discussion should result in a recommendation to Joanna.

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## Case 2.3

# Scania: a case of differentiation and low cost\*

by Anjou, A. (2008) Scantias framgång

Scania is a truck manufacturer owned by Volkswagen; it is interesting for several reasons. One is that it has for decades been very successful and profitable. It even managed to handle the financial crisis around 2009 without showing a loss in any year, in an industry that is extremely dependent on the ups and downs in the economy. Another reason is that it, through the use of a number of interesting strategies and solutions, manages to produce high-class trucks and at the same time be most cost effective. Selling trucks is a risky business because demand is very unstable and, as we have just mentioned, highly dependent on the state of the economy. During a boom, customers buy many trucks in order to both replace old ones and increase capacity, but during a recession customers buy fewer trucks. The up- and downturns in the economy are also hard to predict, especially in developing countries, where Scania has many customers.

Scania is extremely focused on the truck industry. It does sell related products, such as buses and engines for boats, but these are only spin-offs from the main product. Its strategy is to offer customized trucks of high quality, which look good, are easy to drive and offer a strong brand image. This, in turn, allows Scania to charge a relatively high price for the trucks and rumour has it that it never gives any discounts on the price. At the same time Scania claims to have very low production costs compared to those of its competitors. Deploying a strategy that combines high quality and customization with low cost is not a very easy task, but one reason why Scania has managed to do so is its so-called module system.

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\* Based on Anjou, A. (2008) Scantias framgång: betydelsen av strategisk kongruens och integrerad styrning. Linköping, Institute for Economic and Industrial Development, Linköping University.



Every truck built by Scania comprises a number of modules put together so that they will meet the specific need of the customer. This means that if a customer has a special request, all Scania has to do is change one small part of the truck, a module, whereas a competitor may have to design a whole new truck. The module system also makes it possible to combine different features in a more flexible way. Some of the modules are, of course, the same in many trucks and can, therefore, be produced in large numbers, which tends to keep the costs down. But the entire trucks – that is, the modules put together – are produced in very small batches, as they are made to meet the specific needs of every customer. The module system, therefore, makes Scania very flexible, as well as cost efficient.

Managers in Scania are mainly recruited internally, and have a sound knowledge of both operations and customers. They often have cross-functional meetings where they meet managers from other departments and discuss issues of mutual concern. Scania also has a production control system that it calls the Scania Production System (SPS); this has many similarities to the renowned Toyota Production System (TPS).<sup>2</sup> In fact, the two companies were brought together by a US professor, Thomas Johnson, as he thought that they were both exceptionally skilled and could benefit from learning from each other. SPS is based on the three basic values: customer first, respect for the individual and elimination of waste. Customer first implies that the customer is always the most important stakeholder. Respect for the individual deals with how people in the organization act towards one another. Elimination of waste is about removing everything that does not add value to the customer, thereby improving the working processes. The SPS also consists of four main principles that deal with standardized working procedures, quality, order-based production and continuous improvement. Every employee is expected to participate in the improvement work.

Scania has abandoned the old budget process in favour of rolling forecasts. The rolling forecasts are made four times a year for the following four quarters of a year and aim to increase Scania's flexibility.<sup>3</sup> Besides, it is not only the financial numbers that count. Scania has a number of key performance indicators (KPIs) divided into four areas: personnel, quality, delivery and costs. Apart from costs, its KPIs are mainly non-financial, and focused on the needs of customers and employees. The non-financial figures are believed to be more accurate and easier for employees to understand. The management control system in Scania is designed to support the strategy, including aspects such as flexibility, customization and high-quality products, but also low cost.

### Questions

- 1 How would you describe the external contingencies that Scania is facing?
  - a How do you think that the strategy fits with the external contingencies?
  - b How well do you think that the management control system of Scania fits with its strategy?
- 2 Scania's strategy, including its module system, which it has held on to since the 1950s, has proved very successful.
  - a Why do you think that Scania has managed to hold on to this strategy for so long?
  - b Given Scania's success, why do you think that its competitors have not copied its strategy?
- 3 Can you name other companies with a similar strategy and similar competitive advantages to Scania?

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<sup>2</sup> There is more about TPS and lean management in Chapter 6.

<sup>3</sup> Budgets versus rolling forecasts is a topic that we discuss in more detail in Chapter 8.



## Case 2.4

# BioTool: a biotech company's innovation journey\*

by Torkel Strömsten

### The invention

In 1953 Crick and Watson discovered the 'secret of life' when they built a model of the human genome at the University of Cambridge. Fredrick Sanger, also from Cambridge, in the 1970s invented a method that made it possible to 'read' or sequence human DNA, which also saw him awarded the Nobel Prize in Medicine in 1977. The development of the company BioTool is a story clearly linked with the two discoveries mentioned above, which also has its starting point in a laboratory in Cambridge.

One of the founders of BioTool, Patric Anderson, finished his PhD in chemistry at Stockholm University in 1986. Having decided to continue within academia he applied for a grant that would take him to Cambridge and England. The postdoctoral period at the Laboratory for Molecular Biology (LMB), Cambridge University, was challenging in many ways. Anderson's aim during that period in Cambridge was to sequence the gene for bovine mitochondrial phosphate-carrier protein and then learn how to sequence DNA according to the Sanger method – the dominant method then and still today. At this time, the Sanger method was very labour intensive and involved several tedious operational steps. For example, it involved the use of gel slabs, which also made it expensive. Anderson then started to think about different ways to improve the method, or rather simplify the handling of it. The idea was to follow 'the activity of DNA polymerase during nucleotide incorporation into a DNA strand by analysing the pyrophosphate during the process', as Anderson explained it. With a background within the research of photosynthesis, it was natural for Anderson to think about how enzymes could be used in the sequencing process, using pyrophosphates that in turn made it possible to achieve a light-driven pyrophosphate synthesis.

Anderson's idea was aligned with the Watson and Crick discovery that the nucleotides adenine, guanine, thymine and cytosine bind together two DNA strings only in certain combinations (adenine with thymine and guanine with cytosine, and vice versa). Anderson's idea was, when a test was going to be done, to add the nucleotides one at the time, together with a set of enzymes with different functions. With Anderson's background in enzyme research, he saw the possibility to use enzymes in order to decide the order of the nucleotides. If there is a hit (guanine are paired with cytosine) a chain reaction will start with the help of the enzymes polymerase, sulfurylas and luciferas, which will create a light flash that can be registered by a camera. One important piece of the puzzle was the idea to use apyrase, another enzyme. With this enzyme the surplus of the nucleotides is broken down and also takes out the light (ATP). The next nucleotide is automatically put in place and the whole process would then start over again until the whole sequence is mapped.

However, finding funding for the project proved very difficult. Back in Sweden, Anderson applied for funding in order to develop the method further, without any luck. However, he decided to use resources from other projects in developing his method and a first publication was accepted. Despite this,

\* This case was prepared by Torkel Strömsten PhD at the Stockholm School of Economics, as the basis for class discussion rather than to illustrate effective or ineffective handling of an administrative situation. The case is based on a longitudinal research project comprising more than 40 interviews. The case is complemented with a variety of secondary data. Names and figures have been disguised in order to maintain confidentiality.



