Routledge Research in Strategic Management

SHAREHOLDERS, STRATEGY AND VALUE CREATION

THE CASE OF THE IT SECTOR

Wojciech Muras and
Katarzyna Szczepańska-Woszczyna

ROUTLEDGE

Shareholders, Strategy and Value Creation

The central task of contemporary strategic management is to look for sources of value and to achieve above-average firm performance. The effective implementation of a value creation strategy requires a comprehensive approach, including the creation of a systemic management structure aimed at increasing company value.

The concept of value-based management involves consciously inspiring, undertaking, and implementing value-oriented actions. Value creation takes place at all levels of management and in all organisational units of the company; therefore, the implementation of all management functions should be assigned to this goal. Thus, the role of managers is gaining importance, especially those who are capital-linked to companies, who set goals and verify them by means of informed decisions aimed at maximising value in the long term.

The book presents a multidimensional analysis of shareholders' impact on company value creation. The authors chose the IT sector as the area of study; this sector, being one in which modern technologies are essential, acquires special significance for the global economy.

The book features a review of notions and concepts related to the management of company value and methods of measuring it, the shareholder's impact on the creation of company value, and factors affecting long-term value creation; an analysis of the places of occurrence, power and direction of a shareholder's impact on building the long-term capacity of an IT sector company for creating the value thereof, as well as the conceptualisation and operationalisation of such impact; an analysis of the role of shareholders in IT sector companies, a profile of shareholder competence which makes the role of a shareholder unique to the company and fulfils the "value-creating owner" postulate; an analysis of the role of hired managers cooperating with the shareholders with an indication of the significance of mutual development and the supplementation of one's own skills.

The book is dedicated to scientists in the field of strategic management, value-based management, and leadership; shareholders; students of EMBA and MBA programmes; practitioners in strategic management; and current shareholders of modern technology companies (in particular from the IT sector) and future investors, for all of whom it may offer a valuable outlook on the management principles and practices in the sectors, particularly with respect to the long-term creation of company value.

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Introduction

The paradigm of enterprise management based on the subordination of the management system to the requirements of effective value creation has made the maximisation of company value a determinant of the concept of doing business and a guarantee of the long-term existence of the company on the market (Lichtarski, 2000; Jensen, 2002). The central task of contemporary strategic management is to look for sources of value and to achieve above-average firm performance. The effective implementation of a value creation strategy requires a comprehensive approach, including the creation of a systemic management structure aimed at increasing company value (Dyduch et al., 2021). The observation of economic practice leads to the conclusion that increasing interdependencies occur between the core areas of strategic enterprise management and the ability of companies to pursue long-term development.

The concept of value-based management involves consciously inspiring, undertaking, and implementing value-oriented actions. Value creation takes place at all levels of management and in all organisational units of the company; therefore, the implementation of all management functions should be assigned to this goal (Jaki, 2015). Thus, the role of managers is gaining importance, especially those who are capital-linked to companies, who set goals and verify them by means of informed decisions aimed at maximising value in the long term.

Nowadays, modern technology sectors, which also include the IT sector, are particularly important to the global economy. This view is supported by the constantly growing share of the IT sector in the national GDP and the growing number of employees in the sector.

Despite the rapidly growing importance of the IT sector, research into the influence of shareholders of capital companies on effective and efficient value creation in IT companies is only partially described in the literature. Research interest is limited to areas related to technological changes and their impact on social changes or the effectiveness of individual economic sectors, completely disregarding the importance of company founders and shareholders in this process.

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The authors observe that despite the popularity of issues related to entrepreneurs, value-based management and the IT sector (where the publications of consulting companies are predominant), the problem areas are addressed separately, without the detailed examination of mutual relationships. By undertaking research in selected areas of the relationship between entrepreneurs and the effectiveness of company value creation, researchers seek an understanding of the power of relationship-forming factors both at the level of the shareholding structure (as the elements of shareholder influence) (Morck, Shleifer, & Vishny, 1988; Demsetz, 1983) and at the level of the approach to risk proposed by Carlsson (2001), or other areas identified by researchers, such as the approach presented by Hecking and Tarrazon Rodon (2002), who point to factors related to shareholder development orientation that may contribute to the creation of company value. R. Carlsson proposed an attempt to design a holistic approach for the examined relationship between the influence of shareholders on the creation of company value. He asks the following questions at the stage of the conceptualisation of these relationships: *Why* is the role of the owner important? *What* makes this role, the importance of the owner in the organisation, unique*? What* skills and competencies should an active owner offer to the company in order to fulfil the requirement of "value-creating owner"? *How* can the owner contribute these values? The dynamic progress in the economy over the last 30 years has made this postulate both topical and valuable. Therefore, attempting to better understand where this impact occurs, whereby shareholders can increase the effectiveness and efficiency of the creation of company value in the IT sector, may result in new and valuable knowledge contributed to the theory of management sciences.

The issue of the holistic approach to the importance of the influence of IT sector shareholders on the creation of company value, as well as the identification of where this influence occurs, constitutes an important cognitive and research gap. The aim of the research was to identify areas where shareholders have an influence on building the long-term ability of an IT company to create its value, to conceptualise and operationalise this influence, and to attempt to investigate the strength and direction of this influence by means of selected research methods and tools. The practical purpose was to demonstrate such areas of activity to the owners and shareholders of IT companies where they can most strongly support their companies in the long-term creation of value. The simultaneous aim was to develop a prototype of an IT tool which uses the research results and supports shareholders in their choices.

The research problem pursued by the authors is strongly embedded in the perspective of the owners of capital companies, i.e. shareholders who have to decide on their role in the company as part of the decision-making process, and do so over the long term. It is strongly embedded in strategic management and the evolutionary theory of the firm. The ability to increase company value is an important criterion for the assessment of managers and, consequently, decisions taken by shareholders. In this way, it can be observed that in pragmatic terms, the research problem is located in the strategic choices made by shareholders. At the same time, the research problem fits snugly into the theory of economic development described by Schumpeter (1934), who pointed to the role of internal forces as the main cause of economic development. According to this theory, it is important to satisfy the conditions including the existence of a creative entrepreneur, the development of innovation and credit, which places the shareholder squarely at the centre of company development. Long-term observation of the IT sector and the experience of companies make it possible to see how shareholders who neglect value-based management areas or demonstrate low-quality management can have an adverse influence on the creation of company value. In turn, positive examples show how the capitalisation of companies is increasing as a result of courageous decisions taken by shareholders who compete in global markets.

It is therefore crucial to identify the influence of shareholders on the ability of IT companies to create long-term company value (it was assumed that a company shareholder means a person (persons) associated with the company through a capital relationship resulting from the shares held (in a joint-stock company or limited liability company)).

As a result, two main research questions were formulated:

> In what managerial roles are shareholders most conducive to building the long-term ability of the IT company to create its value?
>
> Which of the tasks that shareholders perform for the company and their attitudes presented towards it are most effective in building the long-term ability of the IT company to create its value?

The research objects of the monograph are IT companies in the significant position of a company shareholder represented by a natural person, in the context of the possibility of their influence on strategic and operational decisions taken. At the same time, it is possible to observe a strong focus on long-term value-based management in the decisions taken by this group of shareholders. The goal of the research was to examine the impact of these shareholders on the effective creation of the value of their companies in the long term.

Many years of observation of the economic environment, in particular the IT sector, confirm the need to collect empirical data and attempt to describe the potential locations of shareholder influence on building companies' ability to create their value in the long term. An equally important premise of scientific research is the belief that the basic goals of shareholders, which result from the investor approach, include the creation of the conditions for ensuring the continuity of business sustainability and changing business models in accordance with technological, social, political, or demographic changes. However, in order to achieve their goals, they must constantly find their place in companies and do so effectively and efficiently.

The research process uses a critical literature review approach, which, according to Barnett-Page and Thomas (2009), is characterised by a distinctive approach to synthesising multidisciplinary research conducted by means of different methods when the review of available literature is required. The systematic review included the literature since 1930. Triangulation of research methods and data sources was used to achieve the highest possible reliability of the scientific inference process.

In the general structure of the monograph, two layers can be distinguished, namely theoretical-methodological and empirical. The entire monograph consists of the introduction, five chapters, and the methodological appendix.

Chapter 1 introduces the term corporate governance as a set of rules, reports, processes, and corporate systems that define the distribution of rights and responsibilities within the company, describes the role of shareholders in a modern company, the functions which they fulfil, along with the key challenges, including shaping behaviours in the process of value creation in an enterprise. The role of shareholders in a modern company was described, the functions which they fulfil, along with the key challenges, including shaping behaviours in the process of value creation in an enterprise. Dominant areas of shareholders' impact on value creation in the IT companies were identified. The *general (holistic)* and *narrow approach* were proposed to describe the areas of potential implication of the shareholders on the effectiveness of value creation in the IT sector. In the general (holistic) approach, the impact of the managerial role performed by the shareholder on the effectiveness of value creation was proposed. The narrow approach takes into account a set of activities and shareholders' involvement towards the effectiveness of value creation in the IT sector. A review of the directions of transformation of the significance of shareholders in the light of company development was also made.

The authors reviewed the literature within the scope of entrepreneur theory, models of company orientation, including shareholders' significance, the shareholder in the concept of corporate governance, and characteristics of shareholders in terms of a catalogue of managerial traits and roles. The significance of managerial maturity of shareholders was characterised, along with their personal brand, in the context of building a company's capacity to create its own value.

Chapter 2 presents a value-based management (VBM) approach as the paradigm of enterprise management, based on the subordination of the management system to the requirements of effective creation of company value. The second part of the chapter presents an overview of the IT sector in a broad economic perspective, on both a macro- and the micro scale, in the context of its significance for the development of other sectors of the economy.

