# Understanding Economic Activity

# 1

*The Scientist must set in order. Science is built up with facts, as a house is with stones. But a collection of facts is no more a science than a heap of stones is a house.*
Henri Poincaré (1854–1912)

**Opening Vignette**

Natalie Schmidt was sitting in the lounge of her parents' house. She was concentrating so much on her mobile phone that she did not hear her mother, Sarah, come into the room and gave a little jump when Sarah asked, "Well, have you decided yet?" Natalie looked up and said hesitantly, "No. . . not yet. I just don't know. There are so many things to think about."

"Before we talk about this other matter," replied her mother, "have you finished painting your room. I can see by the amount of paint in your hair that you have been painting, but is it actually done now?"

"I'm happy to say it's almost finished. I say 'almost' because I ran out of paint."

Sarah was shocked. "Are you kidding? I gave you enough to paint two rooms! What happened? You do know paint's not cheap, don't you?"

Natalie got defensive. "Of course I know. It's just that, well, I spilled a little bit." Sarah gasped, so Natalie quickly added, "Not a lot. And I cleaned it all up so you can't see a thing!" She followed her mother who had rushed into her bedroom and was relieved hear Sarah say, "All right, at least there's no paint on the floor, so you did a good job cleaning up. But you've spread the paint on far too thickly, there must be about three coats on that wall when you only need to do two coats with the paint I gave you. That's why it's not cheap."

They returned to the lounge. Natalie looked at her mother and said, "You seem a bit annoyed." "I am a bit annoyed. You haven't done a good job with painting your room. You've wasted a lot of paint and you haven't even completed the job. We couldn't afford to be like that in the factory where I work. We have to be efficient,



P. Eichhorn, I. Towers, *Principles of Management*, Springer Texts in Business and Economics, https://doi.org/10.1007/978-3-319-70902-4_1

otherwise we'd lose a lot of money, and we have to be effective, otherwise we'd lose even more money. Now, back to the decision you have to make: are you going to study economics or business administration?"

## 1.1 Introduction

We deal in this book with efficiency (German: *Zweckmäßigkeit* or *Leistungsfähigkeit*), and effectiveness (German: *Zielorientierung* or *Wirksamkeit*) and economic efficiency (German: *Wirtschaftlichkeit*) and economic effectiveness (German: *wirtschaftliche Zielerreichung*). *Efficiency* generally refers to the relationship between resources and results. In a narrow sense, we are talking about the relationship between the input factors—resources, people, ideas, materials or services—and the goods and services that are the result of a process of transformation. Inputs and outputs can be measured in monetary or quantitative terms in order to calculate the *economic efficiency* of the entire transformation. In a broader sense, we take into account the external (non-market, i.e. meta-economic) effects that are experienced as outcomes and impacts. For example: a transformation process can produce not only finished goods but also pollution—therefore the outputs in this case include outcomes in the form of emissions which may have unwanted and negative impacts on the environment, which in turn negatively impacts health.

*Effectiveness* expresses the extent to which targets and goals have been met. It can be defined as the ratio between the actual and the desired result of the use of a given allocation of resources. Here too we must differentiate between two aspects—economic and meta-economic. *Economic effectiveness* measures, for example, the actual labour costs of a particular transformation process against the planned and expected costs for the total revenue generated. This approach can be similarly applied to political, social, technical or other actual and target goals.

The differences are shown in Eqs. (1.1), (1.2), (1.3) and (1.4).

$$Efficiency = \frac{Goal}{Means} = \frac{Benefit}{Cost} = \frac{Output + Outcome + Impact}{Resources\ used} \tag{1.1}$$

**Equation 1.1** Efficiency

$$Effectiveness = \frac{Actual}{Planned} = \frac{Actual\ benefit}{Planned\ benefit}\ or\ \frac{Actual\ results}{Planned\ results} \tag{1.2}$$

**Equation 1.2** Effectiveness

$$Economic\ efficiency = \frac{Output}{Costs}\ or\ \frac{Sales\ revenues}{Costs}\ or\ \frac{Output}{Input} \tag{1.3}$$

**Equation 1.3** Economic efficiency

$$Economic\ effectiveness = \frac{Actual\ costs}{Planned\ costs}\ or\ \frac{Actual\ profit}{Target\ profit} \tag{1.4}$$

**Equation 1.4** Economic effectiveness

A further consideration is the relationship between inputs and outputs. One approach—the principle of maximum result (Eq. 1.5)—is that given a certain input, the output should be as large as possible, e.g. how far can a car be driven on a single tank of petrol? A second approach—the principle of minimum means (Eq. 1.6)—is that the input should be as small as possible to produce a desired output, e.g. how little petrol do you need to travel from Munich to Stuttgart?

$$\text{Max!} = \frac{Output}{Input} \tag{1.5}$$

**Equation 1.5** Principle of maximum result

$$\text{Min!} = \frac{Input}{Output} \tag{1.6}$$

**Equation 1.6** Principle of minimum means

Human activity aimed at satisfying needs with scarce goods takes place in the economy through economic agents. Figure 1.1 presents the different types of economic agent and economy in anticipation of their discussion later in this book. The reader should turn to Sect. 1.6 for a discussion of what we mean by object of experience; in short, it is an element in the world as we perceive it. As Sect. 1.2 shows, objects of cognition are the things we study.

We can differentiate between the economic efficiency and effectiveness of the individual economic agents and that of the aggregate of all economic agents in an economy, which is a geographic area where economic activities take place. Depending on its scope, economic efficiency measures the relationship between individual or aggregate economic input and individual or aggregate output. Relationship is not understood here in a strict sense as a quantitative measure but rather as the result of a complex set of **causes and effects, goals and means in the economic sphere**.

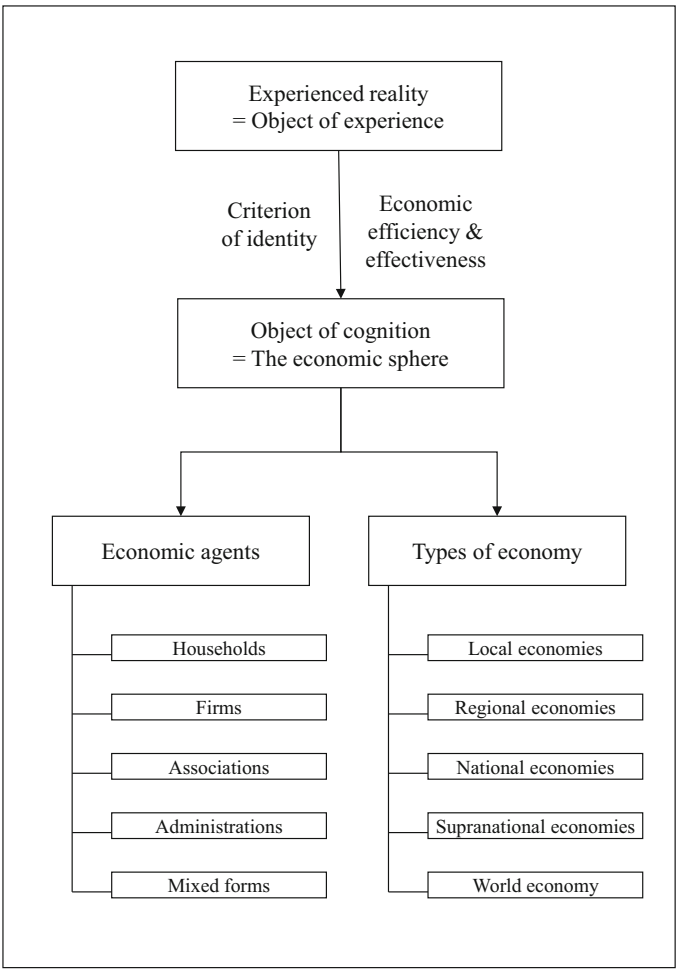


**Fig. 1.1** Objects of experience and of cognition in the economic sphere

This book deals with economic agents, specifically business entities, which are organisations that are established and managed according to commercial or non-commercial law to sell or offer products or services. The former group consists, for example, of firms and partnerships while the latter group includes hospitals, charities and voluntary associations. The academic discipline *business administration* brings together theory and practice in the **study of business entities.** It deals with their internal and external environments, and the relationships between them. It concentrates on the functions of leadership, management, procurement, transport, storage, production, research and development, human resource management, administration, sales, investment, finance, taxation, accounting, auditing, marketing and more.

The **study of economies**—the academic discipline is economics—addresses all other economic relationships. An interesting issue is what level of aggregation is relevant, and this depends on the relation between the state and economic activity. The state becomes visible in institutions at various levels of government, from a small local authority to an international institution representing a community of countries. Economic activity can be aggregated accordingly, meaning that it is possible to discuss the local economy, the regional economy, the national economy, the supranational economy and the world economy: these are objects of cognition. In view of the development of internationalisation processes, the extension of cities beyond national borders and the globalisation of firms and other types of organisation, the concept of the national economy may soon belong to the past. Issues of local, regional, international and world economies are already closely entwined and will become even more so in the future.