Anderson was not able to attract research funds for developing his method. He thought that ‘one reason might be that this was not basic research. I was developing a method of DNA sequencing, a general method, and this seems generally to be harder to get money for. Sanger did for example study the mitochondria and in this process he developed his sequencing method.’

In 1990 Anderson moved to Uppsala University and became a full professor. He then started to cooperate with Donald McFarland, Professor in Biotechnology and some of his doctoral students around DNA sequencing. The contact with Donald McFarland was important in finding ways to commercialize the method. McFarland was well connected in both academia as well in Swedish business life. He had earlier started new ventures based upon his research. The next step was to make the method automated. A new set of people were then engaged, both professors and some new PhD students.

With funding from McFarland’s research group, up to eight PhD candidates worked on the project. Anderson had an idea that the washing step could be eliminated by utilizing a nucleotide-degrading enzyme. Soon after having worked on this, he managed to obtain data that could verify his theory. After some setbacks regarding how the sequencing showed false signals (solved by identifying and lowering the content of ATP sulfuyase), Anderson and his research group then used a new source of ATP sulfuyase, yeast.

Soon, they started to see results that could be commercially interesting. Anderson’s discovery in sequencing short strands of the human DNA was taking place when the Human Genome (HUGO) project was initiated. The HUGO project was given considerable attention in the media, and Anderson and McFarland discussed how their invention could be linked to what the HUGO project did.

The initial idea was to start with the sequence of short and middle short DNA strands and then develop the instrument into a full-scale whole genome sequencing method. With the HUGO project behind them, the inventors saw that there would be an increased need for drug discovery to know more about the human genome on a more specific level. The HUGO project had sequenced the total human genome. What Anderson and his research group could do with their method was to sequence short and middle short DNA strands, but also single bases, so-called single nucleotide polyphosphates (SNPs). SNPs would give researchers viable information about missing things in the human genome and in the development of new drugs.

A first idea was to find a large company that could license the method and take it out to a market. One choice of partner in Sweden for this type of method at this time was Biopharma, a division within a local pharmaceutical company. Anderson had earlier established a cooperative agreement with Biopharma’s exploratory research group. However, around 1996, Biopharma was in transition to merge with the American pharmaceutical company Upjohn, and was about to sell its biotech division to Britain’s Azra Medical. The new company had no interest in Biopharma’s exploratory research group and would not invest in the technology. As Biopharma showed no interest in the invention, the manager at the exploratory research group, Charles Labbé, decided to join Anderson and his team, and to create a company around the method: BioTool.

A patent was acquired based on the sequencing-by-synthesis. According to Anderson it was not a strong patent but ‘controlling it would make the discussion with the venture capitalists easier. It could create worries and that was not considered good of course.’

As it turned out, McFarland with his expanding network in the Swedish life science cluster, had become a scientific adviser to a newly formed venture capital firm, SLS Cap. As a consequence, Anderson, McFarland and Labbé started to discuss with SLS about a partnership and a potential seed investment in BioTool.

SLS Cap describes the situation like this: ‘Our reason to invest in the firm was at the time the technology’s possibilities to perform short and middle short DNA sequencing for clinical diagnostics. We were very excited about the development, when Anderson managed to develop the protein to increase the read length’ (King, founder, Scandinavian Life Science Capital).

Having invested in just two firms before, SLS Cap invested SEK20 million into the new company in 1997. It was decided that BioTool was to be located in Uppsala, a city with a long tradition in developing biotech tools for the pharmaceutical industry.

SLS Cap was a young venture capital firm, founded in 1995 by two investment bankers, one with a background within life science academia. SLS Cap could benefit from knowledge from one of the most prominent venture capital firms in the world, namely Lingfield Venture Partner. Through its network, one of the founders of the Boston-based venture capital firm assisted SLS Cap and was also used on its advisory board: 'He has been very generous with sharing his knowledge and experience. This has made it possible for us to act in ways that we would not have been able to do otherwise. So, we have benefited greatly from his knowledge about how to run a venture capital firm.'

However, the technology to develop the read length of the DNA strands proved to be hard to develop and make robust enough. In the end, the plans and sales budget were estimated based on the future SNP market. To split the firm into two application areas was not seen as a positive thing and the efforts to develop the technology made by Anderson and his research associates at Uppsala University were not further developed by the engineers at BioTool. Instead, the SNP market became the focus for the firm and, as a consequence, the technology was geared towards this user group. 'We thought that all laboratories should have a BioTool instrument, just like the PCR machines. And based on that we could figure out how much money we would sell for. Even if we only would reach 10 per cent, it would still be a lot of money' (Patric Anderson, inventor).

The view of the market was rosy. The value of the SNP market was recognized to be about SEK1 billion in 1999. The growth of the SNP market was thought to be 35 per cent annually and, in 2004, the market would be worth SEK6 billion. The firm planned to reach break-even in 2002 and, in 2004, the turnover would have reached some SEK1.5 billion, thus a market share of around 25 per cent. Then it would, according to the plan, be a profitable company, employing about 300–500 people.

## Building the company

Since the bulk of the people engaged in transforming the BioTool technology into a product had their background in one of the world's largest biotech tool companies, Biopharma, with decades of experience in developing tools for drug development and testing in the later phases of clinical tests, it was in this area that they were most able to identify applications.

In order to get the firm up and running, a 'serial CEO' was hired. This CEO of a so-called venture partner of SLS Cap had worked as CEO and general manager at several start-up firms, and brought with him a 'starter kit' to get BioTool up and running quickly. To save time, the CEO brought in the same accountants he had used before and the same business reporting system was put into use. One decision that in hindsight would prove to be important was that he used the same software company that previously had been used for other companies. Overall, the CEO chosen by the venture capital firm had a strong influence on the development of the firm's administrative routines.

Product development was concerned with 'productifying' the research of Anderson and McFarland. These activities took place in parallel with the organizational development activities. Milestones related to developing prototypes of the instrument were decided upon.

It was decided that the product would be part of a 'system' that would consist of three parts: an instrument (where the DNA analysis was conducted); a reagent kit (which was needed in order to conduct the analysis); and a software program (where the analysis could be visualized and analysed together with results from databases). The idea was to use a 'razor blade' business model, selling hardware and software systems that in turn would consume reagents. It was by selling reagents that the actual profit was going to be made. The instrument, TJW348, could read 348 tests simultaneously and manage about 15,000 tests a day. Capacity-wise this would surpass alternative technologies. The software program should be



able to foresee theoretical results for the analysis, create a database for the SNP sequences and enable a qualitative assessment of the data collected.

*Even if it is difficult for the R&D people to assess how much money will be used, they know the most important milestones and are able to say how long it will take to develop the product. Then it is easy to determine whether we are behind or ahead time-wise according to the development plan. It was about developing P0, P1, P2 and so on . . . that is, different generations of prototypes, how long it should take and how much it would cost. We revised development costs every month.*

After the first phase of setting organizational routines, the CEO was replaced with John Sanders in 1998. Sanders had a long background within the biotech industry and had worked for both Biopharma, ABI and Optipharma, another Uppsala-based biotech supply company.