Positioning the research in the IT sector results from the ongoing information revolution which strengthens the significance of information in the development of the global economy. Development of the IT sector may offer an opportunity to build the capacity of companies from this sector for the long-term creation of their value (with benefits for their shareholders) and inspiring challenges (with benefits for their employees and the business environment).

Chapter 3 presents the methodology of the research, the manner in which the research process was conducted, the methods, research tools, data analysis, and methods of scientific inference. The inspiration for undertaking empirical studies derives from the observation of actual decision-making dilemmas of IT sector shareholders. As a consequence, extended interviews based on the Delphi method were conducted with shareholders from the IT sector and stakeholders of the economic environment (representatives of IT clients), who comprise an expert team actively engaged in sharing observations, remarks, views, and experiences within the scope of shaping a relationship between a shareholder and the value of a company operating in the IT sector. The dilemma related to the identification of the best potential places/areas of impact of the shareholders on the effective creation of company value emerged during the research. The proposed triangulation of research methods and data sources is of value, in the context of an attempt to understand the relationships between shareholders, value-based management, and the rules of competition in the IT sector.

Chapter 4 describes the results of empirical research regarding the identification of places/areas of occurrence of the shareholders' impact on the effectiveness of company value creation, quality of leadership in IT companies; a comparative analysis of a leader/shareholder and a leader/hired manager in the context of the effectiveness of leading changes that aim to build the long-term capacity of a company to create its value.

The final part of the chapter presents an assessment of the relationship between shareholders and the effectiveness of value creation of IT companies in light of the authors' own studies.

Chapter 5 presents model assumptions of the instrument supporting shareholder decisions. The second part of the chapter presents theoretical and practical implications of the study. Using the managerial role of shareholders as a tool for strategic and operational management and creating the value of an IT company is concluded. Choices made by shareholders related to the tasks performed for the company and attitudes towards it versus the company's ability to create its long-term value is discussed. Manager type – a shareholder – entrepreneur or an intrapreneur versus the effectiveness of value creation in the IT sector is shortly described. *The final conclusion concerns the leadership skills of shareholders-entrepreneurs versus the effectiveness of value creation of an IT company.*

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1 Shareholder in a company vs. the long-term capacity of the company to create its value

1.1 *Shareholder* and *stakeholder*: a review of corporate governance

Corporate governance is recognised as one of the most important issues in the business world (Loughrey, Keay, & Cerioni, 2008) and is the core of business and investment. It has a very wide scope and covers all the features of the way that stakeholders in a company relate to one another (Prentice & Holland, 1993). Farrar (1993) said that it is a subject which involves consideration of "the legitimacy of corporate power, corporate accountability and standards by which the corporation is to be governed and by whom". Nearly all developed and developing countries have adopted corporate governance regulations or issued new company laws (Tricker, 2015).

The introduction of corporate governance into Anglo-Saxon theory and practical discussion in economics, management, finance, law, and politics was related to the growing importance of the new social phenomenon associated with the increased complexity of the activities of primarily stock companies, which were described by means of concepts at the time, as in the pioneer work of A. Berle and G. Means in 1932 (Berle & Means, 1932). Corporate governance results from the separation of the financing and management of a company's activities. In the narrower sense, since the days of A. Berle and G. Means, it has been claimed that it results from the separation of ownership and management (Mesjasz, 2013). Currently, the main cause of the problems referred to as corporate governance is the separation of risk arising from company financing from management (Shleifer & Vishny, 1997). Owners or shareholders, i.e. those who bear risk, wish to gain the opportunity to influence its operations independently of the managers whom they have hired.

Corporate governance concentrates on the policy of controlling and guiding a firm. Specifically, it focuses on the structures and processes of governance (Adeyeye, 2010). There are different theories concerned with corporate governance, for instance, shareholder value theory and stakeholder value theory, stewardship theory, and enlightened shareholder value (ESV), which was recently adopted in the UK with the Company Act 2006 (CA, 2006).

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A business organisation is a coalition of diverse interests (Mitchell, Agle, & Wood, 1997). The concept defined by A. Rappaport as the shareholder value approach means that the focus in enterprise management and a choice of an action strategy is based on the criterion of shareholder value (Rappaport, 1995). The main goal, therefore, is to maximise shareholder value. The measure of assessment is increased shareholder wealth expressed by increased company value. The concept of stakeholder value derives from the model of the coalition of R.M. Cyert and J.G. March in 1963. An important observation of stakeholder theory is that organisations are part of a broader system that includes both business and social interactions. According to this concept, the objective of the company and at the same time the means of achieving thereof are, to the same extent, the interests (often conflicting) of its partners (Post et al., 2002). The measure of evaluation is the satisfaction of all stakeholders.

Both concepts have advantages as well as disadvantages (Rappaport, 1999, 2006; Lazonick & O'Sullivan, 2000; Engelen, 2002). The advantage of the shareholder value concept is the unambiguous, measurable objective of the company, which is the estimated, discounted free cash flow of owners and creditors minus the market value of the debt or the discounted free cash flow belonging only to owners (Skoczylas, 2011). Its volume makes it possible to compare different strategies and thus choose the most advantageous, from this point of view, the direction of company development. Advocates of maximising shareholder value treat profits that the corporation generates as rewards for critical economic functions that, allegedly, shareholders perform and without which these residuals would not be possible. Shareholder returns are regarded as incentives for waiting and risk bearing. In another version, they are seen as rewards for shareholder monitoring of managers (Lazonick & O'Sullivan, 2000). The economic argument for making distributions to shareholders is an argument concerning the efficiency of the replacement of corporate control over the allocation of resources and returns with market control – according to the logic of shareholder value theory, if corporate managers cannot allocate resources and returns to maintain the value of the shareholders' assets, then the "free cash flow" should be distributed to shareholders who can then allocate these resources to their most efficient alternative uses (Lazonick & O'Sullivan, 2000). Engelen (2002) highlights that ownership describes and prescribes a certain set of social relations surrounding the object that is supposedly "owned". Ownership constitutes a relationship between the owner and other agents and demarcates *relational rights* instead of *absolute* ones. In that sense, ownership does not so much concern things or objects as relations. Property does not say so much "this is mine" as "I can do this with it and not that, whereas you can do that and not this". W. Skoczylas (2011) believes that a clear focus on shareholder value creation can only be a source of long-term success if their demands are maximised when the objectives of other stakeholders interested in the company's activities are maximised. Therefore, it requires equal treatment of all stakeholders interested in the future of the company, i.e. shareholders, managers, or creditors. Shareholders invest their capital and bear the risk of losing it. They are also the last, after customers, employees, suppliers, cooperators, creditors, and the state, to participate in the amount of the surplus. Shareholders also have the strongest incentive to manage resources so that the company can achieve a competitive advantage in the long term. The basis for decision-making lies in the planning process.

The drawback is that society and the various goals of managers and owners (agency theory) approve the assumptions of shareholder value only to a limited extent. Unlike the concept of shareholder value, the stakeholder value concept treats a company as a public institution which also bears social and political responsibility. For this reason, all stakeholder groups must be involved in the strategic planning process.

The focus on value creation that has recently materialised in both the theory and practice of business management has sparked discussions about the entities served by an enterprise and attempts to determine whether an enterprise should counterbalance the interests of all related entities (stakeholders) or to act for the benefit of its shareholders (Rappaport, 1998). In response, two models of business operation have been distinguished:

- the financial model, where the goal of operation of an enterprise is to increase the value for shareholders (the shareholder value perspective); here, the enterprise is treated as an instrument used to generate income for the shareholders;
- the social model, adopting the stakeholder value perspective; here, a business is perceived as a joint enterprise, where the suppliers of capital, knowledge, capacity, labour, and services cooperate as equals with a view to accomplishing success together. The above leads to two perspectives in the operation of businesses:
- shareholder interest focus – characteristic of the economies of the United States and Great Britain (the so-called Anglo-Saxon model);
- focus on the interests of diverse entities engaged in the operation of an organisation – characteristic of the economies of countries such as Germany, France, and Japan (the so-called continental model) (Wrońska, 2004; Blair, 1995; Yoshimori, 1995).

Depending on the perspective adopted, the expectations of groups of interest underlie the business strategy and adoption of a specific perspective for company value creation with respect to diverse expectations among interested groups: consumers want competitive prices and high quality; employees want high wages, good work conditions, and stability of employment; suppliers want low risk and a high rate of return, while the wider community wants high subsidies for the environment and charity actions. As a result of these discrepancies, it is difficult to simultaneously satisfy the interests of all parties and create company value.

The advocates of the stakeholder theory stress its opposition (at least) to the shareholder theory (Friedman, 1970), highlighting the fact that businesses have stakeholders to whom they should proactively pay attention (Freeman, 1984), and believe that the stakeholder theory guarantees a tool to combine ethics and strategy (Phillips, 2003) and that companies that diligently try to serve the interests of a broad group of stakeholders will, in the course of time, create a higher value (Campbell, 1997; Freeman, Harrison, &Wicks, 2007).

The convergence of the financial and social models has been noticeable in recent years. The financial model increasingly often takes into account the interests of entities other than the shareholders of entities related to a firm, while in the social model, limits on the impact of interests of groups other than direct stakeholders have been rising. It is possible to conclude that management should serve the interests of a company and not the interests of such groups; in such a case, the goal is balance and the sustainable existence of an entity along with the reinforcement of its market position in order to generate value. As a consequence, the value for clients, which is the source of company value, is maximised.

The issue of corporate governance is one of the major issues of contemporary management. This follows, to a significant extent, from the growth in size and wealth of joint stock companies which – following intense consolidation processes – are gaining increasing significance in the world economy. Together with the intensification of consolidation processes leading to the increased size and wealth of joint stock companies, interest in the *corporate governance* models is on the rise, including networks of relations between the managerial personnel of companies and their supervisory bodies, shareholders and other groups of interests interested in the operation of businesses, as well as the structure that is used to determine the goals of a business, the means of accomplishing such goals, and means of tracking business results (Jeżak, 2014; Durden & Pech, 2006). A shift from an era of "managerial capitalism" to one identified as "agency capitalism" has been noted that has come with a somewhat new and different set of "agency conflicts" and associated costs (Gilson & Gordon, 2019). The separation of ownership and control is the core of agency problems faced by firms (Berle & Means, 1932; Jensen & Meckling, 1976). The object of discussions and market practice is the level of concentration of corporate property or the shareholding structure, which are the consequences of relevant legal regulations or the absence thereof.