## 1.2 The Objects of Cognition

### 1.2.1 Economic Entity

An **economic entity** is **autonomous in its decisions** and actions and has **factors of production permanently at its disposal.** The degree of autonomy—in planning and producing, for instance—and permanence of the availability of factors of production—e.g. people, machines and capital—must be examined on a case by case basis. Is the plant of an industrial enterprise an independent economic unit in itself or simply a part of one? What of the branch of a bank or of an insurance company, the hospital belonging to a non-profit institution, the building authority of a country, the land registry office of a city? These examples make it clear that the concept of economic entity is not limited to firms active in a market economy, for economic entities exist in market economies and planned economies, in the primary, secondary and tertiary sectors. They pursue different goals in the different ways and are owned by individuals, groups of individuals, other companies, cities, states, churches, associations and foundations.

The common denominator is that they (should) aim for economic efficiency and effectiveness in the combination of the factors of production. The principle of input and output is a general and abstract construct that is valid for any kind of economic entity, no matter what the inputs and outputs are. It is however also possible to think about economic entities in a more concrete way and acknowledge that what they do and how they do it have internal and external influences, with the consequence that their economic behaviour depends on their goals and on their environment—a custom motorcycle manufacturer in the United States will have some similarities with a mass-producer of motorcycles in China, but there will also be very many differences.

### 1.2.2 Local Economy

The term *local economy* describes the economic activities of all **economic agents in a municipal (or rural) area**. It includes not only private enterprises but also the households of the inhabitants, churches, communities, associations, public administrations, municipal-owned and state-owned enterprises. The local economy is the smallest economy that is analysed, and is significant from a theoretical as well as from a practical point of view because local economic agents often cooperate, compete against each other or are interdependent in a variety of other ways. There are, for example, interactions between a city administration and local enterprises, between suppliers, and between these and the city administration. A prosperous or a stagnant local economy is reflected in the local markets for labour, capital, goods and services, as well as in the private households, the public household and in the state of the natural environment.

Individual economic agents are affected by local laws and regulations, political developments and other local issues. Subsidies from the city can be important for companies, while all business entities are interested in the presence of potential customers (clients, guests or patients), suppliers, qualified personnel, transport infrastructure, educational institutions, recreational opportunities and prospects for the future development of the community.

Economic entities—and especially business entities—need to find **information** on local land planning, economic structure, employment, population development, production, aggregate income, economic growth, real estate prices, prices of the factors of production and other products, tariffs, taxes, public procurement, waste disposal and environmental protection. **Sources of information** are first of all the local administration; other sources include local experts, consulting firms and banks, while a company can of course carry out its own research, but this is really only necessary if public information sources are out of date, lack detail and provide no view of future developments.

### 1.2.3 Regional Economy

A regional economy is a **grouping of the local economies in a specific geographic area**. The size of the region depends, of course, on how it is defined—it may be neighbouring communities in the countryside (e.g. the northern part of Bavaria), or a state (e.g. Brandenburg). Typical examples are metropolitan areas on the one hand, such as the Ruhr, and regions lacking in infrastructure and with slow rates of development on the other, like the eastern part of Saxony. Just as in a local economy, individual economic agents and to the regional economy are closely linked, as the former try to exploit a region's strengths and cope with its weaknesses. The regional economy is an object of cognition for the fields of both business administration, which deals with aspects which are relevant for individual business entities, and economics, where the concern is to develop ideas and proposals for regional and economic policy.

Economists are mostly interested in the roles cities play in the region, cooperation between different localities, mobility within the region, development policies, migration, rural development, land planning, energy and water supply, traffic links, subsidies, industrial parks, infrastructure projects, waste disposal and the protection of the natural environment.

### 1.2.4 National Economy

The national economy is the original object of cognition of economics. Economics, whether historical or current, theoretical or applied, concerns itself with the **economic order of a country** (economic system), the network of relationships between the various actors in the economy (e.g. firms, private households, the state and foreign countries) and between economic branches (primary production, manufacturing and service sectors), the general state of economic processes (national accounts). Economic policy is concerned with laws and regulations (regulatory policy), economic processes and economic structures.

Although markets and competition, money and currencies, financial and social policy, employment, the economic cycle and growth remain their main themes, economists have recently started to pay more attention to issues related to the regional economy as a subsystem of the national economy, to supranational economic issues—dealing with the effects of Brexit on the European economic and monetary union, for example—and relationships with other supranational economies (e.g. ASEAN and Mercosur—see Sect. 1.2.5) and the global economy.

Economics as an academic discipline can provide insights both for business administration as a discipline and for economic entities. Lessons can be drawn from how economies develop—companies should consider economic trends in investment decisions, for example.

### 1.2.5 Supranational Economy

Supranational economies are **economic areas with a single economic policy that is followed in member states**. The community of states agrees to common economic goals, principles and measures and in doing so the member states surrender the relevant sovereign rights. The European Union is the most integrated supranational economy; others include the European Economic Area, the Association of South-East Asian Nations (ASEAN) and Mercosur, the South American counterpart. The forms of cooperation between member states range from coordination in individual areas (such as agriculture) and the financing of development projects all the way to the integration of currencies. In recent years trade agreements have been proposed which share some characteristics of supranational economies, but which cover even larger geographic areas. The most relevant are:

- The North American Free Trade Agreement (NAFTA) whose signatories are Mexico, the US and Canada. Signed in 1992, its goals are the elimination of barriers to investment and trade.
- The Transatlantic Trade and Investment partnership (TTIP) was a proposed agreement between the EU and the United States. Its goals were the removal (or at least reduction) of barriers to trade between the partners. There was much opposition to it in the EU and the agreement was never ratified.
- The Trans-Pacific Partnership (TTP) is an agreement between countries with access to the Pacific Ocean with similar aims as TTIP. China was never involved; the US signed the agreement under President Obama, but in January 2017 President Trump signed a memorandum to withdraw from it.
- The Comprehensive Economic and Trade Agreement (CETA) covers free trade between the EU and Canada. It was in the process of ratification in mid-2017.
- The Trade in Services Agreement (TISA) is a proposal covering service industries, with over 50 countries being represented. It has not yet been ratified.

Supranational economies help expand the activities of individual economic entities beyond national borders. The European Union, for example, guarantees the freedom of movement of workers, the freedom of establishment, and the freedom of movement of services, goods, capital and payments. ASEAN and Mercosur in contrast do not allow the freedom of movement of workers to the same degree. These developments mean increased competition on the national market as foreign companies can compete; motivated by this, individual economic entities are forced to improve their performance.

### 1.2.6 World Economy

**Globalisation** as we know it today has developed in the last 30 years as the result of the development of supranational economies and the kind of trade agreements mentioned in the previous section. In practical terms, globalisation means that economic entities are able to pursue their activities around the world. Technical progress has made possible the worldwide exchange of information, capital, services, goods and people. It has led to growing similarities between cultures—cinema, television, music, fashion and even food are less culturally specific than 50 years ago. One needs only to drive from Beijing airport to the city centre to see how popular American fast food is. Globalisation has opened up national and supranational economies and let them grow closer. Further reasons for this worldwide economic development include the active participation of newly industrialised countries in world trade, the opening up of China and the political change in other former socialist countries which have embraced the market economy. Also significant has been the rapid rise of neoliberalism as a political-economic philosophy. After the Second World War there were early moves towards the deregulation of trade—the General Agreement on Tariff and Trades (GATT), the formation of the World Bank and the Organisation for Economic Cooperation and Development (OECD).

The opportunities to be active on a world scale have given rise to ever larger enterprises, mainly in the form of multinational corporations which are organised as networks and build strategic alliances with their suppliers. Globally active firms choose to deploy their resources and carry out their activities anywhere in the world where they can find favourable conditions. Raw materials, other inputs, equity and debt capital, executive and skilled personnel are sourced and employed worldwide; production is located where labour is cheap or has skills that are difficult to find. The choices in location, transport, warehousing, production, disposal, research and marketing are global. They favour those countries which are seen as attractive by enterprises, for example because they have lower levels of taxation, fewer environmental burdens, less burdensome regulation and bureaucracy or even less workers' participation in decision-making. For example: Facebook has its European headquarters in Ireland because the data protection rules in that country are not as strict as in other European countries, the corporate tax rate is lower, and there is a ready supply of qualified multi-lingual staff.