Thus, the venture capital firm and the management started the process of developing 'milestones' to be reached within certain time frames. These milestones involved, as mentioned above, first the development of prototypes. Second, there was a need for a certain number of employees in order to reach the different prototype milestones. Third, in order to launch the product, the firm would have opened up a subsidiary in the United States. Further, the commercial market for the BioTool technology was defined. John Sanders put it like this in the annual report from 1999: 'This [the market] is not the DNA sequencing market as such, but rather the segment of applied genomics that studies genetic variability between individuals.'

Sanders and his management team, as well as the board of directors, decided that the company was going to approach firms and academic institutions that were involved in the early processes of drug discovery, where SNPs were assumed to become a major tool in the identification of target molecules. This meant that the potential users were decided to be researchers in academia, pharmaceutical companies, and companies active in drug discovery or similar activities. For the users, the benefits in relation to the traditional DNA sequencing methods, electrophoresis and hybridization would, according to the firm, be a technology that was more reliable, user friendly, faster, more cost effective and flexible.

The process of translating the new technology to a product was also permeated by the formulation of milestones to be reached in a certain time. One of those involved in the development of the instrument put it like this: 'Everything was designed to shorten the time to achieve different milestones. Time objectives were of great importance. The quality as well was certainly important, but cost was never an issue. We never compromised on time and quality.'

The majority of the R&D staff came from Biopharma. Having been part of a large multinational company they were not used to the routines of working within a small start-up. They were more used to competing for resources, and had experienced that delays or running over costs might be harmful in the next allocation phase. Working for BioTool was a different experience, as is illustrated in the following quote:

*The R&D staff were very worried about costs running over budget by some SEK10 million. Once they came to me and said: "We need more money, because TechCo [a supplier] wants 10 million more than we had estimated." In a few hours I phoned the board members and secured the money. This was totally new for these people and very encouraging, and it increased their loyalty to the company.*

For the venture capital firm, the logic is well described by the venture partner: 'For the venture capitalist, it means so much that a company is successful, and so very little that a firm does not perform well. So, in a fund, if there are just a few companies that perform well, it is those companies that make the fund successful. Therefore the venture capitalist invests more and more in those companies. It is very

seldom that a venture capitalist invests more money or time in a firm when it is underperforming. Often they know early on what firms will do well.'

BioTool was growing at a very fast pace from its start in 1997, in terms of numbers of employees. The company was far from profitable however; break-even was moved forward and was now planned to happen in 2005. The company's head office and production facility were located in Uppsala, Sweden, and a US sales office was soon opened located in San Francisco, California. In Japan and some other countries BioTool was represented by independent distributors and agents. Early on, the BioTool management also became involved as shareholders through stock options in the company.

The board of directors was filled with owners and other representatives that could give the firm legitimacy. Among others, a Nobel Prize winner was elected to the board, as were well-known industrialists with backgrounds in some of the best-known Swedish firms. SLS Cap was of course also represented on the board as the major owner of the firm.

The early route outlined for rapid development and launch of an instrument dedicated to a certain, well-defined production step in DNA analysis also left imprints on the development of BioTool's production facility. Considerations of how the BioTool System was going to be combined with other instruments or production facilities on the customer side (in which producer-user interfaces were going to be activated) had to be decided in advance. Since a rapid launching of the instrument was such an important issue for the management, to set up its own production unit for the hardware was not a possibility. While the Stockholm-based Radical Tech was the first supplier used for prototype development, JointInc in northern Sweden later became the main supplier. JointInc provided the whole physical production process and stock-keeping for BioTool.

Considering the interaction around the BioTool System from the users' perspective, a system consisting of a large number of activities was outlined, where the DNA analysis was the last in a chain of more or less closely related items. Before being used in the BioTool System instrument, a choice of which SNPs to analyse had to be made. This choice was dependent on the application area and the numbers of SNPs in focus. These could vary from one single SNP to hundreds of SNPs. Second, the customer had to design and develop an assay for each one of the SNPs. This central activity was time consuming and also labour intensive. How labour intensive depended on the analysis system used. The third step involved so-called PCR amplification and preparation of the tests. The number of tests per SNP can vary between one and hundreds, and the scope of this step also varies among different suppliers' systems. The fourth and last step concerns the DNA analysis (which BioTool supplied), post treatment and evaluation of data.

When deciding on what activity to develop in this cycle of activities, BioTool chose to go only for the DNA analysis, partly because this was the activity that was in general seen as the bottleneck in the process, but also because this made it possible to focus on something manageable. Having tried to cover or integrate BioTool in the other activities would not have been a viable strategy since it would involve more resource and extend the development phase further. This was also a strategic choice that fitted into the logic to reduce the time from prototype to a ready-to-sell instrument.

Many, if not all, of the milestones developed around the product were also met. In fact, BioTool seemed to be able to fulfil most of the goals created by the venture capital firm. John Sanders put it like this in the annual report for 1999: 'We met every key milestone set for 1999, culminating in the commercial introduction and first sales of BioTool System . . . '.

After this statement the key milestones are described: Alpha and beta site testing completed, serial production started, commercial availability, sales and support office opened in San Francisco, USA, sales force established, first orders from USA and Europe received, patent portfolio strengthened, private placement raises SEK120 million . . . along with developing relationships with renowned opinion leaders who, through their publications in prominent research journals, could contribute to the verification of the new method (of utmost importance to any supplier of research instruments).



## Finishing the product development and IPO

After three years as a company, BioTool launched its first product, the BioTool System, in late 1999. The tough time schedule meant that the product (or system) was developed rather close to the original idea of how the technology could be used. In order to keep to the tight time schedule the firm continued to hire people. The instrument was developed, prototypes were out for test usage at potential customers. BioTool's supplier, JointInc, started to produce the BioTool System and in November that same year the company got its first customer when a large US pharmaceutical company purchased a BioTool System. The price of the instrument was decided to be in the range of SEK750,000. In this price, the software program was included but not the reagent kit necessary to conduct the DNA analysis.

The results from the first installations revealed that the users found the system easy to use, fast and reliable. Once the customers were educated on the instrument, they did not demand a lot of support to interpret the result of the DNA analysis. The first customer put it like this: 'It is an important system for us. It is indeed reliable as it has a built-in control, which makes the instrument very fascinating. I think everybody in industry engaged in drug discovery finds it fascinating actually.'

The competitive landscape consisted of both small start-ups like BioTools as well as established life science companies. However, no competitor could match the easiness and precision in the analysis that BioTool could provide.

In fact, soon the US pharma giant had purchased another system, and within a year had invested in five systems all in all and had become a prime reference customer for BioTool. More companies and academic institutions followed as customers. For example, Harvard Medical School purchased a system, as did other leading academic institutions.

Only three years after investing in the company, SLS Cap could provide its investors with an 'exit'. The firm was a success story of great magnitude. BioTool received some SEK875 million in the IPO. The company's shares were offered at a price of SEK100 in 2000. The IPO was a great success, was heavily oversubscribed and created massive interest nationally as well as in the international press. Soon the stock price went up to SEK200, just a few months later the same year. The valuation of the firm went from SEK3 billion to SEK5 billion in just a few months. SLS Cap stayed as a major owner after the IPO, together with two of the founders, Patric Anderson and Donald McFarland.