While the Anglo-Saxon models are characterised by dispersed ownership, in the German and the Latin models, there is concentrated ownership held by several shareholders (blocks of shares or voting rights). Similar diversity is observed in the case of the shareholding structure. Following the ongoing process of corporate ownership institutionalisation, the holders of the largest stakes in Anglo-Saxon firms are institutions, such as pension funds and investment funds. In U.S. public companies, the relatively small holdings of many individual shareholders have been supplanted by the large holdings of institutional investors, such as pension funds, mutual funds, and bank trust departments. In German and Japanese companies, the banks, insurance companies, and capital groups play this role. In the Latin model, families and governments are also significant shareholders. In turn, individual shareholders are a minority in all regions of the world (Jeżak, 2014; Lashgari, 2004; Gilson & Gordon, 2019).

Interest in the role and the place of shareholders (entrepreneurs) in capital companies is also a result of searching for the best possible methods of combining the entrepreneur's potential and shaping the potential of companies. Specific attributes of board structure such as the separation of the posts of chairperson and the CEO, the percentage of outside directors on the board, etc., have become important considerations in the quest for effective corporate governance (Sinha, 2006). In reference books and business practice, two dominant orientations in profit generation criteria are distinguished: shareholder orientation and stakeholder orientation. M. Siems (2007) considered whether a shareholder should be an active investor or strictly an observer, offering the examples that in a mature and large market (e.g. in the United States), a shareholder is perceived as an investor engaged in an enterprise on the level of a capital provider (*capital provider type*). In mature markets, the co-entrepreneur type stance is noted much less frequently; this type is characterised by the active participation of shareholders in operating decisions. The differences between the *stakeholder* and the *shareholder* models were elaborated by Charreaux and Desbrieres (2001), who highlighted factors such as the efficiency of organisation and value maximisation as being crucial for shareholders; in turn, social benefits and business sustainability are of primary interest for stakeholders. Reference books also feature a division of shareholders into two key classes: *strategic owners* and shareholders with financial goals, namely *financial owners*. Strategic owners are interested in the sustainable development of a company from a long-term perspective. They operate in a traditional business formula, which may be defined as follows: Money – Goods – Money.

A shareholder in the corporate governance concept is an object of numerous academic publications. The issue of separation of ownership and supervision over managerial processes is a result of the intense growth in the number of capital companies and diversity of stockholders and shareholders within a corporate structure. Diverse attitudes of managers to the resources which they manage naturally assign them to the category of entrepreneurs and intrapreneurs. The former group includes those who manage a business on their own account, taking the financial risk into account. In turn, intrapreneurs are people acting with significant invention and initiative for companies which are not owned by them.

The separation of ownership and management was described by A.A. Berle and G.C. Means in 1932; they noted that as a result of a change in the model from a “closed” company to an “open” one, it ceased to be merely a legal form of operation of natural persons and became a form of capital organisation. The authors showed that a company as a form of capital organisation is characterised by separation of the hitherto indivisible roles of the owner and of the manager. The former is now more of an investor; the second is a qualified professional. Both groups have diverse – often conflicting – interests: maximising the company’s profits at a reasonable level of risk, assigning the greatest possible portion of such profit for the disbursement of dividends (observing the limits of company interest), and maintaining share liquidity (easy exit) versus a focus on personal benefits, such as professional prestige and high wages.

The analysis of the issue of separation of ownership and management in capital firms shows that there are three combinations for identifying ownership and managerial functions:

- full identification of ownership and managerial functions: the characteristic feature of this combination is the independence of strategic and operating decisions, e.g. sole ownership or a group of management board members who are owners;
- partial identification: this combination is distinguished by no participation in management on the part of shareholders who control the company’s operations; an example is multiple ownership, where only some owners serve as management board members;
- full separation of ownership and management: this relationship is characterised by actions of the management board which are opposed to the interests of investors; this is a dispersed ownership structure, which is held by the contract management board.

Studies on entrepreneurship are carried out from the perspective of diverse fields of science, namely economics, management sciences, sociology, psychology, and law. Entrepreneurship studies are some of the most extensive themes tackled by the contemporary management sciences (Bratnicki, 2005); furthermore, the growing interest of scientists in the activities of entrepreneurs is also observed (Aldridge Jr., 1997; Frese, Chell, & Klandt, 2000; Kets de Vries, 1996). The term “entrepreneur” first appeared in the works of Jean B. Say and Joseph A. Schumpeter. Say regarded an entrepreneur as an individual who directs the operations of the firm and distinguished him from a pure capitalist as well as from an ordinary worker. He defined an entrepreneur as the founder of a firm or an individual exercising control over it, who notices opportunities conducive to business and makes use of them; an entrepreneur is the driving force behind economic changes and progress (Walker, 1986). Say perceives entrepreneurship as a change in the yield from resources which an entrepreneur accomplishes by experimenting with ever newer production factors. The entrepreneur engages in activity out of fear of loss or expectations of benefits (Say, 2001).

According to Schumpeter (1934), a direct impetus for activity "consisting in combination of factors of production" is the desire to create and to break away from the routine. Schumpeter saw the entrepreneur as an individual predestined for and capable of introducing innovations (the entrepreneur as a creative innovator). He believed that an entrepreneur was sensitive (vigilant) with respect to favourable opportunities for change. As early as in the first edition of the *Theory of Economic Development* of 1912, he stressed creativity and heroism as the basic traits of an entrepreneur (Brouwer, 2002). An entrepreneur should possess leadership skills, will and energy for action, dynamism, and constructiveness, and the ability to act against the conventional views and set rules. The introduction of new combinations has compelled the entrepreneur to have the skills and courage to take significant risks. The entrepreneur was characterised by a desire to act, the ability to subordinate others, and managerial and leadership skills (Schumpeter, 2002).

Frank Knight (1971) believed that an entrepreneur is an innovator, a coordinator and a manager, a person who accepts risks and is willing to engage in uncertain situations, while Israel Kirzner (1973) described an entrepreneur as a person with a special ability to read signals from the market and to use the resources to accomplish balance in an organisation, a person who contributes new combinations, a creator and an innovator. Several authors note an important trait of an entrepreneur, namely the ability to spot and to use market opportunities, or even to "chase after market opportunities".

These definitions, even though highlighting slightly different aspects which make up the core of entrepreneurship, are mutually complementary. Knight highlights the fact that an entrepreneur is a person prone to taking risks and coping with functioning in conditions of uncertainty. On the other hand, Kirzner stresses that the essence of entrepreneurship is innovation. Thus, an entrepreneur is a person who introduces new products, services, or modes of functioning in a competitive environment. Schumpeter's approach stresses the fact that the role of an entrepreneur is taken by individuals characterised by specific features related to sensitisation to changes that are favourable in terms of business. In all these approaches, an entrepreneur is simply an organiser or a manager of production or trade – most often the employer and owner of capital (Gruszecki, 1994; Noga, 2009). J. Schumpeter's approach is at the same time narrower in the semantic sense and broader in the subjective sense. His definition of an entrepreneur merely has a functional character and refers exclusively to functions and activities related to innovation. However, a person who is not the owner of capital can be an entrepreneur at the same time. According to Schumpeter's approach, economic development takes place not under the impact of changes coming from the outside, but the inside, from one's own initiative of economic life. He defined capitalism as a dynamic system which, in the ongoing process of innovation, continually changes its methods of production and structure of consumption. This is the *eternal gale of creative destruction.* The authors of such innovations are specific people with specific features – entrepreneurs. Being an entrepreneur is a special function, a privilege of a narrow group of people who possess virtues of mind and will greater than the ordinary. Their conduct may affect social history and shape new models of life and new systems of values (McDaniel, 2005). L.V. Mises, representing the current of "Austrian" economics, presented an entrepreneur as an actor reacting to changes, making calculations based on the continually changing prices where priceless yet dispersed and transient information enabling economic calculation is hidden (Mises, 2007). Mises believed that in a market economy, every person performs the role of an entrepreneur to a certain degree; among operating entities, he distinguished a capitalist, a labourer, and an entrepreneur-organiser, the latter of whom struggles most with the problem of searching for fleeting information and creating new resources and products (Mises, 2007).

From the perspective of the approaches presented above, an entrepreneur is a person who is intent on scouring the environment for favourable business opportunities, manifesting a creative and innovative stance and not afraid of taking calculated risks. Entrepreneurs are perceived as "creating a new world" (Czarniawska-Joerges & Wolff, 1991). An entrepreneur is a person running a profit-oriented business and bearing the risk and full responsibility for achieving specific results. In a broader etymological sense, an entrepreneur is an individual who "takes something on" – being active, brisk, vigorous, taking the initiative, and exhibiting increased activity and initiative outside an enterprise.