Beginning in the 1970s political forces in Europe and the US were able to win wide acceptance for policies like privatisation and deregulation which encourage globalisation. This is the logic of neoliberalism, putting in the forefront the interests of large enterprises and transferring power from the state to the enterprises themselves. Instead of being active, a "minimal" state only reacts to global developments. This process creates winners (such as large enterprises) and losers (e.g. countries which lose economic activity and cannot use their production capacity). Individual economic entities and whole economic areas (local, regional, national, supranational and global) have new opportunities but face new risks. This requires the creation of new worldwide regulatory frameworks, for example in areas such as the protection of competition or of the natural environment—there is still much progress to be made in these respects.

The objects of cognition described above form a tiered system of economic agents as shown in Fig. 1.2. The small circles represent the individual economic entities. Figure 1.2 does not show the interdependencies between the objects of cognition but these relations exist and are very complex. They range from the horizontal (e.g. between economic regions), to the vertical (e.g. between the national economy and regional economies), to the diagonal (e.g. between the national economy of one country and one of the regional economies of a neighbouring country). The relations can be bilateral or multilateral, regulated or determined by market forces and can be characterised by cooperation or competition.

## 1.3 Business Administration

### 1.3.1 Tasks

Business administration (sometimes known as *management studies* or simply *management*) as an academic field has two prime tasks: **it analyses economic entities** (such as small and large companies, hospitals, charities, and government

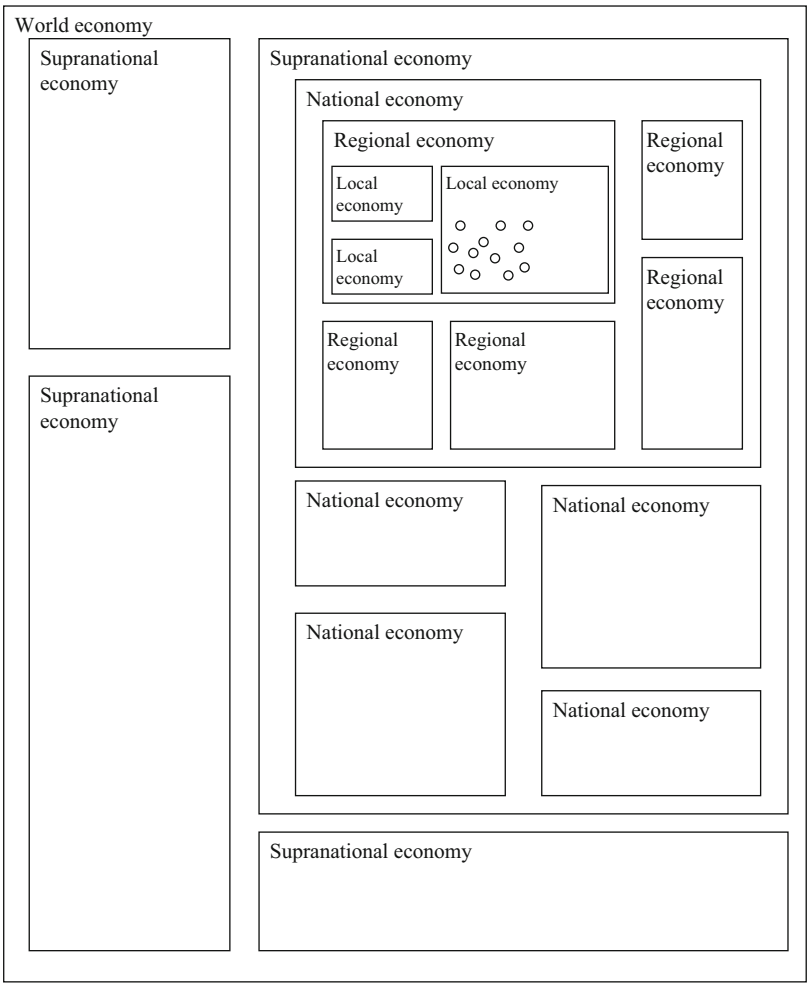


**Fig. 1.2** A tiered system of economic entities and economies

agencies) and **communicates the results of its analyses.** Like other academic disciplines, it has its own approaches, goals and methods (see Sect. 1.8). It is concerned not only with the economic aspects of economic entities—their goals, principles, decisions and decision-making, behaviours, structures and processes etc.—but also with the environment in which they find themselves, and the relationships and dependencies between them and the market, society, the state and nature. There are interfaces to other disciplines such as economics, political science, law, the social sciences and the environmental sciences.

Compared to other areas, business administration as a subject is characterised by its efforts to do more than build **theories**; it is equally concerned with **practicality**.

In other words, theory and practice are intertwined and there is a constant endeavour to create transfers from theory to practice and vice-versa. This is why business administration as an area of academic endeavour must carry out both basic and applied research and be based on scientific methods but at the same time prepare those who study it for the world of work.

Given their number and diversity, the field of business administration cannot restrict itself to just a few types of economic entity. Historically, scholars have concerned themselves with privately-owned, profit-oriented manufacturing companies (the supply side) and with private households in their role of consumers (the demand side). While more work is being done today than a few years ago on the service industries, they still receive relatively little attention from business administration academics, while the agricultural sector receives even less. Still underresearched from a business administration point of view are private households seen as economic entities that have to deal with issues like generating income, spending and investing, decision-making, book-keeping (for tax!) and the division of labour. The same is also true of non-profit economic entities like unions, associations, institutions of higher education, chambers of trade, churches, hospitals, social insurance organisations, social welfare institutions with their services and their establishments. Similarly neglected are federal, regional and municipal administrations, with the services they provide, the facilities, libraries, museums, schools, theatres, technology parks they own, and the courts of justice, prisons and parliaments they run. This neglect is one reason for the oft-criticised management issues in all these institutions!

Since all economic entities have to deal with management issues, the number of potential recipients of the knowledge and skills needed for their management is nearly unlimited. Management knowledge does not have the same value in all situations; a commercial enterprise exposed to strong competition in a mature market will place a very high value on it because it can be crucial for the survival of the enterprise. On the other hand, management knowledge plays a minor role if the pursuit of a concrete goal (for example cultural sponsorship) is financed by a generously endowed foundation. Generally speaking, whether professional managers (by which we mean people for whom managing is their main responsibility) are needed alongside architects, chemists, computer experts, economists, engineers, journalists, sociologists, theologians etc. depends on the goals, the types of activity, the size, the market form, the type of product and the financing of the economic entity. Management education must provide the knowledge and competencies required by specialists in different functions, such as procurement, budgeting, controlling, logistics, personnel management or marketing, and also the knowledge and competencies required by senior executives, who, being generalists, often need economic, legal and technical knowledge. A further concern of management education is the training of the next generation of academics in the field.

The study of management in Germany has a long history, going back to the middle of the seventeenth century, but really grew in importance at the end of the nineteenth and beginning of the twentieth century when specialist colleges were

established in Leipzig (1898), Cologne and Frankfurt (1901), Berlin (1906), Mannheim (1907) and Munich (1910), as well as in other cities. These were either integrated later into existing universities or formed the basis of a new university. German management studies have always had a very strong basis in accounting and operations management. In recent years, many developments from English-speaking management studies have been integrated, both in terms of their content and linguistically—*budgeting*, *consulting*, *outsourcing*, *marketing* and *reengineering* are examples of words that now form part of the German language.

### 1.3.2 Taxonomy

The subjects that fall within the discipline of business administration can be classified according to various criteria. In Germany, one of the first classifications was based on the area of activity: banks, trading companies, industrial enterprises, hospitals, transport enterprises or insurance companies. Evidence of this **institutional** classification is to be found in the names of business administration professorships at German universities. The most common classification today is **based on functions**, i.e. on the activities of economic entities, which, although they can be very different, must nevertheless concern themselves with functions like accounting, auditing, finance, human resource management, logistics, marketing, operations management, organisational behaviour and taxation.

A third, newer, taxonomy— sectoral classification—takes as its starting point issues that are relevant for society and the economy as a whole, and tries to find the best way, from the point of view of business administration, to deal with them. For example, educational management deals with problems like how to make sure that the right quantity and quality of human resources is available and that they have the correct skills and competencies. Healthcare management has the goal of delivering complex medical and related services in a cost-effective way. Social management searches for strategies, structures and processes for social care institutions and environmental management is concerned with the protection of the natural foundations of life. These sectoral disciplines have in common that they connect the fields of business administration and economics—educational management and educational economics, healthcare management and health economics, social management and the economics of social care, environmental management and environmental economics. Each pair is closely related in terms of teaching and research, with each discipline contributing to the overall understanding of the sector.