### Questions

- 1 The management control system is implicitly described in the case, but what can you say about it? Does it seem to work well? What type of control practices are used, and why?
- 2 In what way do you think the owners influenced the 'innovation journey' of BioTool?
- 3 What does the future of the company look like? Justify your answer? In what dimensions does it look good? In what dimensions can you see problems arise?

## Case 2.5

# Tesla: climate change and the future of the electric vehicle

by Dr Emma Sjöström, Misum

On 29 June 2010, Tesla Motors' CEO Elon Musk rang the bell at the NASDAQ opening ceremony, accompanied by his colleagues, his wife and his young twin sons. Tesla Motors was the first American car-maker to go public since Ford's launch in 1956.

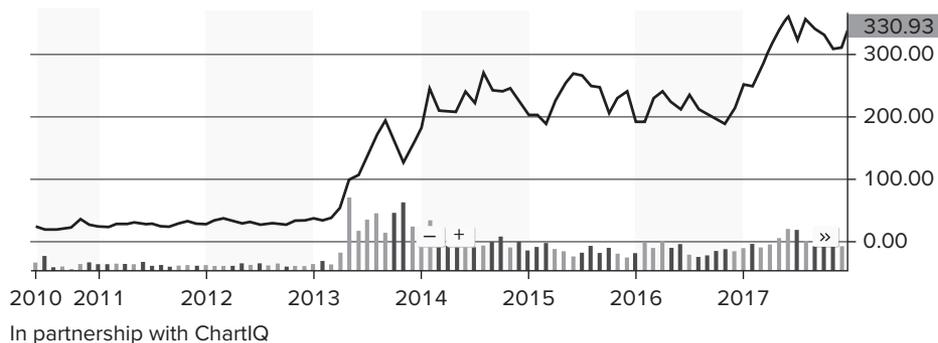
The stock market embraced Tesla; in fact, the company's share value increased 41 per cent on its first day of trading alone. This was two years after the all-electric sports car, the Tesla Roadster, first started roaming the streets: the company's only model so far. The media reported that a 'potent mixture of star power and eco chic' fuelled the strong debut at the stock exchange.

A new model was introduced to the market every two or three years. The stock price kept rising. In September 2012, the stock traded at US\$29.35. A year later, it traded at US\$190.90; in September 2014 it reached US\$279.20. There was big debate, however, as to whether or not Tesla was a sound investment. While its stock surged, some critics warned of a 'Tesla bubble'. In April 2017, Tesla was worth more than Ford, in spite of Ford having sold more than 58 times the amount of vehicles as Tesla in 2016 (see Exhibit 1 for the Tesla stock chart). Tesla's market gap to auto manufacturer General Motors was about US\$3 billion. Only once, in October 2016, had Tesla posted a profit.

As Elon Musk arrived in the office on a December day in 2017, he was thinking about the questions he had received at a recent press event: Would he be able to deliver enough batteries? What were his thoughts on the reports of child labour in the supply chain? How was the company going to reduce CO<sub>2</sub> emissions in production? These were all valid questions.

Musk turned on his computer and started writing a document titled: *Macro-Environmental Factors: What Will Influence the General EV Market – Particularly Tesla – Over the Next Five to Ten Years?* What should he put on the list?

**EXHIBIT 1** Tesla, Inc. stock price through 31 December 2017



Source: Yahoo Finance.



## Climate change: a game-changer for business

The Paris Agreement was adopted to the sounds of enthusiastic whistles and resounding applause on 12 December 2015. A major victory was the legally binding goal to hold global temperatures ‘well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius’. The Paris Agreement, which was ratified by 174 countries of the 197 parties to the United Nations Framework Convention on Climate Change, set out a global action plan to put the world on track by avoiding dangerous climate change.

France’s foreign minister, Laurent Fabius, led the Paris conference and said that this ‘ambitious and balanced’ plan was a ‘historic turning point’ in the quest to reduce global warming.

Governments were committed to fulfilling the Paris Agreement, and the business sector was expected to contribute as well. In actual fact, the business sector did not have much of a choice. Climate change had also become a competitive issue, implying severe business risks, such as disrupted supply chains, and presenting opportunities for innovation of products, services and business models. In 2015, Unilever’s CEO said natural disasters linked to climate change cost his company about €400 million a year. Meanwhile, thanks to energy efficiency programmes in the manufacturing process, companies such as GM and Ford had reduced CO<sub>2</sub> emissions as a means to improve their bottom lines, by offering fuel efficiency in the user phase.

In order to thrive – or even survive – companies and investors needed to understand how climate change would impact markets, regulation and operations and, thereby, take corresponding action.

### Electric vehicles

Electric vehicles (EVs) were marketed as a more climate-friendly option to internal combustion-engine (ICE) cars. EVs used electric propulsion, which was energy efficient and did not cause local emissions (see Exhibit 2 for definitions of the different kinds of automotive engines).

#### EXHIBIT 2 Different types of engine

##### **ICE – internal combustion engine**

ICEs are traditional engines, powered by gasoline, diesel, biofuels or even natural gas. While today’s ICEs are significantly more efficient and have lower emissions than those from decades ago, the fundamental technology – burning fuel to create power – remains the same.

##### **HEV – hybrid electric vehicle**

The HEV – such as the Toyota Prius – is powered by a combination of an ICE and an electric motor (hybrid vehicle drivetrain). The batteries can be charged in a few ways, either by spinning an electric generator when the ICE is operating or, in some cases, by converting the vehicle’s kinetic energy into electric energy through systems like regenerative brakes.

##### **PHEV – plug-in hybrid electric vehicle**

PHEVs are in many ways very similar to HEVs in that they have a hybrid vehicle drivetrain and use both an ICE and electric power. Their rechargeable battery can be charged by plugging in to a power source. When the battery is depleted, the plug-in hybrid starts acting as a regular hybrid, with the combustion engine taking the role of primary power source.

##### **BEV – battery electric vehicle**

The BEV has no ICE or fuel tank at all, and runs on a fully electric drivetrain powered by rechargeable batteries. These vehicles need to be plugged in to a power source to charge, and depending on the vehicle, they have varying charging times and driving ranges.