The entrepreneur should also perform another function which is equally important as leading, namely exerting pressure on the environment and forcing others to follow. That is why leaders perform their function, thanks to their strong will rather than intellect; they rely more on authority and the power of individualism than the originality of their ideas. At the same time, Schumpeter adds that not every entrepreneur can be called a genius. In the light of studies on these approaches, one may note that the behaviour, motivation, and social and economic function of an entrepreneurial individual were his main mental and theoretical fascination. The motif of the "special type" of person, a supranormal individual, a new man (Schumpeter, 1964) that moves the economy and the world forward is the main axis of logic in his theory of economic evolution. According to H. Kisch (1979), the architecture of Schumpeter's system definitely has at least one necessary component of greatness – simplicity. The entrepreneur is at the heart of his system – an innovator, a man with unique intuition, energy, perseverance, and organisational skills. This individual, as presented by J. Schumpeter, a half-dreamer and half down-to-earth materialist, initiates the economic change. Thus, economic leadership is strongly highlighted. On the one hand, it is meant to manage the resources (means of production) for new applications. Simultaneously, its task is to convince the bankers and subsequently – via the loans granted – purchase the means of production and apply them in what the entrepreneur considers to be a proper manner. New combinations of means of production are searched for in order to gain profit. At the same time, Schumpeter stresses that there are three other basic motives, stronger than striving for profit, that guide the entrepreneur: the dream and the will to find a private kingdom and the will to conquer. In this way, the entrepreneur realises his will to fight, to compete, to show one's superiority over others, to win for the sake of winning, and the joy of creating, accomplishing something or simply exercising his own energy and ingenuity (Zagóra-Jonszta, 2015).

Summing up, the definitions of entrepreneur and entrepreneurship may be presented in the form of three basic categories (Bratnicki & Strużyna, 2001):

- a functional approach to entrepreneurship referring to the economic entrepreneurial functions in an economy; in this understanding, an entrepreneur is a person involved in business activity looking for profitable opportunities, organising and managing enterprises that have a productive character, making final decisions about coordination of available resources, and accepting risk related to failure;
- personal characteristics of an entrepreneur referring to his personal features and social functions; an entrepreneurial person manifests creative traits (inventiveness, creativity, perceptiveness) and practical ones (diligence, managerial and organisational skills);
- entrepreneurship as a specific mode of management, a type of managerial behaviour (approach).

It follows from studies on the separation of ownership and management on account of identification of ownership and managerial functions that 71% of the managers who are simultaneously owners of the company believe that this is a very beneficial situation, taking the interest of the owner and the company into account. In turn, managers who are not owners claim that the separation of ownership and management is not a significant factor that affects company management. It also follows from the studies that owner supervision is a significant factor that prompts investors to prefer the shares of those companies where the owners have greater supervision over ownership (Bohdanowicz, 2015). The authors of managerial theories of the firm state that companies managed by managers pursue a bundle of goals (the multifactorial functions of goals); however, their fundamental goal is to achieve a certain level of satisfactory profit, especially in the long term (Boehlke, 2010). In addition to this superior goal, managerial activities are determined by other incentives, including striving for higher pay, gaining prestige, and increasing the scope of their own decision-making. In the practice of economic life, there were clear differences of interest between the managing directors of large companies and their owners, usually fragmented shareholding. This difference of interests and goals became the main premise of the developed managerial theories of the firm, which are an attempt to explain the functioning of corporations which operate on oligopolistic markets.

The concept of Berle and Means (1932) emphasised the separation of ownership from management in a company. In his concept, R. Marris supplemented the managerial theory of the firm with a fairly detailed analysis of the company's financial policy and included a risk element in the managerial decision-making and the previous experience of the company in conducting risky activities, e.g. in the implementation of a new product on the market (Rogalska, 2014).

Managerialism considered a different goal of business functioning than the traditionally adopted one, namely maximising the value of profit. The authors of managerial theories were convinced that companies achieve the differently defined goals of their managers. In the assumptions which underpin these trends, the main role of a manager results from the growing importance of professional management in companies and from the dispersion of ownership in increasingly complex organisations (the separation of the roles of an owner, an entrepreneur, a manager, and a customer). Managers can play the role of the entrepreneurs, as much as be only technocratic administrators. Effective business management is the result of leadership opportunities, learning managerial skills, methods and techniques, but also motivation (or lack thereof) to effectively use the company's resources (e.g. in the case of poor owner supervision, the lack of a manager market, and so on).

1.2 Shareholder as manager and/or leader – different roles and methods of action

In the literature, the terms *leader* and *leadership* (Cucović, 2016; Graham, 1988; Jacobs, 1970; Katz & Kahn, 1978; Kibort, 2004; Kożusznik, 2002; Roberts, 2005; Zaleznik, 1989) are widely used next to the terms *manager* and *executive*. Although they are often used interchangeably, they do not mean the same. In a sense, they reflect the evolution of the perception of the main subject of the management process and the tasks set for it. According to J. Penc's concept, a manager is a person employed to manage, to perform all the functions using all or selected resources to achieve all or part of the goals of the organisation (Penc, 2002). On the other hand, a leader is a person who is able to influence (affect) the behaviour of other people without using coercive measures and who is accepted by them as a leader (Griffin, 2004; Grzesiak, 2022; Zabolotniaia, Cheng, & Dacko-Pikiewicz, 2019). He or she is a "person with supporters" (Drucker, 2006). Leadership is defined as the ability to "lead" more or less numerous supporters (Koźmiński & Jemielniak, 2011). James MacGregor Burns (2003) explains leadership as "empowering engagement with followers, that remains leader-centric" (Szczepańska-Woszczyna, 2021).

According to Couto (2015) "an initiative, whether effective or ineffective, is leadership as long as it is taken on behalf of shared values and the common good". Managers are – next to subordinates – one of the parties in the management process connected by the relationship of power and submission, while the parties to leadership are leaders and their supporters, between whom there is a relationship of influence and subordination not based on coercion (Kożusznik, 2005). The main difference between managers and leaders lies in the disparateness of their roles and tasks as well as the competencies needed to perform them (Table 1.1).

Table 1.1 Manager and leader – different roles and methods of action

Manager	*Leader*
Manager – a person with formal authority and a position resulting from the nomination, being a formal authorisation from the owner to dispose of the company's resources, i.e. to manage it;	Leader – both formal and informal; rather, a certain ability, skill or feature of uniting and motivating people to act, develop, give direction, and lead;
Focuses on systems and structure; manages running processes, focuses on observation of results, compares them with goals and corrects deviations;	Focuses on people; sets a distant and ambitious goal and mobilises subordinates to follow this direction;
Sets policy and strategy;	Agrees on values – leadership through inspirations;
The following processes are the managers' domain of activity: (1) planning and budgeting, focusing on defining goals in the short term, (2) organising and staffing, creating organisation structure and resource allocation, (3) controlling and problem solving by monitoring compliance of results with previous plans;	Three processes are the domain of activity: (1) establishing directions by developing the vision, (2) aligning people to the organisation's vision through communication, (3) motivating and inspiring employees to act despite obstacles they may encounter, through empowerment;
Prefers working with people, but with minimal emotional involvement; communicates by sending ambiguous signals; employees perceive them as enigmatic, manipulative;	Attracts and arouses interest; addresses others directly, intuitively, and empathetically;
Actions based on control; sets parameters, creates control rules and procedures;	Builds trust; creates rules supporting employees' professional development;
Asks: how? and when?;	Asks: what? and why?;
Accepts *status quo*; avoids risk;	Introduces changes; takes the risk if the opportunities which arise seem to be promising;
Results: order, consistent actions;	Results: change, innovation;
Feels part of the organisation.	Feels separated from the organisation.

Source: Own study based on Kotter (1990); Zaleznik (1992).

A manager should primarily manage operational processes, while the task of a leader is to set ambitious goals and to mobilise and motivate subordinates to follow this direction (Kostera, Kownacki, & Szumski, 2000).

Managers perform management functions. These include defining goals, organising work, ensuring adequate motivation and communication, analysing the organisation's activities, and improving staff qualifications. According to the above concept, managers perform their tasks by setting company goals, specifying fragmentary goals for each area of the strategic goal, deciding what actions to take to achieve these goals, mobilising employees to work effectively, and providing them with necessary information about strategic plans – and are aware that the company's success depends on their performance. Managers organise work while creating adequate structures. They specify the necessary actions, decisions, and relationships, classify the work, divide it into activities and group subordinates into organisational units, and these together with tasks into organisational structures. They select people to whom they entrust the task of managing units and for tasks that must be performed. They motivate and inform people responsible for tasks and create a team. They use awards for good employees, create conditions for their development and improvement, and lay the poor ones off. They introduce innovations, create a knowledge-based partner organisation, and anticipate the future. They also measure and evaluate and set evaluation measures. They analyse performance, assess and interpret it, and inform subordinates and superiors alike of the results of the analyses (Drucker, 1994, 119–126). Leadership, on the other hand, occurs when, through leaders, supporters strive for goals that represent values and motivations relevant to both the goals of the group or the organisation. The art of leadership is based on the ability to see and achieve common goals, extract the potential of other people, and direct the talents, knowledge, and abilities of the group towards predetermined results (Mrówka, 2005). An effective leader can be compared to an excellent selector who correctly chooses the people with whom he or she is to work, is able to reliably assess their progress at work and apply appropriate motivational systems. He or she is a negotiator who solves emerging problems and suggests solutions. He or she is also an integrator, harmonising the goals and activities of various groups in the process of change in the company. A significant role in the discussion on the differences between leadership and management was played by A. Zaleznik's publication, in which the author, noting the importance of the contribution of both managers and leaders to the functioning of the organisation, emphasises their diversity, from personal motivation to the way of thinking and acting. In 1977, when A. Zaleznik published the article *Managers and leaders: Are they different?*, the traditional view of management focused on organisational structures and processes, while the view of leadership development focused, in particular, on building competencies, control, and balance of power. Such a view, according to A. Zaleznik, bypassed important leadership elements, inspiration, vision, and passions of people, thanks to whom organisations achieve success. According to A. Zaleznik, managers focus on maintaining stability and the *status quo*, performing duties, exercising power, and achieving goals, while leaders focus on changing and searching for new solutions, understanding people's beliefs and gaining their commitment. Numerous authors have devoted their efforts to the comparison of managers and leaders, but the conclusion is that they are not a kind of substitute. A manager and a leader have many common traits, but at the same time there are significant differences between them, and each of these management groups has their own advantages and disadvantages; as A. Zaleznik has opined, it cannot be stated that either of them is better. Despite many differences, traits, functions, and peculiarities appearing in theory, one should express the belief that both groups are considered necessary in the practice of economic life. (Szczepańska-Woszczyna, 2021).