**Public management and non-profit management** are special cases in business administration. They can be identified as functional disciplines, because they deal with public tasks and their efficient and effective execution. However, since the other functional disciplines focus on areas like sales, production and procurement that relate to the internal tasks of economic entities, and public and non-profit management focus on the internal aspects of the entities that perform public tasks, we classify them as sectoral disciplines. Public tasks derive from political goals, which are set in the general or public interest, and can be the duties of a

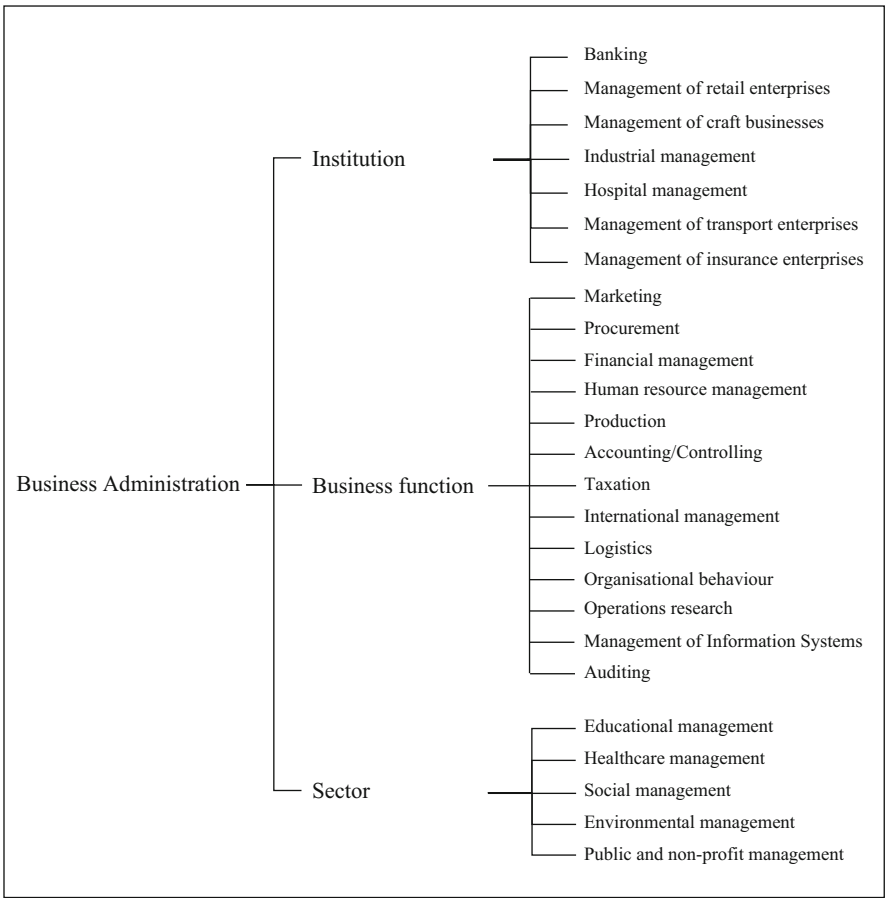


**Fig. 1.3** Disciplines of business administration

governmental body or other public services. These can be delivered in non-market (as is the case for national defence) or market form (e.g. through outsourcing). Public tasks are performed by federal, central, regional and local institutions, institutions of higher education, social insurance institutions and other organisations such as unions, churches, foundations, associations and companies charged with the execution of a public task. This is why public and non-profit management are very closely related disciplines.

Figure 1.3 shows the different disciplines that together form the field of business administration.

### 1.3.3 Concepts

In business administration, the search for truth is almost without exception directed towards the joint principles of economic efficiency and effectiveness. A number of approaches have emerged which try to discover ways in which these principles can be understood and applied.

The **decision-oriented approach** concentrates on the problems of information gathering, the formulation of possible alternatives for action, and the use of quantitative methods as support tools.

The **systems approach** views businesses and other organisations as goal-oriented social systems, whose regulatory and control mechanisms are studied and then used to shape future events.

The assumption that some economic agents are more efficient and effective than others dominates the **comparative approach**, which emphasises comparisons of various kinds (e.g. planned vs. actual output) within an economic entity and between economic entities.

The **behavioural approach** focuses on the behaviour of individuals and groups given certain objectives and constraints; this approach analyses conflicts between individual and institutional goals, incentive systems, and so on.

The **labour-oriented approach** is closely related to the behavioural approach. It concentrates on employees and working conditions, on cooperative leadership styles and on better participation in decision-making processes. This approach serves as a counterweight to traditional business administration which generally looks at issues from the point of view of capital. In the English-speaking world there exists the Critical Management Studies approach, which, as its name implies, challenges conventional views.

The **environment-oriented approach** explores the integration of economic entities in their social and natural environment, and their (corporate) social responsibility. It is concerned with finding and operationalising ways of measuring what economic entities do regarding their social and natural environment.

A more recent approach is the **institutional economic perspective**. Based on institutional microeconomics, it is being increasingly adapted by researchers, principally in marketing, organisational behaviour and human resource management. The rise of this approach and the development of evolutionary perspectives on market processes, the use of resources and corporate functions suggest a growing interest in general business administration.

## 1.4 Related Disciplines

### 1.4.1 Economics

The most closely related discipline to business administration is economics. Both deal with real phenomena (which is why we talk about them as empirical disciplines) and have economic efficiency and effectiveness as objects of cognition.

Economics is concerned with **economic processes within economic entities** (which are represented individually in abstract form or grouped with others) **and in the national economy**. In contrast to business administration, which aims at describing, explaining and predicting decisions and actions from the point of view of an individual economic entity, economics has its main focus on economic aggregates. Economics explains economic relationships and predicts economic events by building hypotheses for propositions of a general nature that can be verified.

Economics is normally divided into microeconomics and macroeconomics. The focus of **microeconomics** are rational economic agents acting as producers and consumers. Their behaviour (as sources of supply and demand) is the object of the theory of the firm and of budget theory. Partial analysis in microeconomics deals with price formation on a single market or on the relationships between upstream and downstream market stages. Total analysis looks at the relationships that exist at a given time between all enterprises and households in all markets. Competition theory, which includes the analysis of the mechanisms and processes of coordination among market participants, is also part of microeconomics.

**Macroeconomics** analyses economic relationships on the basis of aggregation, for example of households, firms, the state and foreign countries on the one side and income, consumption, savings and investment on the other. Of interest are the generation and distribution of income and assets, employment, the economic cycle and price levels, growth and external trade. Macroeconomics is not concerned with the behaviour of individual economic agents.

A new discipline, **mesoeconomics**, has developed between microeconomics and macroeconomics. It deals less with individual economic entities or aggregates and more with industries, groups or regions. Mesoeconomics, like the two other fields of economics, is more concerned with the theoretical than the practical.

### 1.4.2 Economic Policy

Economic policy deals with the form the economic system takes and its influencing factors, with economic processes and with the structure of the economy. It shows the possibilities and limits of interventions in the economy, meaning that it provides tools that governments can use as they develop their (practical) economic policies. For this reason, some scholars maintain that economic policy is a field of academic endeavour where it is difficult to remain objective and neutral.

The core of **regulatory policy** (i.e. the policies concerned with the form of the economic system) is competition policy, which has the aim of keeping markets functioning properly. In a social market economy, great importance is attached to regulatory policy, social policy and environmental policy, since they help correct the effects of pure market forces on infrastructure, society and ecology. Regulatory policy in a planned economy consists primarily of imposing the decisions and concepts of a central administration on all economic agents.

**Growth policy** is concerned with shaping and influencing the complete economic process through indirect measures rather than rules and regulations. Unlike in a market economy, it is possible in a planned economy to directly control what economic agents do. Growth policies aimed at a constant improvement of the supply of goods in the economy normally cause structural changes, so that they must be accompanied by **structural policy**. Sectoral structural policies can be developed for areas such as agriculture, energy, housing, industry and transport, and regional structural policies can also be produced. Depending on the type of monetary instruments used, fiscal policy (in particular budget and tax policy), monetary policy, credit policy and currency policy are developed and implemented.

### 1.4.3 Public Finance

This discipline covers **theory and policies relating to the state economy**, i.e. central, regional and local authorities and their budgets. The main areas of research are revenues and expenditures policies, and their effect on the allocation of capital and labour in the economy, the distribution and redistribution of income and assets, and the maintenance of economic stability.

Economic theory, economic policy and public finance are traditionally the main components of economics. Discussions on issues that concern specific sectors have given rise to a number of more specialised disciplines, the main ones of which are described next.

### 1.4.4 Educational Economics

Educational economics studies the economics of basic, professional, higher and continuing education and training. The theoretical and practical interests of educational economics concern the **contribution of the educational system** (primary, secondary, tertiary and other) **to the national product and economic growth**. Researchers investigate, for example, the relationship between training, investment in education and income, trying to find the return on education—an attempt to describe the correlation between investment in education and its yield. A production theory of the educational system has been developed, which deals with the problems of measuring educational output and the possibilities for strengthening competition in the educational market. The goal is to provide the basis for educational policy and the planning of educational measures. The principles, methods and tools of empirical social research are particularly useful in this context.