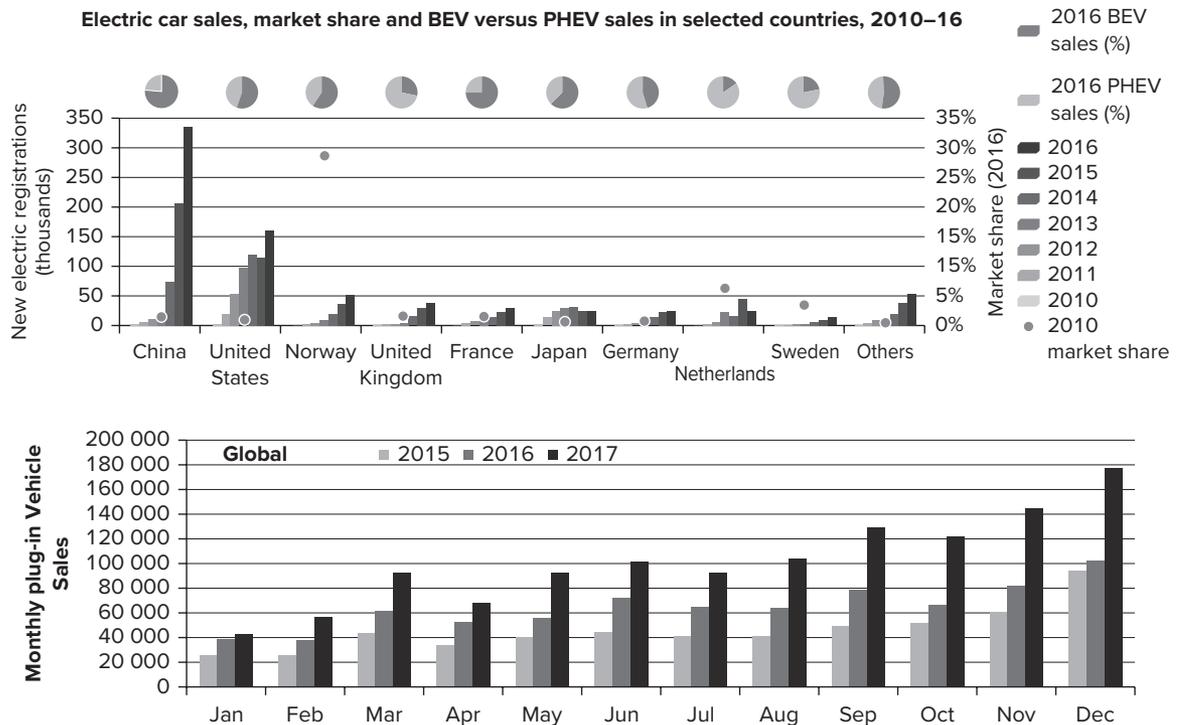
Source: Canadian Fuels Association.

Electric cars relied on regular charging from the local electricity network, so the extent to which they were an environmentally superior alternative to ICE vehicles in the user phase depended largely on the local energy mix. A Norwegian report stated that, from a life-cycle perspective, EVs caused fewer CO<sub>2</sub> emissions than cars with internal combustion engines – that is, conventional vehicles. This calculation was valid when using the average European electricity mix, and including the energy consumption for extracting, preparing and distributing energy, as well as emissions from production. However, it may not hold true for a country such as China, where 60 per cent of the country’s energy consumption in 2017 came from coal.

A Swedish study, however, which also adopted a life-cycle perspective, stated that an electric vehicle emitted more CO<sub>2</sub> than a moderately consuming diesel vehicle. This would largely be due to the carbon footprint of producing the lithium-ion battery packs that powered all-electric vehicles. The study estimated that manufacturing an EV battery could produce the same CO<sub>2</sub> emissions as driving a diesel car up to 250,000 km. Industry representatives pointed out that the study looked in the rear (view) mirror: the calculations were based on what battery production had looked like until today, yet did not account for potentially less emission-intense manufacturing in the future.

Electric cars were no longer purely an environmental statement; they were also a symbol of technological status. The enthusiasm for EVs was mirrored in worldwide sales, which continued to rise. Global plug-in vehicle deliveries reached 1,223,600 units in 2017, 58 per cent higher than for 2016. These included all battery electric vehicles (BEVs) and plug-in hybrid electric vehicle (PHEV) passenger car sales, light trucks in the USA/Canada and light commercial vehicle in Europe; 66 per cent of sales were pure electric and 34 per cent were plug-in hybrids (see Exhibit 3).

**EXHIBIT 3** Global electric vehicle sales



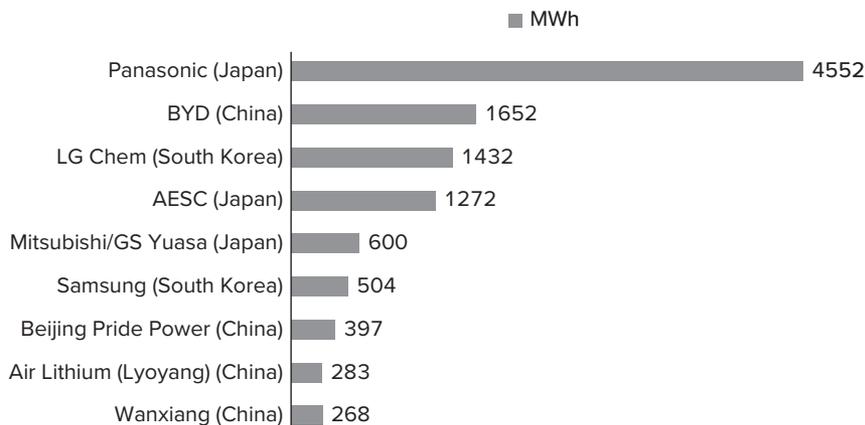
Source: International Energy Agency (2017) and EV-volumes.com (2017).

China had increased its significance as a market and as a manufacturing base for electrically chargeable vehicles, accounting for roughly half of the 1.2 million plug-in electric vehicles sold worldwide in 2017. Chinese carmakers made 47 per cent of all plug-in electric vehicles sold in 2017.

Plug-in vehicles captured a world market share of just 1.3 per cent. In 2017, several established carmakers, from Jaguar Land Rover to Volvo Cars, announced plans to bring electric versions of their vehicles to market in the next few years. According to forecasts, electric vehicles were expected to be 30 per cent of new car sales by 2040.

The battery industry's success was closely tied to the EV industry's success. Batteries accounted for up to half an EV's cost of production. Japanese Panasonic was the world's largest supplier of EV batteries globally (see Exhibit 4). It was also building the so-called Gigafactory in Nevada, USA, with Tesla. The construction of Northvolt, Europe's largest battery factory, was scheduled to begin in 2018. The full factory would be completed in 2023 and would produce 32 GWh per year in Sweden in 2018, with a focus on green battery technology.

**EXHIBIT 4** Top EV battery manufacturers, MWh per year (2015)



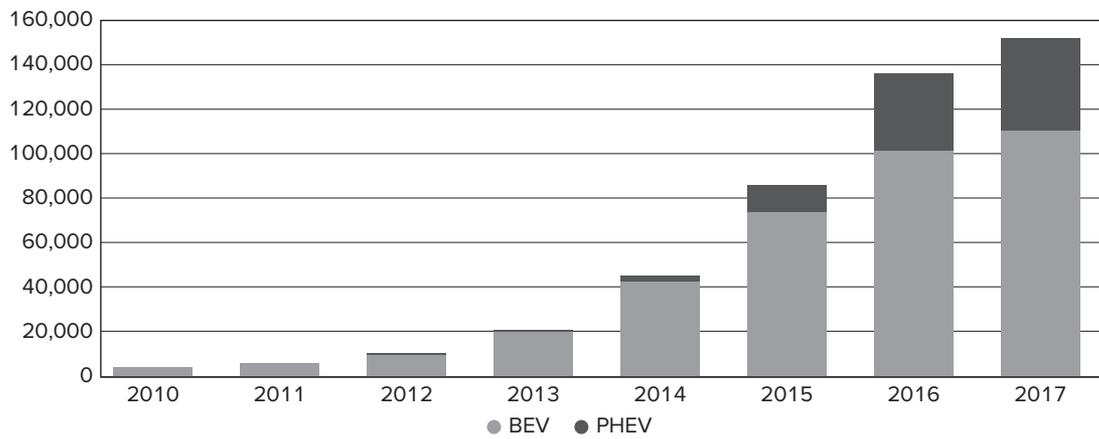
Source: CleanTechnica (2016).