Various management concepts – from Frederick Winslow Taylor to Charles Barnard, to representatives of the Human Relations school, to contemporary concepts of New Public Management or the Strategic Performance Management System — have defined managerial functions, emphasised ever newer aspects of an organisation, and equipped managers with the knowledge and tools for the effective implementation of the goals imposed on them (Górski, 2009).

The quality of actions of professional managers is determined by numerous factors, in particular competence, which plays an essential role. When looking for the model of a shareholder in capital companies, the authors decided to review the literature in the context of managerial competence, in particular the catalogue of managerial and personality traits. The concept of competence appears in the work of Robert White (1959) as "a skill acquired in the deepest sense (…), directed, selective and persistent action taken (…) because such action assumes an innate need to manipulate the environment".

D.C. McClelland (1973) indicated competence as the key category for forecasting employee results, while R. Boyatzis (1982), an expert on organisational behaviour and psychologist, defined competence as a capacity, a basic and primary feature and a characteristic that offers effective and/or better fulfilment of professional duties. The individual range of competence reflects the potential of a given person: competence was identified with the features of a manager who performs his/her work very well. Competence encompasses motives, personal traits, skills, mode of thinking about oneself, one's social role, and the resources of knowledge that a given person uses – while being aware of having such features or not. Elena Antonacopoulou and Louise Fitzgerald (1996) believe that for a manager to be competent, they need to have a number of features and characteristics, thanks to which the abilities held and the internalised knowledge can be translated to efficient action. The proper level of competence allows for the efficient performance of managerial roles and simultaneously makes it possible to meet the special business goals of an enterprise. Summing up various approaches and definitions referring to the competence structure of managerial personnel, it may be assumed that it consists of ingredients such as knowledge, skills, personality, experience, and stances (the conceptual content of individual ingredients is presented by Szczepańska-Woszczyna, 2021; Marrelli, Tondora, & Hoge, 2005).

Knowledge comprises elements such as education, foreign languages, and years of service. Skills are manifested in efficient management, use of the acquired knowledge for management, filtering the information from the environment, conflict resolution, team management, and delegation of powers. Stances include readiness to acquire new knowledge, to learn and to improve, assertiveness, openness to other people, and management style (Szczepańska-Woszczyna & Dacko-Pikiewicz, 2014).

Management competencies are a combination of the manager's professional knowledge, skills obtained, experience, characteristics, as well as the proper approach and motivation to act. For the manager to be competent, he must have numerous characteristics and attributes, thanks to which it is possible to translate skills and knowledge into effective action. A proper level of competencies allows one to effectively fulfil management roles, and at the same time achieve the company's defined business roles (Antonacopoulou & Fitzgerald, 1996).

Professional knowledge, the skill of making proper decisions at the appropriate time, cooperation, experience, as well as observance of the rules of ethics and culture play a very important role nowadays in regard to management competencies (Kurowska-Pysz, 2014; Szczepańska-Woszczyna, 2014). A combination of these elements ensures authority, which allows one to competently manage a very diversified structure and culture. Rakowska and Cichorzewska (2016) and Sitko-Lutek and Jakubiak (2014) note that competencies generally cover knowledge, skills, and approaches, meaning that a competent manager will want to, and be able to, positively use knowledge and skills gained, thanks to a suitable approach and personal characteristics. This set of components of competencies needs to be supplemented with values which, in her opinion, constitute the basis of the modern manager's understanding, assessment, and sensitisation to another individual (Moczydłowska, 2012).

The process of shaping managerial competencies is determined by changes in the business environment and the conditions of the labour market. Factors which determine the profile of managerial competencies include:

- moving away from the traditional organisation of companies which prevailed in the 20th century (a high degree of centralisation and formalisation, multi-levelling, a high degree of work specialisation, strong formal hierarchical bonds, focus on the evaluation of individual performance, and the instrumental treatment of a person);
- moving away from the traditional role and functions of a manager, shaping a company manager as a team leader organising, motivating, and coordinating his or her work, using his or her own actual competencies, as well as the

competencies of his or her colleagues in the pursuit of the mission, strategy, goals, and tasks of the company;
- shaping the modern types of organisations which are suitable for the current and future conditions of the functioning of the company.

J. Collins points to five core levels in managerial development that can be the inspiration for and path of managerial development, and thus provide guidance for management structures in developing the managerial potential of company managers (Collins, 2007). A level 1 manager is merely a highly capable individual (good knowledge and organisation); level 2 – a contributing team member (helps the team to achieve better results); level 3 – a competent manager (organises people and resources to achieve goals). A level 4 manager is an effective leader who evokes commitment and pursues a vision. A level 4 executive is defined by J. Collins as making the transition from a good leader to a great one (manager), who is characterised by a mentality of the order of questions. According to this concept, the level 5 manager asks himself *who (with whom)* will accomplish tasks and goals rather than *what* (the task list), which clearly distinguishes them from lower levels more focused on tasks or themselves rather than on the environment of the manager and his or her potential. A level 5 manager can build lasting power by combining humility with strength and determination. A similar concept is presented by J. Maxwell, who defines the individual levels as a position (level 1 – you are the boss), permission (level 2 – you have built relationships, you are liked), production (level 3 – people follow the boss, because he/she gets things done), employee development (level 4 – the development of the team through the action of the boss), and the pinnacle (level 5 – big company, happy people) (Maxwell, 2013).

In order to understand the shareholder model, a review of managerial roles is valuable. From a theoretical point of view, a manager is a person who conducts the management process by performing managerial functions, planning and controlling, and making decisions (Zbichorski, 1997). In simple terms, the work of managers comes down to decision-making, team management, and the continuous improvement and adaptation of organisations to changes in the environment (Nogalski & Śniadecki, 2001). In the 1970s, H. Mintzberg conducted a study of U.S. managers who were perceived favourably by their superiors, distinguishing three groups of roles most often performed by managers, namely interpersonal, informational, and decisional roles (Mintzberg, 1973). In the interpersonal role, the manager, as a representative of the company, performs representative tasks (the figurehead); as the leader, he or she influences employees (motivation, inspiration), and as the liaison, he or she maintains relations between the external (business environment) and internal (company) worlds. In the informational role, the manager seeks valuable information for the company (the monitor), distributes it to decision-makers (the disseminator), and, if necessary, performs the function of the company's spokesperson. In decisional roles, the manager shows the entrepreneur's instinct (seeking opportunities, making changes), allocates resources to effectively achieve goals (the resource allocator), while improving the organisation's structures, and performs conciliation and negotiation functions (the negotiator). According to P.F. Drucker, additionally, the roles played by managers are changing, and as a result, the sources of motivation and job satisfaction are changing, too. The study shows that a way a manager plays a role in the organisation depends on personality traits, qualifications and skills, management style, social status, or tolerance (Drucker, 1994).

The work of managers is considered most often through the prism of managerial functions, where two groups can be distinguished, namely internal functions related to management activities within the team and external functions related to tasks performed by management activities outside the team (Lachiewicz, 1994). The literature points out that team management requires considerable activity and entrepreneurship in action, which leads to the belief that managerial work is associated with specific personality predispositions, talent, and professional qualifications. At the same time, management work is characterised by the considerable complexity of the activities performed, the variability of their course, and the difficulty of programming thereof (Lachiewicz, 1994).

The changing economy, the growing role of technology, global inter-organisational networks, and changes in organisational behaviour resulting from the generational change among employees are the reasons why many of the management methods used today have lost their raison d'être. This also means the necessity of changing managers' work and their approach to management because, although their role will not change, the way they will play that role is changing. The only aspect that loses its raison d'être is giving instructions and staying outside the team. Modern managers will have to set directions and be exemplary leaders, paving the way for their employees' success. This is because the key to success will not be the success of the manager but of the team he or she leads (Szczepańska-Woszczyna, 2021).

The traditional norms of the vertical style of management practised in the 20th century, referred to as Management 1.0 – which is particularly characteristic of enterprises with hierarchical structures (such as uniformed services) – have become obsolete in the context of the knowledge-based economy. This paradigm of management was developed on the basis of the conviction that a manager should control the performance of the employees using quality standards (McDonald, 2011, 798). In response to the challenges of dynamically developing work virtualisation, open-source work practices, the questioning of hierarchical management, Y-generation values, the global market, and the imperative of sustainable business, the concept of Management 2.0 was created in the 21st century, the keyword for which is *innovation* (McDonald, 2011, 797). It is being developed with a view to create (rather than control) an environment that will support the creativity and innovation of employees.

The observation of managers' and owners' behaviour in IT companies indicates, in terms of the roles assumed by shareholders, the need to take the period of their implementation into account. The potential impact of the emergence of a new business scenario as a factor which implies a change of role (often in the short- or medium-term) has been observed. In the relevant literature and interviews with IT sector representatives, generators (triggers) of such business scenarios as financial crisis, negotiation of key (breakthrough) contracts, leading significant changes in the company or regaining reputation can be observed. The short-term management of an enterprise bears the characteristics of interim management. The importance of the roles of interim managers in the IT sector is evidenced by research conducted by the Interim Managers Association (SIM), where the IT sector constitutes the second most frequent interim manager engagement. Companies report missing competencies, organisational change, and restructuring, which together account for more than 60% of cases, as a primary reason for the application of interim management. In the category of company size, those with up to 250 employees accounted for 55% of the use of the concept of interim management, which is the justification for such a high position of the IT sector, where most companies are in the SME group. H. Dźwigoł makes a similar claim, at the same time emphasising that interim management is a solution that is used in crisis, which requires very difficult decisions, mainly related to the restructuring of the company (Dźwigoł, 2018). At the same time, according to A. Baczyńska, in difficult business scenarios, there are stronger differences between managerial and leadership attitudes.