The corresponding discipline in business administration is **educational management**, which deals primarily with functional aspects relevant to educational institutions, such the optimal size of schools, the planning and financing of school buildings, the adoption of modern media in education, the costs of school administration, incentive systems for educators and students, leadership styles, public relations and so on.

### 1.4.5 Health Economics

The goal of health economics is to investigate the impact of the health system on the national economy. It analyses health, seen as a good, through health indicators. How should healthcare services be supplied and demanded? How can the **behaviour of actors** in the healthcare system be managed, such as physicians, nurses, pharmacists, providers of emergency services, hospitals, health insurers, professional associations, regulatory bodies, pharmaceutical companies and unions? How should the **interfaces** of the healthcare system be managed, for example between inpatient and outpatient services, diagnosis and therapy, prevention, care and after-care? How can the cooperation between different parts of the system be improved? What are the benefits of health research, health education, early recognition of diseases, the fight against addiction, self-care, fees for the provision of services? The answers to these questions are sought by the discipline of public health.

**Healthcare management** is concerned with issues such as factor procurement, service provision and delivery in the various economic entities within the health sector. More specifically, it deals with such decisions as: in-house or external procurement (make-or-buy, outsourcing, contracting out), efficiency (lean management, lean production), management structure, organisational structure, comprehensive (Total Quality Management) or partial quality assurance (via certification), vertical or horizontal cooperation, health centres or specialised clinics. On top of this come budgeting, controllership, financing and the marketing of state-owned, municipal, non-profit hospitals and of private commercial hospitals and other health facilities.

### 1.4.6 Social Economics

Social economics is particularly difficult to define since social issues are intrinsic to all areas of economics, so it is helpful to adopt a narrower definition in order to describe it. Social economics describes, explains and characterises social phenomena from an economics point of view. This happens primarily through the **theory of social policy**, which articulates the basic values of society and strives for the improvement of the life conditions of individuals that are not well situated and in need of protection. At the core of social economics are risks to life, and the economic needs which may then develop.

**Social management** deals with the management of the various kinds of economic entity that are active in this field, such as homes for the young and for the elderly, professional training centres, welfare centres, charities, social insurance bodies, youth and social welfare institutions, as well as the social services provided by for-profit enterprises.

### 1.4.7 Environmental Economics

Environmental economics is an area of growth within the whole field of economics; it links knowledge about economics with the ecological challenges the world faces. **External effects**, i.e. effects outside market mechanisms, restrict economic growth, so the view that the **natural elements** (earth, water, air and space) are a further factor of production alongside the traditional ones is gaining recognition worldwide. It is as important to think about the natural environment as about efficiency and effectiveness on the supply side, while on the demand side, consumption cannot be understood without taking it into consideration. It is necessary to go beyond input-output ratios when measuring the size of outcomes and impacts by looking at the pollution caused by industry and traffic and its effect on people, animals, vegetation and nature in general. Only knowledge of causal relationships and the size of external diseconomies make it possible to design adequate measures of environmental policy.

**Environmental management** explores and explains ecological issues at the level of the individual economic entity. Firms, private households, associations and public institutions—if they are concerned with environmental protection—can (and should) regularly verify the extent to which their activities (e.g. procurement, transport, storage, production, disposal, marketing, research and administration) are carried out in an environmentally friendly way. Relevant information is provided by environmental accounting and auditing.

## 1.5 Neighbouring Disciplines

While all economics and business administration disciplines are directly concerned with the various aspects of economic efficiency and effectiveness, there are various disciplines which, although they have other objects of cognition and deal with different questions, are able to provide useful support as well as data and facts to the economic and management sciences. The neighbouring disciplines outlined below offer a wider view by having premises, influences, and understandings that go beyond the purely economic and so prevent the other approaches from becoming too narrow.

**Business informatics** is a special area of informatics dealing with electronic data processing in production and administrative processes in economic entities of all kinds. It is becoming increasingly important, especially in these days of big data and the internet of things.

The themes of **business psychology** are the experiences and the behaviour of individuals engaged in economic activities. It deals with how people perceive their economic environment, with their attitudes, with the motives guiding them, with how, if at all, it is possible to predict their opinions and behaviours. Psychology is used as a tool primarily in human resource management and marketing, and now increasingly in the financial industry—behavioural economics and behavioural finance study the effects of psychological factors on economic decisions.

**Economic criminology** is concerned with major economic crime—offences connected to professional or corporate activities. Such crimes include the establishment of fake companies, fraud on capital investments, credit fraud, cheque fraud, currency fraud, illegal employment, subsidies fraud, insurance fraud, tax crimes, customs fraud, false accounting, computer criminality, environmental offences, obstruction to competition, bankruptcy fraud. Individuals' offences, such as small theft, moonlighting or tax evasion is not included. Researchers look at the economic crimes of individuals and at organised economic crime.

The task of **business education** is to determine what knowledge is needed to understand and be active in work, business and the economy, and ways in which this might be organised. The concern of didactics is how the required knowledge can best be transferred.

Thanks to the insights of **business ethics**, there is now a widespread belief that economic activities do not necessarily have to follow the maxim of laissez-faire or that those involved should have a purely egocentric view of the world. The main principle of business ethics is that market logic cannot apply to all aspects of life and that economic activities must take into account social and ecological needs.

**Economic geography** explains how economic activities are organised spatially. Typical issues are the interdependencies between purchasing, transport, storage, production, disposal and sales by industrial enterprises and the locations where these activities take place and the demands that are made on these locations. Land is a location factor—it is a source of raw materials, a basis for road and rail transport, a carrier of energy and water distribution networks, a place where waste can be deposited, a place for culture and life, and a good for public consumption.

**Economic history** analyses the economic development of countries, regions, cities, industries and companies. It attempts to locate economic activity in the wider context of processes of social, political, technical and scientific change. Economic historians investigate topics such as household economy in the ancient world, the exchange of money in the middle ages, the trading firms of the Medici, Fugger and Welser families, mercantilism, liberalism, industrialisation, war economies, and currency reform.

**Economics and business journalism** is the production and delivery of information on economic events through the various on-line and traditional media. News on economic policies, industries, unions, associations of enterprises, individual enterprises, bankruptcies, trade exhibitions, market processes, stock quotes, people in management positions, income and assets statistics are typical subjects.

**Economic and business law** encompasses all the laws that are relevant for participants in economic processes, be they natural or legal persons. It includes the rules for the exchange of goods and services on markets between producers, traders and consumers by defining the framework within which contractual relations can exist, as well as the legal relations between the participants in economic processes and the state. All areas of economic activity are included in its reach, from truth in advertising to minimum wage.

**Economic sociology** applies sociological knowledge to topics that concern the economy as a whole and individual economic entities. It explores the division of

labour as a relationship between individuals, and the overall relationship between the economy and society. Industrial sociology analyses roles and conflicts in the industrial society; organisational sociology deals with the relations between people and organisations and between people within organisations, similar to administrative sociology in public institutions.

**Economic and business statistics** capture and describe economic events in numbers. Statistics are gathered about populations, enterprises, workplaces, agriculture, industries, exports, traffic, incomes, consumption, prices, finance, tax, money and credit statistics, as well as national statistics. The resulting data allow the assessment of individual economic entities, industries, local, regional and national economies.

## 1.6 Understanding the World and Business Administration

We have just provided an overview of the areas that are involved in the study of economics, business and management, and in this book we will be addressing many topics related to these areas. Before going any further though, we want to take a step back and talk about themes that are not normally part of any economics, business or management textbook, but which are important because they lie at the root of how we act in the world. It is important to think critically about what we do as scholars, as managers, as humans, and why we do it, so in this section we address the perception of reality, the search for truth and how we try to learn about what we are studying. As we cover topics later in the book, you may find it interesting to refer again to these sections. For example, a great deal of marketing is concerned with our perceptions of ourselves, of products and services. When top managers develop a new strategy, it will be based on the ways in which they perceive the world. Their thought processes play a role in determining the decisions they make. Product managers carry out research into new products for new markets—they are trying to reach the truth. Companies that carry out research and developments activities usually are carrying out applied science (but not always).

We are firmly of the belief that this part of the chapter provides a valuable background for helping you to understand what is happening below the surface when you are thinking, talking or taking action. Indeed, we suggest that readers spend some time finding out about their own styles of perceiving, thinking and learning. Understanding these things about ourselves helps us to understand others better.