Cobalt was a critical raw material in lithium-ion battery production. It had been reported that dangerous working conditions, risks to people's health and child labour were huge problems in the cobalt mines of the Democratic Republic of the Congo (DRC). Two-thirds of the world's cobalt was found in the DRC, which was one of the world's poorest and least developed countries.

### Norway: EVs hit record levels

Norway stood out as a country where electric vehicles had penetrated the market exceptionally well. The country, with a population of only 5 million, had more than 10 per cent of the global all-electric car fleet. Electric car sales (not including plug-in hybrids) rose to 39 per cent in 2017 from 29 in 2016. If PHEV cars were added to this, total sales of electric cars rose above half of new registrations in Norway in 2017 (see Exhibit 5 for a chart of the EV fleet in Norway).

The country had the goal that 100 per cent of new car sales by 2025 would come from zero-emission vehicles. According to analysts, the achievements were mostly limited by the supply and not the demand, even considering that, more than in almost all markets, 15 different all-electric models were offered in Norway.

**EXHIBIT 5** Electric vehicle fleet in Norway

Source: Elbil.no (2017).

The history of electric vehicles in Norway began in 1970. Climate policy was the main driver behind the development. Norwegian greenhouse gas emissions totalled 53.9 million tons of CO<sub>2</sub> equivalents in 2015, of which those coming from domestic road traffic accounted for approximately 19 per cent. While road traffic emissions had been stable the last few years leading up to 2015, they had increased 30 per cent since 1990. Considering that 98 per cent of Norwegian energy came from hydroelectric power plants, and since EVs in Norway used domestically produced energy, driving an EV as opposed to a conventional vehicle was considered to reduce CO<sub>2</sub> emissions by 100 per cent.

#### Government interaction

The Norwegian government had played a central role in establishing the Norwegian EV market.

According to the EV Norway website: 'Norway has what is probably the world's best incentives for zero emission vehicles and correspondingly the world's highest number of electric cars per capita by a wide margin.'

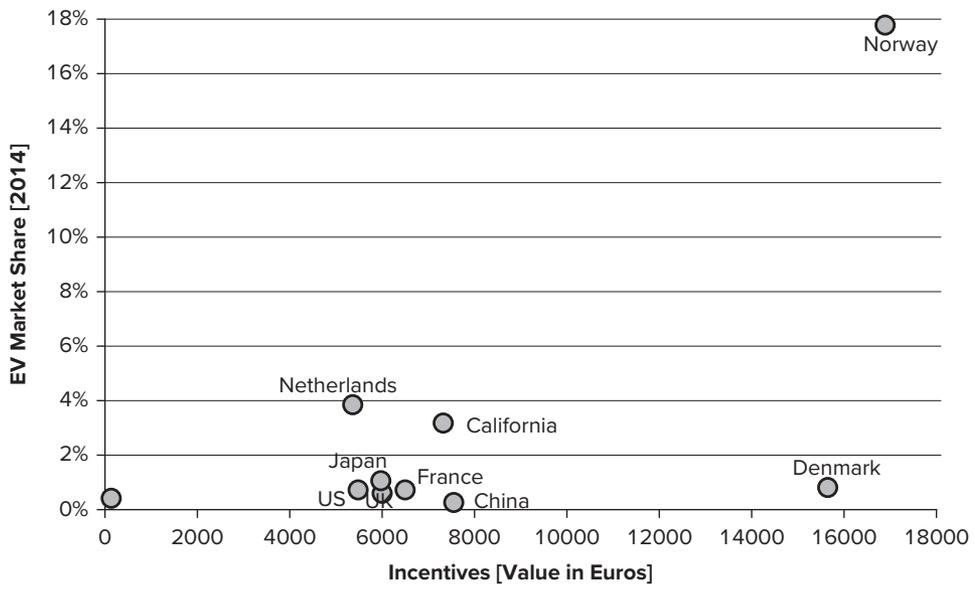
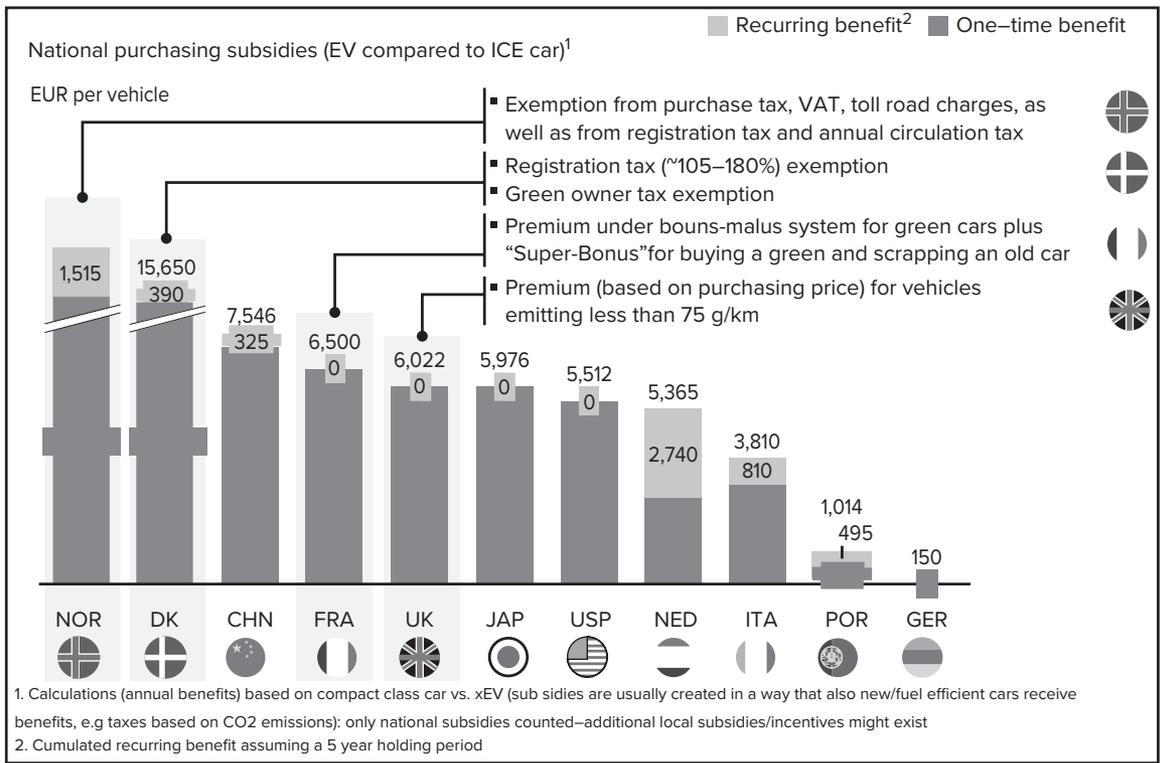
The first EV incentives were introduced in the early 1990s, starting with exemptions on all road toll charges, registration taxes and annual licence fees. Municipalities then began offering EVs free parking in municipality-owned parking lots, and company EV cars received a tax reduction.