A review of the relevant literature indicates the importance of specific skills, experiences, or personal qualities of a manager, shareholder, which can effectively contribute to making better decisions. Pointing to managerial maturity, A. Kozak states that a mature manager is referred to as a person who is primarily a mature man (Kozak, 2011). This is a person who successfully pursues set goals, doing so with high levels of determination. A mature manager is also a person with a sense of self-identity, which, enriched by the strength of the intellectual potential of a manager, enables him or her to manage the team well and achieve the goals. A mature manager should also be characterised by a healthy personality, which is described in R.E. Franken's publication as a homogeneous personality, with an objective view of oneself, being active in his or her immediate environment (Franken, 2012). A manager with healthy personality is a confident and predictable person. J. Zamorski reviewed the criteria of the mature personality of the manager, which include openness to gaining experience, lack of defensive attitude, awareness characterised by accuracy and clarity, unconditional self-esteem in an autonomous rather than reactive way, relationships with other people which are harmonious, focus on intuition rather than inference, a choice of experiences which facilitate the development of flexibility and the ability to adjust attitudes in the future (Zamorski, 2003).

According to G. Allport, maturity is a manifestation of curiosity about the world (Allport, 1988). The manager with this trait is characterised by openness to new experiences. Immaturity, on the other hand, is characterised by the manager's defence of only his or her own ideas, the dominance of the logic of "I am right". A mature manager is able to specify and pursue distant plans in the future, which is important in business. Maturity also manifests itself in how a manager builds relationships with people from his or her environment; relationships focused on respecting diversity amongst colleagues. Building close, warm relationships, treating each person as valuable and unique, and commitment to building deep relationships are the characteristics of a mature manager. An important aspect in managerial maturity is emotional stability. Resistance to stressful situations and their acceptance, self-acceptance, and the expression of feelings without fear of judgment are features that facilitate safety in a team managed by the manager (Kozak, 2011).

The importance of personal brand as important managerial competency is also highlighted. Following L. de Chernatony's proposal to understand the brand, a personal brand can be considered an identifiable person, representing the lasting values recognised by the recipient as those that best meet his or her needs. In this perspective, it is important to identify a specific personal brand and values that are valuable from the point of view of the brand's customer (de Chernatony, 2003; Wróblewski & Grzesiak, 2020; Grzesiak, 2017). T. Peters adopts, as its starting point, the state in which each individual has a personal brand. Obviously, not everyone manages it consciously, consistently, and effectively (Rampersad, 2010). The distinction formulated by P. Montoya and T. Vandehey can be used to understand the essence of the brand concept and the importance of building thereof (Montoya & Vandehey, 2009). Personal branding can be seen not only as a way of promoting people who perform public roles (politicians, artists, celebrities) but also as an essential component of an intangible asset of an enterprise, if the personal branding can be directly related to the company's brand (own company – personal brand of the entrepreneur, other – personal brand of the employee). In terms of management, brand is one of the most important intangible resources, which often determines the competitiveness and growth opportunities of the company. Since for many years brand management has been dominated by so-called corporate branding, which requires the involvement of all its members in the building thereof, it can be said that organisations need employees, people with strong personal branding (Kotler, 2003).

The relevant literature addresses the issue of the impact of the personal brand of the shareholder (in particular in the position of the President/CEO) on the value of the company. Core areas where the strength of the CEO's personal brand is analysed include authenticity, courage in taking risks, consistency of vision and management style, coherence of declared and respected values, and effectiveness in communication with stakeholders.

1.3 Shareholders in the creation of company value

A unique task for shareholders is the active creation of value (Carlsson, 2001). Such an approach may be a kind of obligation for shareholders as active participants in economic and social life. The determinants of the company's development can be divided into (Mitek):

- external factors, which include the international environment (the globalisation of the economy, the liberalisation of markets), the national environment (the level of economic growth, the innovativeness of the economy), and the local environment (composed of sectoral factors),
- internal factors, which include competitive potential (including tangible resources, intangible resources, and competitiveness of products and services) (Mitek & Miciuła, 2012).

It is possible to shape external factors through activities within industry associations and groups of entrepreneurs, which can build areas for tasks performed by the shareholder. Shareholders have the largest share in the area of internal factors that directly affect the competitiveness of the company. The effectiveness of these activities may be influenced by factors shaping the potential of the shareholder (or group of shareholders), in particular those identified by J. Karpacz, such as their knowledge, skills, and personal factors (Karpacz, 2011). The company's pro-development approach, implemented through the search for competitive advantage or taking a higher risk than its competitors in pursuing strategies or changing business models, leads to the search for the strength and directions of the influence of shareholders on shaping and supporting such strategic choices. As S. Hecking and M.A. Tarrazon Rodon point out, it is possible to identify several key determinants and their influence on the level of shareholder orientation in the context of supporting the development and creation of the shareholder value orientation (Hecking, Tarrazon, & Rodon, 2002). In their opinion, factors that are directly related to decisions or attitudes of shareholders include a moderate dividend policy aimed at company investment needs, willingness to make long-term investments aimed at building an element of competitive advantage or adjusting to market requirements (which forces the shareholders' patient attitude in anticipation of results, while reducing the short- and medium-term benefits of ownership). At the same time, they indicate attitudes and skills such as flexibility in approaching long-term projects and investments, openness to risk-taking (often higher than competitors), building and supporting (motivating) the potential of colleagues, skilful recognition of opportunities in synergies between companies through partnerships or capital investments.

R. Carlsson proposed an approach to shaping the relationship between the shareholder and company value through a degree of openness to risk. Based on the assumption that the source of business development is a cyclical strategic renewal, which occurs by taking adequate risk by shareholders, it indicates that the issue of openness to risk by shareholders is important in shaping the relationship between shareholders and the ability of the company to create its value. As a result, R. Carlsson proposes three core areas of shareholder competence: business risk management, the holistic understanding of business principles and rules (referred to as meta-management), and the ability to shape vision and recognition (personal branding) (Carlsson, 2001).

In the course of the discussion on the importance of a shareholder in the creation of value, the issue of their influence on shaping organisational culture, strength, and importance of leadership in the company or maintaining the founder's mentality in choices made by the company is significant.

The concept of organisational culture is an integral part of business management. Organisational culture is referred to as an element which differentiates companies and creates opportunities for the creation of their value (Szmurło, 2013). Thus, it shows that companies in a given industry, in spite of producing similar products and offering similar services, may, through a properly shaped organisational culture, differ in their approach to the customer, the quality of the goods produced, the presented attitudes of employees, relations with the business environment, or the strategic renewal capability. Own rules allow them to stand out from the environment, which can be used to make profits. R. Kilmann argues that organisational culture is often referred to as the *autonomous nervous system of the organisation* (Kilmann, Saxton, & Serpa, 1985). G. Aniszewska believes that the sources of organisational culture begin in three points, namely in the environment, in the organisation, and in its participants. The environment depends on variables such as sociocultural variables, economic variables, legal regulations, and technological trends (Aniszewska & Gielnicka, 1999). Culture is the co-creation of corporate strategy and mission based on the same beliefs and methods of pursuing them (Bańka, 2011). According to A. Szmurło, organisational culture in the company has two, external and internal, functions. External functions contain problems related to the achievement of the company's goals. Culture allows the company to have its own personality, which is distinctive. The internal function is responsible for the integration, cooperation, interaction, and unity of employees.

In this context, tasks that shareholders have to perform can be observed. Shareholders, in accordance with their beliefs, business idea, and implementation possibilities, shape the core principles of organisational culture, which, according to their intention and purpose, will allow them to build effective mechanisms for value creation in the long term. Market observation shows that an important common feature of newly created companies, focused on long-term development, is a bold mission, aversion to bureaucracy and an obsession with customer service. This is confirmed by research conducted by C. Zook and J. Allen, who defined the concept of the founder's mentality. They describe such traits of the founding shareholder that, when promoted and cultivated in the company, have a significant impact on maintaining the company's dynamics and agility, shaping its culture and contributing to maintaining its capability of cyclical strategic renewal, which promotes the long-term effectiveness of value creation (Zook & Allen, 2017). Following this trend, it can therefore be seen that the founder's mentality in the company is the development of the founders' assumptions for organisational culture and thus is an important area of the influence of shareholders, and in particular founders, on the company, in the context of its ability to maintain efficiency, which promotes building the capacity to create company value. Based on the above simplified review of the definitions of organisational culture, it is valuable to recognise the role that owners, founders, and shareholders can and should play in its creation, evolution, and supervision. Negligence in this area, regardless of the stage of the company's development, can have a significant impact on the day-to-day choices made by the company and consequently reduce the chances of creating value in the long term.

Equally important issues include the concept of the founder's mentality and company's choices regarding the combination of opportunistic or relational approaches in the market game and the shaped management logic. In the opinion of business practitioners, a view of the role of founders' and shareholders' values, how they personally adhere to them in their choices and attitudes, while promoting and influencing the immediate environment of colleagues, is gaining importance. Following this trend, these values are behind the force shaping the organisational culture that the company's stakeholders see and co-shape.

Value-based management is becoming an increasingly popular way of managing companies which think long term, with a relational approach having an advantage over an opportunistic one (Podyma, 2017). Such a concept leads to the idea that values in the company lead to increased company value. At the same time, it indicates that value-based management must take place simultaneously from three perspectives, namely those of the leader-manager, personal values, and team (colleagues') values. The effectiveness of such an approach strongly depends on both adherence to agreed (and developed) values, as well as identification with them (in attitudes and choices), thus constituting a significant power of influence on their immediate environment of colleagues, indicating what the values mean in each job position and place in the business process. As a result, one can observe the extent to which responsibility lies with managers-leaders. Their adherence to core values and long-term thinking rather than short-term benefits will contribute to the long-term operation of a company that is more resilient to market distortion than those where such a view is less dominant.