In addition, what we say below about research is not just relevant for scholars and students. Managers—no matter where they work—are always involved in research, so an understanding of the principles involved does in fact have a practical benefit, even if this does not seem obvious at first. For evidence of this, look at Sect. 1.9.

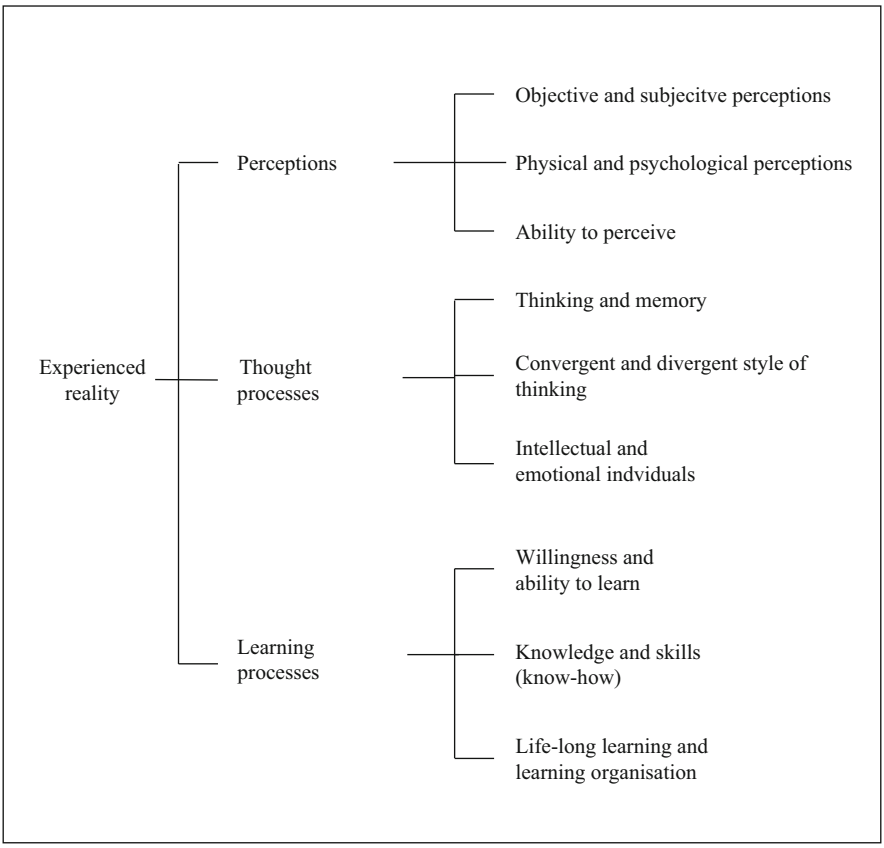


**Fig. 1.4** The building blocks of experienced reality

### 1.6.1 Experienced Reality

How we experience and perceive reality depends on how we perceive it, how and what we think about it, and how and what we learn. Why do we address this issue in this book? Because our behaviour and our thinking are influenced to a huge extent by our "reality", which may of course be very different from someone else's "reality". In order to be able to make good decisions, to work with others, we need to understand how we build our "reality", because our "reality" has a major impact on everything we do. Figure 1.4 shows the components that contribute to how we experience reality—and experienced reality is the starting point of human activity.

### 1.6.2 Perceptions

We perceive the world in which we live through our senses. Objects, living things and situations stimulate feelings and reactions. The five senses (hearing, seeing, smelling, tasting and touching) are different from person to person. This leads to multiple perceptions of reality. Since we would like to know whether our perceptions are right and how others perceive the world, we must look for the common features of subjective perceptions. It is possible, under certain conditions, to generalise the common features of **subjective** perceptions and derive **objective** perceptions from them. Senses are, however, unreliable: what appears to be an objective perception can be based on a mistake and may need to be revised. Our imprecise and limited perception of reality shuts us off from a truthful representation of reality. Reality is what we perceive it to be.

How the world is perceived is a very complex process. Beyond **physical** and **psychological** perception, which takes place selectively given the enormous number of stimuli in the environment, there are processes of thinking and learning. Perception, thinking and learning are influenced by the innate characteristics of every person (sex, age, genetic inheritance) and by their processing in the human conscience. Each of us has attitudes, which may be understood as our points of view of real phenomena, as well as motives, to be understood as forces that lead us into taking (mental or physical) action. We can look at this from the other side: perceptions, thinking and learning processes shape attitudes and motives. Reactions to our perceptions are varied: adaptation, opposition, reinforcement, speeding up or stopping.

### 1.6.3 Thought Processes

Thought can be described as the consequence of the desire to seek knowledge or as the processing of perceptions. Thought is therefore developed in processes in which short-term and long-term memory play an important role. **Memory** can be seen as a repository that allows for perception and thought. But we must be aware that we can only perceive and think about what we are able to perceive and think about.

Thoughts develop in an orderly or disorderly fashion. There can, of course, be a mixture between systematic, disciplined, continuous, straight and convergent thought and non-systematic, undisciplined, free, intermittent and divergent thought. The condition for a convergent **style of thought** is the availability of hard, concrete information, whereas a divergent style of thought is possible with less explicit information. Different styles of thought are based in different parts of the brain, and the development of these parts contributes to each person's preferred way of perceiving and thinking. A convergent style of thought is associated with a detailed and real description of the environment and conclusions are reached in a logical way. A divergent style of thought has intuitive, vague features and conclusions are more likely to be based on feelings.

If we classify individuals according to their dominant style of thought—keeping in mind that both styles can co-exist, even on an equal basis—we can identify the intellectual type and the emotional type. The former is analytical, follows logic, is objective, takes herself out of the equation, is cold towards things and other people, plans, plans and supervises, takes goal-oriented and results-oriented decisions. The latter is guided by feelings, attaches importance to values, is subjective, includes herself, is involved with other people and even with objects, improvises, is flexible and spontaneous, does not like to take decisions and if so, they are based on "gut feeling". Both types have their own breadth of interests, experience, energy and creativity. Individuals' decision-making styles will reflect these styles of thought.

### 1.6.4 Learning Processes

Perception and thought are reinforced by learning. Learning, too, develops in processes, namely through experience and practice. Learning processes can be managed through education and learning programmes. Simple learning happens by imitation or by reflex, while intelligent learning takes place when an individual discovers a course of action which promises a successful outcome.

Learning requires **willingness and ability**. The will and ability to learn can coincide or diverge. The latter is the case when someone is willing to learn but, for whatever reason, is not able to learn or on the other hand able to learn but not willing to do so. Successful learning requires a certain amount of both qualities.

The result of learning is better know-how or more knowledge and better skills. The acquisition of **knowledge and skills** takes place in schools, colleges and universities—but also in the home and at work. In an increasingly knowledge-based society, the importance of general, technical and management knowledge as well as of intellectual, communicative, technocratic, physical and psychological skills cannot be overestimated. Basic education is often not enough for know-how and skills must be deepened and widened: life-long learning is the response to a rapidly changing environment. A learning organisation tries to counteract the obsolescence of the know-how of its members.

## 1.7 Research

### 1.7.1 The Search for Truth

The question of whether cognitive perception and its processing lead to true insights applies to both **pure and applied science**. The difference between the two is based on whether extending knowledge is an end in itself of the research, or answering needs and pursuing the common good. In our current understanding, pure and applied sciences are not alternative, but complementary. It is impossible to draw a border between the two, since assertions arising from pure research end up being

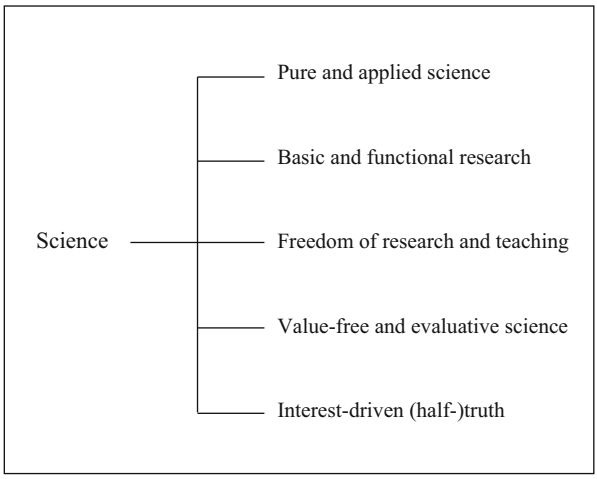


**Fig. 1.5** The elements of science

used in practice, and conclusions drawn from applied research head in the opposite direction.

Research is entrusted with the search for the truth; we make a distinction between **basic and functional research**. The former aims at fundamental knowledge, the latter at knowledge which can be used in practice. Both types of research can be encountered in the natural sciences, humanities, social sciences and economic and management sciences. Research serves social and technical progress, and this means not only research on the future or on the impact of technical progress, but also historical research, without which one cannot fully investigate, explain and evaluate the developments and connections of today.