Over time, additional benefits were put in place: the 25 per cent Norwegian VAT (Value Added Tax) was removed from the sale of all EVs in 2001; after an initial trial period, permanent access to bus lanes was introduced nationwide in 2005; and, starting in 2009, EV owners could use main road coastal ferries at a discount.

In order to reduce climate gas emissions from the transport sector, the Norwegian government started Transnova in 2001. The organization aimed to support the testing of new technologies to expand their reach. Thanks to Transnova funding, charging stations were established on a larger scale. In order to promote EVs in municipalities, the association Grønn bil ('green car'), received financial help, with the goal of facilitating adaption to the EV technology.

By 2013, no other country in the world had more incentives for buying and using electric vehicles than did Norway (see Exhibit 6 for incentives across countries).

**EXHIBIT 6** Financial incentives and EV market share by country in 2014



Source: Amsterdam Roundtables Foundation & McKinsey (2014).<sup>^</sup>

### Infrastructure

In order to extend EVs' range, EV sales were closely linked to the development of new infrastructure since EVs were dependent on charging stations. One study from 2015 concluded that 'charging point infrastructure has a positive impact on households' EV ownership in developing EV markets'.

As mentioned earlier, Transnova initiated a support programme for charging stations in 2009 – the only government incentive initiated at a national level during this time. The cities of Oslo and Akershus initiated their own infrastructure support programmes; most charging stations offered free charging during the initial period. By 2013, however, most demanded payment.

As of 2010, most EVs were equipped with Li-ion batteries that, according to manufacturers, had a 10-year service life. The first public fast-charging stations were launched in 2011. Fast chargers could recharge the battery up to 80 per cent in 20–30 minutes. However, fast charging was a lot more time consuming at sub-zero temperatures, which led to EVs having a shorter range in the winter. Transnova, as well as some Norwegian counties, gave financial support for fast chargers.

### Users

The Norwegian Electric Vehicle Association was founded in 1995 as an Oslo Energy and Municipality of Oslo initiative. The organization became an important player for market development due to activities such as mapping the charging stations, and recruiting new drivers by offering test drives and connecting EV users through internet platforms. The association had a consumer benefit focus as well since it was in close contact with the EV industry and could provide politicians with information.

In 2013, the yearly member survey concluded the following:

*The typical Norwegian EV user is a middle-aged family father with higher education and income, and he owns a Nissan LEAF as one of two cars. He uses his electric car on a daily basis instead of a traditional petrol or diesel car. He uses the electric car for commuting, after work activities, and not for longer holiday trips. He agrees on that his electric car saves him money and time and he is very satisfied as an EV owner. His next car will also be electric. [ . . . ] The broad package of incentives convinced him to buy his electric car. Although, it was the zero purchase tax and VAT that made the electric car competitive for him to consider in the first place. Low fuel cost, free toll roads and access to bus lanes are also important incentives.*

EVs would be expensive in Norway if it were not for the removal of VAT and the elimination of the vehicle registration tax, which depended on the value of the car. Government incentives such as these substantially lowered the price of electric cars. Studies of the perception of EV advantages revealed that economic benefits were the main drivers behind purchasing an EV.

### Tesla, Inc.

Tesla, Inc. (originally Tesla Motors) was an EV car manufacturer headquartered in Palo Alto, California. Tesla was incorporated in 2003 by engineers Marc Tarpenning and Martin Eberhard. The initial aim was to 'prove that electric cars could be better than gasoline cars', and Tesla's mission was 'to accelerate the world's transition to sustainable transport'.

Tesla engineers first designed a drivetrain for a sports car built around an asynchronous motor. Nikola Tesla took a patent on such an engine in 1888, thus it has been the inspiration for the company name. Over time, the Tesla brand had become synonymous with Elon Musk, the young billionaire who made his fortune on PayPal, an online financial services company. Musk was known for his big visions and entrepreneurial spirit, including his ambitions to explore and colonize the planet Mars through his SpaceX venture (a company that developed and launched space craft). He invested heavily in Tesla, becoming chairman of the board in 2004 and CEO in 2008.



Tesla was not only an automaker, it was also a technology and design company focusing on innovation within the field of energy. This was also reflected in how the company had taken full ownership of its value chain. For example, through the company SolarCity (co-founded by Elon Musk), Tesla could offer energy storage services, including a turn-key residential battery back-up service. The Tesla Gigafactory 1 was a solar-powered lithium-ion battery factory, built primarily for Tesla, Inc. It was capable of matching the current world lithium-ion battery capacity production. Tesla had also launched its own Supercharger stations – a network of free charging stations that could charge Tesla batteries in a matter of minutes instead of hours.

Following much hype, the Tesla Roadster was launched in 2008; it was the first car model conceived by the Tesla team. The two-seater all-electric sports car would provide the value of a high-end sports car at a lower cost to the customer and a lower resource cost to the planet. With an acceleration of 0 to 100 km/h in 3.9 seconds (which is faster than many gasoline-propelled sports cars) and a range of 394 km per charge of its lithium-ion battery, the Roadster set new standards for electrical transport.

The Tesla Model S was launched in 2012 as the world's first electric premium sedan. With a compact battery that was integrated into the chassis under the occupant cabin, the vehicle had room for up to seven passengers. As EVs do not have an ICE, there was even room for storage. In 2015, and again in 2016, it was ranked as the world's best-selling plug-in electric car. The Tesla Model X was a crossover utility vehicle introduced in the USA in 2015, and internationally the following year (Exhibit 7 displays a picture of the Tesla Model X). The four-door sedan Tesla Model 3 was launched in 2017. When Tesla opened for pre-orders of the Model 3, it took almost US\$10 billion in just two days.

#### EXHIBIT 7 The Tesla Model X



Source: Grzegorz Czapski/Shutterstock

Tesla cars were not for everyone, at least not from the start. Elon Musk was quoted as saying that 'The strategy of Tesla is to enter at the high end of the market, where customers are prepared to pay a premium, and then drive down market as fast as possible to higher unit volume and lower prices with each successive model.' The Tesla Roadster base price was US\$109,000. Tesla Model 3 prices started at US\$35,000.