In turn, the issue of leadership is widely recognised in the scientific literature, in the areas of management, economics, psychology, sociology, or philosophy. It is also important to notice changes in the fields of technology, market, society, or politics, while at the same time new expectations for entrepreneurs' and managers' leadership are being shaped. The literature also indicates that in modern organisations the roles of a manager who cares about operations and a leader who shapes the future are combined in proportions depending on the context (Baczyńska, 2018). The above view refers to the models of competitive advantage based on a strategic renewal approach and the search for operational efficiency. The analysis of the sources of competitiveness leads to the conclusion that in the case of a strategic renewal approach, leadership competencies are gaining importance due to the nature of challenges that require building participant engagement through trust in the vision represented by the leader. On the other hand, in companies with a focus on high process efficiency, the importance of an operational management approach, which is strongly synonymous with managerial competencies, is more important in the context of business goals.

Taking into account the fact that the research subject is in the IT sector (belonging to the sectors of new technologies), and thus identified with the search for innovation and new problem-solving methods, it leads to the view that managers active in this sector must be able to combine a competent manager model with a leader model. According to J. Hawkins and subsequent researchers, each manager should have leadership competencies, feeling responsible for the areas entrusted to them (Hawkins, 2000). Numerous organisations spend a great amount of money on organising leadership development programmes in the company for their employees. These are designed to develop the leadership competencies of managers (Fleishmann, Cleveland, & Cohen, 2003).

The following theories of leadership are presented in the literature, namely transactional theory, transformational theory, and servant theory. Transactional theory emphasises the relationship between the leader and his or her followers. Its particular interest is the (mutual) benefits of these (exchange-based) relationships, i.e. when the leader offers something (e.g. jobs, resources, or rewards) in exchange for something else (e.g. votes during elections or acceptance of his or her authority). Transformational theory, unlike transactional theory, does not expose external (based on exchange relations) but internal motivation. Thus, the emphasis is not on consent or submission on the part of the followers but on their commitment. In this concept, the transformational leader is a charismatic visionary who formulates ambitious goals and is able to inspire others to achieve them. The development of the above theories of leadership was presented by R.K. Greenleaf, who states that there is also servant leadership, according to which the leader first wishes to serve and then manage. Such a leader is fundamentally different from a person who first wants to be a manager, perhaps in order to satisfy his or her exuberant desire for power or to acquire material goods (Greenleaf, 2002).

Taking a closer look at the day-to-day activities of shareholders, the authors see the importance of having leadership skills as one of core change management tools, which is strongly related not only to business crises but also to ongoing processes of renewal and gaining the trust of colleagues.

While searching for the areas of shareholder influence in shaping the potential of capital companies, it is valuable to identify such shareholders' attributes that, when implemented as part of the organisational culture, allow companies not only to last but also to constantly renew their passion.

Passion is a desire to play; it is doing something for the sake of pleasure (Obłój, 2016). Therefore, passion motivates and obliges. It is essential for entrepreneurs when they build their organisations from scratch, but it is also a necessary element of winning strategies of existing companies. In both cases, passion means being willing to challenge the market by attacking a market leader, offering a new product or service, creating a new market, building a new business model, or simply improving and growing a business. K. Obłój believes that the source of business passion is two classic dreams. The first is the dream of creating a new market reality. This is a difficult road, which has the character of an unblazed trail. This is, therefore, the way closer to art than science because it results in real market innovation. The second classic dream of a strategist is change. Its starting point is a thorough interpretation of the surrounding market reality and a look at the local environment of the organisation in a new, different way that makes it possible to see phenomena and trends, most often already existing, but not obvious to everyone. The essence of passion is the willingness to challenge the reality that others treat as given, expressed in two fundamental questions of "why" and "why not". These questions are a characteristic of people with great imagination. They are people who are enthusiastically able to see strange things, interesting things in "normal" reality, or imagine the world differently. They can persevere with their questions, even fight for them. And struggle and perseverance are necessary because their dream of change arises in conditions of great uncertainty. When there is no uncertainty, there is no dream and passion (Obłój, 2016).

The importance of the power of dreams and passion, shaped by founders and owners (shareholders), as identified in the relevant literature, led to the search for such factors that allow the company to retain its passion and dream in the long term, despite the increased scale of its operations, and at the same time, to learn which of the factors, internal (sources in the company) or external (sources outside the company), weaken the company and, as a result, contribute to failures. C. Zook and J. Allen agree that the sources of sustainable results originate within the company, and most importantly, they are predictable (Zook & Allen, 2017). Internal factors include strengthening organisational culture, improving systems, adapting the business model, or motivating employees to perform their duties perfectly. The concept of the founder's mentality was defined by C. Zook and J. Allen as one of the greatest secrets of success in business. This is a set of the founder's attitudes and behaviours, including the founder's aversion to bureaucracy and complexity, evoking a sense of responsibility and commitment among employees, choosing clearly defined goals and mission that are clear to colleagues, the founder's brave and ambitious approach, paying great attention to details and high recognition of employees who have direct contact with the client.

The high potential of the entrepreneur is an increased ability to see a new application of resources and use their strength and potential. According to the authors, non-renewal of the characteristics of resources leads to a loss of the strategic value and potential of the entrepreneur. How the company is managed and how the company is organised depends on the potential of the entrepreneur (Turek & Wojtczuk-Turek, 2008).

The strategic renewal of the company's potential is defined in the literature as the effect of the possibilities used to make changes to the current resource system. A view can be found that the determinants of the strategic renewal of the potential of small-/medium-sized enterprises are divided into (Lichtarski & Karaś, 2003) external (the determinism of the competitive environment – the perception of the activities of business partners and competitors) and internal (creating the total potential of the company (Stabryła, 2009) – knowledge, skills, and personality qualities of the entrepreneur, tangible and intangible resources that improve the operation of the company) (Safin, 2002). A. Nehring, on the other hand, argues that the company's potential is influenced by the relationships that appear in its components and require coordination by the entrepreneur. A. Armstrong believes that the behaviour of people creates the sources of potential. This behaviour is the driving force of their future actions, which are determined by the entrepreneur's individual predispositions (Glinka, 2008). P.F. Drucker defines entrepreneurship as actions taken by an entrepreneur, which are a manifestation of his or her potential. This potential is the entrepreneur himself or herself, who combines ownership, managerial and technical activities, which create unity in small- and medium-sized enterprises (Safin, 2002).

G. Johnson, K. Scholes, and E. Stańczyk-Hugiet argue that the entrepreneur should maintain an adaptive tension and the order that arises over time in the organisation. According to J. Karpacz, the entrepreneur (owner) has a significant influence on how the potential is built, because, most importantly, he or she is most connected to it through responsibility in relation to the obligations incumbent on the company. In a small- and medium-sized enterprise, the manager has executive power based on patriarchal principles (Nogalski, Rutka, & Karpacz, 2007). The situation is different in companies with multiple ownership. The division of the ownership structure allows for specialisation in a given area. In this case, it is possible to avoid mistakes in relation to strategic decisions made by owners as opposed to small- and medium-sized enterprises, where such a problem occurs. Its reason may be too many obligations assigned to the entrepreneur (Rutka, 2001).

D.F. Kuratko and R.M. Hodgetts note that entrepreneurship recommends searching for competitive advantages in the creation of innovation (Kuratko & Audretsch, 2009). On the other hand, based on the observation of economic practices, J. Karpacz implies the possibility of a faster pace of company development compared to the pace of the entrepreneur's potential (Karpacz, 2011). This phenomenon, in turn, leads to the creation of a so-called business potential gap – a state that, when remaining at the company for a longer period, reduces the value of the company's potential. As J. Rokita points out, the entrepreneur can bridge this gap by acquiring knowledge, which allows for the strategic renewal. This is influenced, inter alia, by the potential of the entrepreneur. Similarly, S. Gudkova pays attention to the relationship between the company's potential and its internal environment (tangible and intangible resources for running a company) (Glinka, 2011). Going further, J. Karpacz believes that strategic changes and the direction of changes in the company's environment are likely to be contradicted. Then a phenomenon called strategic drift in the literature occurs, i.e. constant changes in the strategy that do not bring the results expected. Measures to avoid this phenomenon are designed to maintain a balance between the actual situation and changes that must be made. The strategic drift is rapidly disrupting the strategic renewal, which means changing the business or organisational system of the company. Each strategic change aims to bring harmony in the organisational structure.

1.4 Organisation: the factors that contribute to shareholder salience

E. James M. Gifford (2010) studied and analysed the attributes of power, legitimacy, and urgency to determine the factors that are likely to enhance shareholder salience. Power is categorised – using Etzioni's (1964) framework – into coercive power (through the use of formal shareholder governance powers), utilitarian power (the power to reward or punish through financial means), and normative power (expressed through actions that affect a target company's reputation). Legitimacy was divided into *individual legitimacy* (relating to the credibility of the engagement practitioners meeting with the target companies on behalf of the shareholder), *organisational legitimacy* (driven by the credibility of the shareholder organisation in the market), *societal legitimacy* (based on the legitimacy of the issue in the eyes of the community), and *pragmatic legitimacy* (focusing on the legitimacy of the shareholder's argument from the perspective of the company, i.e. the business case). Urgency represents the "degree to which stakeholder claims call for immediate attention", with synonyms including "compelling", "driving", and "imperative". Urgency exists only when two conditions are met: (1) when a relationship or claim is of a time-sensitive nature and (2) when that relationship or claim is important or critical to the stakeholder (Mitchell et al., 1997, 867).