In many countries it is taken for granted that there should be **freedom of research and teaching**. Indeed, this concept is anchored in the Basic Law of the Federal Republic of Germany—Article 5 Para. 3 states "Arts and sciences, research and teaching shall be free. The freedom of teaching shall not release any person from allegiance to the constitution." Limits to research are usually based on ethical considerations.

A further issue is the independence of assertions from value judgements. Difficulties arise in particular in applied research and teaching since the search for the truth cannot be exclusively value free, however desirable some might feel this to be. Applied research must deal with the fact that people have views on its value, sometimes based on ethics. Applied research is therefore only to a certain extent **value-free** and is indeed primarily an **evaluative science**. A researcher beholden to truth will try to uncover the viewpoints from more than one subjective position. It is essential her perceptions are as value-free as possible, that she be aware of them and make clear her subjective position. In practice though, it is quite common to observe the establishment of half-truths, which aim to serve particular interests, not science or research.

- Observation and gathering of information (e.g. market analyses)
- Evaluation of published writings (literature analyses)
- Surveys of archive materials, reports, laws, plans and catalogues (document analyses)
- Interviews and written enquiries
- Experiments, case studies and business simulations
- Primary data and evaluation
- Secondary data (e.g. benchmarking, financial ratios analyses)
- Building and evaluating models
- Application of mathematical methods

**Fig. 1.6** Methods of discovery

Figure 1.5 shows the elements that contribute to science as a way of seeking the truth.

Three modes of thinking guide researchers in the search for the truth—the investigation of causes, relationships and effects: making discoveries, finding rationales and understanding decision-making. Each can contribute to learning.

### 1.7.2 Discoveries

Discoveries occur when **unknown facts are identified**, either in relation to more theoretical or more practical matters. As far as theoretical matters are concerned, the researcher tries to contribute to the logic of discovery and to the theory of cognitive progress. Practice-oriented discoveries draw empirically based conclusions on real phenomena. Conclusions are well-founded when—given the same premises—other independent researchers with similar competencies also draw them. As far as economics and business administration are concerned, new learnings arise from discoveries which are either empirically validated or derived from logic. In this kind of research, there are normally no such laws as those in mathematics or in the natural sciences, but rather uniformities, propositions and tendencies, which are valid only on the basis of certain (arguable but not necessarily proven) assumptions.

Figure 1.6 provides an overview of the most important methods of discovery.

### 1.7.3 Rationales

The search for the rationale for an assertion involves understanding what it is saying and finding an explanation; it involves the investigation of assumptions and hypotheses with regard to their empirical verifiability, the logical implications and the value of the methods. Starting from the knowledge of facts, rationales explain relationships, with a main interest being the ability to make links between

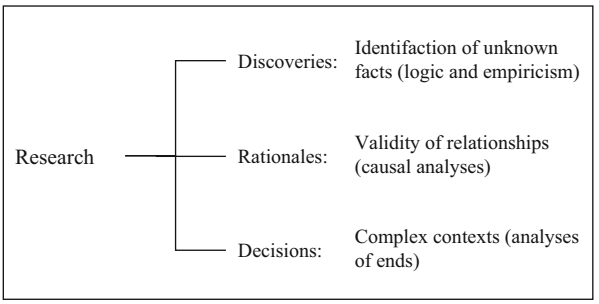


**Fig. 1.7** The components of research

cause and effect; these **causal analyses** ask, "what if?" If the same effects recur, we can speak about patterns or (natural) laws depending on how well founded the rationale is.

### 1.7.4 Decisions

Decisions made by an individual have effects and results, and so it is necessary during the process to consider ends and means. The goal of the **analysis of ends** is to direct the use of resources appropriately. While looking for rationales helps us to explain relationships between causes and effects, this analysis captures the logical and actual relationships between means and ends and hence is a support for decision-making.

Two ways of decision-making can be identified: **normative** decision theory looks for rules to take rational decision-making; rationality in decision-making and action is a basic assumption. **Descriptive** decision theory deals with the actual decision-making process. This theory seeks to derive valid conclusions from empirical observations. The problem normative decision theory tries to solve is how rational decision-makers should make decisions, while descriptive decision theory is interested in how people actually make decisions, why they behave in a certain way and what decisions can be expected.

Figure 1.7 shows the cognitive interests of research.

## 1.8 Cognitive Methods

### 1.8.1 Method Diversity

Cognitive methods are aligned with research interests. Discoveries, rationales and decisions can be analysed in purely theoretically, or in practical contexts. In other words, the way in which the problem is formulated and its possible solutions indicate whether the wish is to generate pure or applied knowledge.

Terms such as "theory and practice" and "research and practice" sometimes create difficulties and mislead us into using "theory" and "research" as synonyms.

Although this might be legitimate in normal language, science distinguishes between pure and applied disciplines. "Theory" has a narrower meaning than "research". Within academic disciplines we can differentiate between **theory** and **policy**. Business administration for example distinguishes between investment theory and investment policy, sales theory and sales policy, finance theory and finance policy.

Having set adequate premises, the theorist derives functional connections between causes and effects (**deduction**). These assertions are logically correct in regards to the premises, but not necessarily true. **Induction** is the inference of general rules from empirically observed facts.

The search for empirically based truthful propositions in the form of discoveries, rationales and decisions is based on **three stages of analysis**: description, explanation and prediction. Through the **description** of perceptions we can formulate propositions that are specific to a particular place and time. Besides descriptive questions of the kind "What is it?" or "What was it?", a further interesting question is "Why is it so?"

**Explanation** looks for an answer to that question, moving beyond considerations of specific time and place. As long as explanatory propositions withstand empirical test so that they are true, they result in a law, and a number of logically connected laws build a theory.

**Prediction** is closely linked with explanation. Here we have to reverse the process. Instead of making a hypothesis according to which a given cause will generate certain empirically verifiable effects, here we predict the occurrence of a certain event. If, for example, the hypothesis that examination results are influenced by the amount of time spent studying is valid, we can make a proposition which predicts that the more a student studies, the better their exam results. This proposition also has a hypothetical character and needs to be confirmed by reality.

If what has been predicted does not occur, the hypothesis has been refuted by reality, which is called **falsification**. According to Karl R. Popper (1902–1994), empirical propositions must be formulated in such a way that they may fail to withstand reality. As long as a hypothesis is not falsified or contradicted, it has to be considered (for the time being) true. On the other hand, the **verification** or confirmation of a hypothesis does not ensure its truthfulness. Necessary for this would be the verification of the validity of the hypothesis with all possible real circumstances to which it can be applied, and this is normally impossible for reasons of time, cost and practicality.

### 1.8.2 Modelling

Reality's complexity is such that it is impossible to comprehend it completely. This is why we make do with building a **simplified image of reality**—a model. A few items are extracted from the multitude of actual phenomena and although they are not separate and isolated in reality, their use in a model can produce knowledge. Generally, the **ceteris-paribus method** is used: one variable—the control or

dependent variable—is isolated from a complex of variables and by keeping all other variables constant (the independent variables) it is possible to investigate the influence of the control variable on an outcome.

**Partial and global models** differ in their frames of reference: they can be static or dynamic, depending on whether they refer to a single or several time periods. **Explicative and decision models** are chosen according to the problem being addressed. Different types of model have different assumptions about outcomes: **deterministic models** imply absolute certainty; **stochastic models** imply probability and **game-theory based models** do not even assign a probability to possible outcomes.

### 1.8.3 The Issue of Values

Unlike mathematics and to a much greater extent than the natural sciences, the humanities and in particular social, and economic and management sciences are confronted with the problem of values. In economic and management science normative conditions and subjective evaluations are introduced, so that objective knowledge becomes subjective knowledge. In the interests of scientific objectivity, the researcher should strive to be neutral, but if this is not possible, should declare her own biases openly.

In methodological debates, extreme positions often turn out to be one-sided and questionable. There is no position of "either...or" when it comes to values in the academic discipline of business administration, for there is only "both. . .and." While generally recognising the premise of neutrality, yet knowing that it can never be fully achieved, we should accept that value judgements and ideology exist and can be criticised. Common ground can be found in dialogue where experts come together, leading to the establishment of agreed values through **processes of communication.**

### 1.8.4 Terminology

Gaining knowledge and transferring it require the availability of concepts and their proper use in language through having the right terminology. Concepts and terms are not an end in themselves, but serve as means for the goals of knowledge and communication. It is necessary to define concepts as tightly and as closely as possible so that participants in a communication process understand each other.