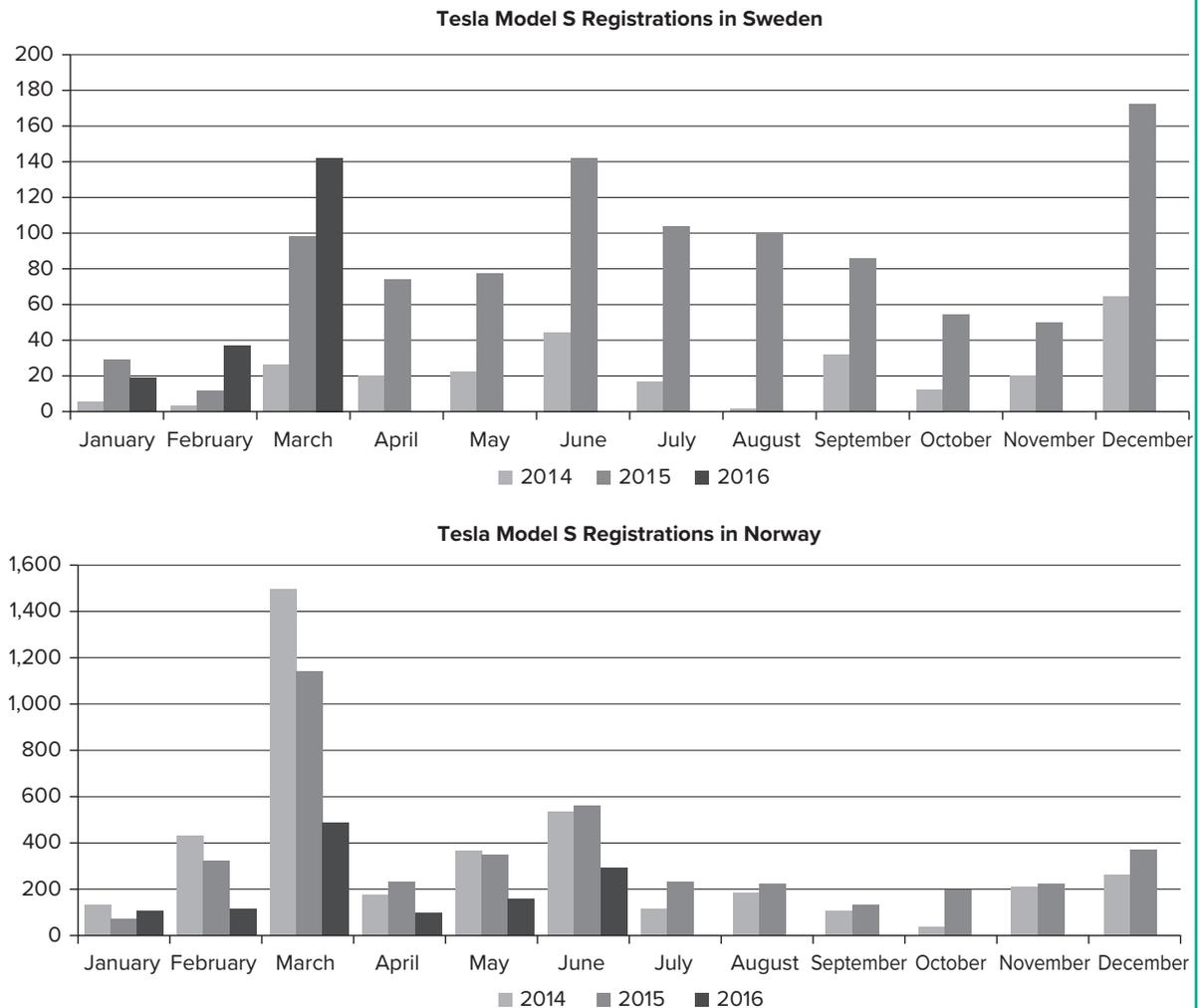
### Tesla in Norway and Sweden

Tesla entered the Norwegian market in autumn 2013, during a time in which a number of Norwegian manufacturers went out of business. The Tesla Model S was the first luxury EV to be launched on the Norwegian market. It had a range of up to 480 km, which was a jump from 160 km, or 90 km during winter conditions, which was the average range of existing models on the Norwegian market in mid-2013.

Tesla was well received. In March 2014, the Tesla Model S became the highest-selling car in a single month in Norway’s history, ahead of the Volkswagen Golf, and Norway was the second-largest market in the world for the Model S, the largest marketing being the USA.

Tesla sold 8,460 cars in Norway in 2017, which amounted to 5.3 per cent of total car sales. Operating a total of 12 stores in the country, Tesla was Norway’s seventh best-selling car brand.

**EXHIBIT 8** Tesla Model S registrations in Norway and Sweden respectively



Source: Electrec.co (2016).



Meanwhile, in neighbouring Sweden, the total amount of Tesla cars registered amounted to 3,709 by the end of 2017. Tesla had a market share of 0.3 per cent based on the number of newly registered cars. (Exhibit 8 depicts Tesla Model S registrations in Norway and Sweden.)

A study from 2016 revealed that 42 per cent of car owners in Sweden were willing to buy an EV as their next car purchase (45 per cent of them men and 39 per cent women). A total of 83 per cent of respondents said their main motivating factor was for the sake of the environment. For the 37 per cent of respondents who said they would not consider buying an EV, the main reason was the limited mileage before having to charge the car's battery again.

The Swedish government offered exemptions from vehicle tax for five years for all biogas, ethanol, electric hybrid or low-consuming energy-efficient cars. Since 2012, cars that emit no more than 50 grams of carbon dioxide per kilometre ('super environmental cars') have also been eligible for a premium of SEK40,000 (€4,200). This was not at the point of sale, however; it was only after the buyer sent in the proper paperwork to the authorities. Tesla had 6.6 per cent of market share in the super environmental cars segment. The programme was originally designed to cover 5,000 low-carbon vehicles; Sweden reached this threshold in mid-2014 and extended the programme on a year-to-year basis, which left car buyers uncertain as to whether the programme would continue.

The new Tesla Model 3 had encountered delivery delays due to production bottlenecks, and was expected to reach Europe by the end of 2018. Tesla had four stores in Sweden (two in Stockholm, one in Gothenburg and one in Malmö) and two service points.

#### Looking ahead

Meanwhile, in California, Tesla CEO Elon Musk continued his efforts to accelerate the world's transition to sustainable transport. Plans for the future included more affordable electric cars produced in a higher volume, solar-powered roofs, mid-size vehicles, SUVs and pick-up trucks, as well as the refinement of autonomous vehicles and the creation of a sharing economy, in which cars could be requested and driven while the owner is not using them. Or, as Musk had put it, to expand Tesla's line to 'cover the major forms of terrestrial transport'.

The December sun was shining through Elon Musk's office window. It was now lunchtime, and he had just completed the macro-environmental analysis he had started that morning. He pondered what his next message should be to his 18 million followers on Twitter . . .

#### Questions

- 1 In what ways is climate change a game-changer for business?
- 2 Which macro-economic factors will influence the EV market? Conduct a PESTLE<sup>1</sup> analysis.
- 3 If you were head of sales and marketing in the Nordic region, and Elon Musk had asked you to present your thoughts on how to expand sales in Sweden, what would be your main points?
- 4 If you were head of investment at a pension fund, based on what arguments would your firm choose to invest or not invest in Tesla?

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<sup>1</sup> PESTLE stands for Political, Economic, Social, Technological, Legal and Environmental factors. By understanding these external environments, organizations can maximize the opportunities and minimize the threats to the organization.