Difficulties arise from the confusion between colloquial and specialised language. Concepts used in colloquial languages tend to spread fast. On the contrary, only experts—sometimes even only those with similar views or belonging to the same school—are familiar with specialised terms, so that knowledge transfer requires a "translation". As the authors found during the preparation of this English language version of a Geman book, translating to and from a foreign language is never simple. Sometimes, one language does not use the same concept as the other

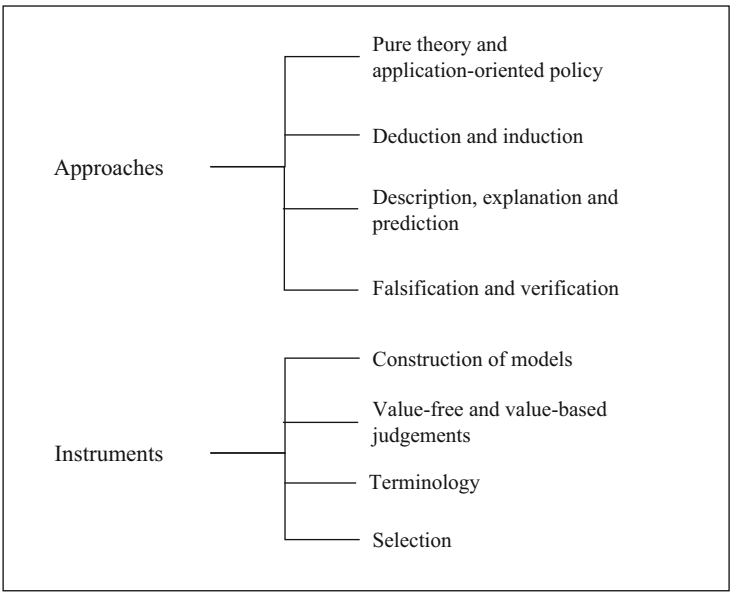


**Fig. 1.8** The cognitive methods of research

language (e.g. *Formalziel* and *Sachziel*) and sometimes there are false friends like the German word *Controlling*, which does not mean the same as the English word *controlling*.

### 1.8.5 Selection

It is not possible to study everything, so we must make a selection based on whatever criteria we decide to use—what we choose are the objects of cognition (or areas of study) as discussed in Sect. 1.2. The criteria we have used in this book are economic efficiency and effectiveness. Figure 1.8 provides an overview of the cognitive methods of research on which our work is based.

## 1.9 Examples and Exercises

### 1.9.1 Economic Modelling

**Situation**
A German bicycle company purchases groupsets (a collection of components, including gears, brakes and chain) from a Japanese company. As part of procurement planning, the company must decide when to order the groupsets and how big the orders should be.

**Solution**
The managers of the company come to the conclusion that the best method to answer their procurement question is to build a decision model. In order to do so, they need to make certain assumptions:

1. The annual requirement is known and can be divided into equally sized order quantities.
2. The purchase price per groupset remains unchanged (volume discounts are not possible).
3. The daily requirement is constant, i.e. parts are taken from inventory uniformly. This means that on average half the order quantity is always in stock.
4. The warehouse stock is always replenished when there are no parts on hand.
5. The order costs are fixed.
6. The storage capacities are sufficient for the optimal inventory.
7. The company has sufficient financial resources.

This model has the advantage of simplicity and the necessary data can be collected easily. However, its simplicity is also a problem, because the managers need to ask themselves if it is realistic.

**Questions**

- What would change if assumption 2 were wrong and prices increased?
- Are there any other assumptions that you would make?
- Think of a recent purchase you made of an expensive item. What assumptions did you make before you made the purchase?

### 1.9.2 Information Sources

**Situation**
E-Vehicle AG is planning to build a plant in Mannheim for the production of its newly developed emission-free electric vehicle "Zero E". The model has been tested successfully for a year and a half. The investment would amount to around 200 million Euro. About 370 jobs would be created.

**Solution**
Up-to-date and detailed information on the local economy is an important basis for making decisions on location. One source of information is local government. The city of Mannheim provides a wealth of information about the location on its website (Stadt Mannheim 2017, www.mannheim.de/wirtschaftentwickeln). In addition, state, federal, research institutes and associations provide local (also regional, national and international) information. For example:

Employees by industry

| As of 30.06. | 2015 | 2014 | 2013 |
|---|---|---|---|
| Total | 180,273 | 178,114 | 174,861 |
| Total production | 51,194 | 52,071 | 49,797 |
| – Manufacturing | 40,058 | 40,468 | 358,591 |
| – Construction industry | 8060 | 7805 | 7589 |
| Total services | 128,110 | 125,817 | 128,842 |
| – Trade; Maintenance and repair of vehicles | 26,185 | 25,806 | 25,750 |
| – Transport and storage | 9708 | 9381 | 9241 |
| – Catering | 4935 | 4632 | 4505 |

Source: Bundesagentur für Arbeit

Job Market

| | 2016 | 2015 | 2011 |
|---|---|---|---|
| Total jobless | 9157 | 9489 | 9442 |
| Jobless as percentage of workforce in Mannheim | 5.7 | 6.0 | 6.1 |

Source: Statistisches Landesamt Baden-Württemberg—Annual average. http://www.statistik.baden-wuerttemberg.de/Arbeit/Arbeitslose/03033015.tab?R=KR222

Property Market

| As of 30.06 | 2016 | 2015 | 2014 |
|---|---|---|---|
| Amount on market in sqm (Rental + transactions to end users) | 78,000 | 55,000 | 45,000 |
| Office space im million sq,m. | 2.0 | 2.0 | 2.0 |
| Unrented space (percent) | 4.5 | 5.2 | 5.6 |
| Avg. rent €/sq.m./month | 11.8 | 11.4 | 10.7 |
| Office space under construction (thousand sq.m.) | 11,000 | 38,000 | 11,000 |

Source: Gesellschaft für Immobilienwirtschaftliche Forschung e,V,, Jahresabgleich—Büromärkte Deutschland 2016

New businesses

| | 2015 | 2014 | 2014 |
|---|---|---|---|
| New businesses started | 2771 | 2893 | 3219 |

Source: Statistisches Landesamt Baden-Württemberg

**Communications**

Mannheim is well situated for road transportation:

- E35 Arnheim-Cologne-Frankfurt-Mannheim-Basel
- E50 Prague-Mannheim-Paris
- A5 Frankfurt-Mannheim-Karlsruhe-Basel
- A6 Nuremberg-Mannheim-Saarbrücken-Paris
- A61 Venlo-Bonn-Koblenz-Speyer A5

- A65 Karlsruhe-Landau-Ludwigshafen
- A67 Arnheim-Cologne-Frankfurt-Mannheim A3

Mannheim is 30 minutes away from Frankfurt Airport, and the following cities can easily be reached by train:

- Stuttgart 35 min
- Frankfurt (Main) 40 min
- Cologne 1 h 30 min
- Basel 2 h 10 min
- Munich 3 h
- Hannover 3 h
- Paris 3 h 10 min
- Berlin 4 h 30 min

**Questions**

- Find similar information about your home town. How easy was it to find it?
- What other information about Mannheim would E-Vehicle AG need before deciding to open a factory there?
- Is all the information about Mannheim presented above relevant? What reasons do you have for your opinion?

### 1.9.3 MyCompany Project

As you work your way through the book, you will take part in an activity where you plan your own business. The goal is that you can apply the contents of each chapter to your company.

Today, people have less and less time to prepare food for themselves and so are spending more on eating outside the home. At the same time, there is growing awareness that food should be healthy, that farm animals are sometimes not treated very well and that agri-business does a lot of damage to the natural environment. For these reasons the business is we have chosen is a cafe serving only fair-trade and organically grown vegetarian food and drinks.

As this chapter discussed, research involves gathering and analysing information, and it is essential to do the same before starting any business. You need to find out:

- The size of the market. How has it developed?
- The competitive situation. How many potential competitors are there in your neighbourhood? Who are the direct competitors?
- Information about the formalities of starting a business. What steps do you need to go through? Which permits are necessary? Is it possible to get advice?
- Costs. How much is rent? How much do people working in cafes earn? Does any national or city government agency offer financial assistance?

- What else might be important?

What are you going to call your company? You need to make sure that the name is not used by anyone else. How can you do that?

### 1.9.4 Self-Test Questions

– *What are the characteristics of an economic entity?*
– *What is the difference between a regional and supranational economy?*
– *What is meant by the term globalisation?*
– *What is the subject matter of business administration?*
– *How can the various areas within business administration be classified?*
– *What are the key features of the normative and descriptive decision theory?*
– *What is the difference between business administration and economics?*
– *What are the most important neighbouring disciplines of business administration and economics?*
– *What are the most important methods used in discovery during the research process?*
– *What is the purpose of modelling in business administration research?*
– *What is the relationship between perceptions, thought processes and learning processes?*