J. Collins (2013) studied and compared successful and failing companies and above all looked at their managers. A lack of humility, availability, and trust in subordinates were the dominant features of the managers of many companies in a stage of decline. In most cases, however, companies with no egocentric, authoritarian leaders who promote themselves in the media were successful. This is confirmed by the observations of M. Heffernan, who drew drastic conclusions based on examples of specific companies (mainly banks): presidents-stars, who manage with an iron fist, send their companies plunging to the bottom, and the culture of a "super-herd" created by teams of specialists with high IQ generates unfair methods of operation, leading to victory at all costs and the appropriate financial reward (Heffernan, 2015). The symptoms of a leadership crisis have been slowly penetrating public awareness for several years now. Insightful observers of the functioning of companies are starting to undermine the stereotype of an orderly organisation with a dominant model: management determines the vision, outlines the action plan, and makes sure that employees implement it. M. Heffernan's inquiry proves that a rigid hierarchy is destructive to an organisation. Ideas for improvement, new solutions to old problems, and creative inventions do not usually magically appear at one's desk, in a predetermined period, in a mind tired from everyday work. In the culture of the "super-herd", availability is fuelled by managers who, by their example of continuous readiness and absolute devotion to the company, encourage followers (Szczepańska-Woszczyna, 2021).

The conditions that lead to the organisational context of the shareholder influence are a combination of processes within the organisation that result from internal and external dynamics. It can be assumed that successful innovation is the effect of many factors, including:

- strategies based on system thinking;
- internal and external communication systems, the creativity of managers and employees, their ability to learn and use tacit knowledge resources, the openness and ability of managers to accept and implement employees' ideas, incentives and pressure, and a favourable atmosphere;
- no resistance to changes (attitudes towards risk, novelties, participation in decisions).

Among the main elements which form the context of the shareholder influence in shaping the potential of capital companies, particular attention should be paid to the role played by organisational structure, organisational culture, and strategy. These elements are crucial in the process of maintaining (or recovering) organisational balance, which occurs in every organisation (Koźmiński & Obłój, 1989).

The organisational structure determines the dispersion of control and responsibility in the organisation, and the creation of teams, coordination, and division of tasks between organisational units and employees in the organisation. It assigns employees their place in the organisation and also includes interpersonal relationships and the nature of authority. In dynamic terms, the structure is understood as a system which consists of sequences of processes structured in time that constitute the company; it defines functional connections as well as the circulations of supply, material, and information streams. The creation of organisational structures that make inter-organisational sharing of knowledge and resources possible is a key element for companies, providing the opportunity to make strategic decisions, resolve contradictions, and actively and effectively coordinate the innovation process (Olson, Walker Jr, & Ruekert, 1995). Managers have the opportunity to influence the innovation of an organisation by directly controlling the organisational structure. The organisational structure is a multidimensional construct, examined in terms of various sub-dimensions such as formalisation, centralisation, specialisation, functional diversity, and hierarchical (vertical) diversity (Damanpour, 1991), as well as variables related to resources, processes, and culture. Organisations differ according to hierarchical order, relationships between superiors and subordinates, etc. Standardisation and specialisation, which arise with an increase in the size of an organisation, lead to greater efficiency, but in exchange for rigidity and bureaucratisation.

Organisational culture, which many authors consider crucial, is the factor that determines processes in an organisation (Jassowalla & Soshittal, 2002; Loewe & Dominiquini, 2006; Lyons, Chatman, & Joyce, 2007; Chang & Lee, 2007; Lau & Ngo, 2004). In order to successfully implement changes or adopt technological solutions, companies must fulfil certain conditions in terms of their internal behaviour and external relationships. The elements of culture have an impact on processes in an organisation through socialisation and coordination (Tesluk, Farr, & Klein, 1997). Organisational culture focused on spreading behaviours which support organisation is a source of norms, values, and ways of conduct and thinking that will support the process of innovation creation. The community of norms and values creates a strong social and internal balance, which consequently also stabilises the organisation in the material dimension. The creation of culture is associated with the activity of managers – "leaders of change", creative people able to integrate people around the mission, and affect the rational and emotional sphere of employees (Zbiegień-Maciąg, 1999).

Research by Ruth Alas et al. (2011), conducted in Estonian companies from the electric-electronic, machine, and retail industries, concerned the relationships between organisational culture, leadership, and the innovative climate; it was found that the type of organisational culture determines various leadership behaviours, including those which create an innovative climate. Agnieszka Zakrzewska-Bielawska (2014) studied the importance of organisational culture as a factor in the development of high-tech companies; she stated that, in high technology companies, the importance of organisational culture increases along with the increase in their ability to create and implement innovations, while the features of organisational culture which support development include flexibility, open communication and trust, cooperation, and appreciating diversity.

Kim S. Cameron and Robert E. Quinn believe that a change in culture is a must in view of the dynamics of change in the organisation. They argue that stability is more often understood today as a sign of stagnation, and companies which are not evolving are considered ossified. The change in the organisation must be followed by a change in the organisational culture, and managers must be promoters of these changes, provided that a change in culture also entails personal change, a deep change in their attitudes (Cameron & Quinn, 2006).

Organisational culture is inseparable from strategy. Culture follows strategy, including strategic decisions on business expansion; innovation and personnel strategies shape attitudes and thus change values and norms. However, the influence of culture on strategy is equally important. Culture can also be created through the process of action. Here, the impact is also bidirectional. Organisational culture also has a significant impact on the functioning of a company's operating systems and the way its structures are organised, including the degree of flexibility within structures, the flexibility of communication channels, the extent of the decentralisation of power, the number of levels in the organisation hierarchy, the scope of managerial control, and individual/group decision-making (Armstrong, 2008).

1.5 Transformation of a shareholder role in light of company development

One of the models of company growth that captures the role of the owner is the model of the five phases of organisational growth. The basic assumption of L. Greiner's model is to observe the evolutionary phases during the company's growth (Greiner, 1998). These phases are characterised by stability and a steady growth rate. The core assumption of the five-phase model also includes the periods of organisational problems that force radical action.

According to the creator of the model, the duration of the steady growth phase varies from four to eight years, provided that the external environment is stable and critical problems inside the company do not occur. This period is followed by a period of turbulent changes in the application of management methods, proven models that turn out to be wrong in the case of company's growth. The growth phase at the beginning of the company's life is growth through creativity. The first crisis, i.e. the leadership crisis, occurs when a business management crisis takes place. The emergence of a leader gives the company the opportunity to enter the growth stage through guidelines. Another crisis, called the crisis of autonomy, occurs when it is necessary to separate power in the company. At this point, if the quality of decisions taken by the lower management improves, the company enters the growth phase through delegation. In this phase, a phase of control crisis occurs, caused by a shortage of information that employees at a higher level of the company have. In order to overcome this, mechanisms are introduced designed to coordinate actions at the various levels of the company and the organisation is introduced into the growth stage through coordination. As the company grows, a crisis of bureaucracy takes place. Another known phase of growth is teamwork, which allows for the better use of the coordination of company employees.

Another growth model is proposed by L.L. Steinmetz, and it is called the model of critical stages of small business growth (Steinmetz, 1969). Like in the L. Greiner's model, growth stages and crisis moments have also been distinguished here. Stage 1 is the direct supervision of the company owner over employees, who, through his or her experience, builds relationships with customers and also takes advantage of market opportunities, which results in the company's success. As the company grows, the emergence of additional problems or threatening competition results in the owner's perception of lack of control over the company. At this point, the first critical point comes, the moment which determines the development or collapse of the company. Determination and introduction of new methods in the company help overcome the crisis. It can be observed here how the shareholder greatly influences company development, how important their role (tasks) is. Stage 2 of this model is supervised supervision. At this stage, employees control other colleagues and goal-oriented management methods are introduced. The offer of products for company customers is also changing. In this phase, an entrepreneur is the person who manages, introduces methods to monitor company indicators. The critical point occurs when the company has about 300 employees. The reasons include making spectacular decisions by the owner, lack of contact of subordinates with the owner, resulting in behaviour contrary to the interests of the company, lack of responsibility for unsuccessful projects, fight at all costs for the success of the company, which results in increased costs of the company and the emergence of trade unions' changing relations between employees and the owner for worse. The introduction of mechanisms that allow for control, ensuring the independence of the company from the power of the owner, is a factor that facilitates the indirect control stage. Stage 4, called the divisional organisation, is characterised by the professional management of the company by professional managers. At this stage of company development, the entrepreneur does not act as the head of the company but performs control functions without operational management.

N.C. Churchill and V.L. Lewis jointly developed a model based on different assumptions. This is a model of the five stages of small business growth. In this model, greater emphasis has been put on the initial stage of the company's operation, and the degree of its growth is considered in terms of the diversity and complexity of the organisation's operation (Lewis & Churchill, 1983). The stages in the proposed model are existence, survival, success, take-off, and the final stage is resource maturity. R. Carlsson also points to the importance of the transformation of the role of shareholders, which, within the company's management structures, indicate those who are in the area of supervision – *board* (informational roles) and *executive management* (decisional and interpersonal roles). He argues that shareholders who act as management boards (which corresponds to the informational role) should provide a wealth of experience, manage risk, or have a holistic perspective. In turn, those who act as executive management (corresponding to decisional and interpersonal roles) should be characterised by high personal energy, courage to take new challenges and executive skills (Carlsson, 2002). C. Zook and J. Allen (2017) also identified the types of crises in the various phases of the company's life cycle. The first one, overload, is the crisis of losing the momentum that managers who want to change their own business in a short period of time experience. The second crisis, called stall-out, refers to a sudden slowdown in the development of the company by creating many organisational layers in the company through its rapid development. This is one of the most difficult crises for a company, which most companies are unable to cope with. Another crisis, free fall, is when the company with the wrong business model has completely stopped growing. This is one of the most dangerous stages of the company, in which managers get the impression of lack of control over the company. As the authors emphasise, these most dangerous stages for the company are foreseeable and avoidable. The authors also conducted an analysis aimed at verifying the view that success, both in terms of the benefits of the founder's mentality, the measure of the internal strength of the company and its culture, as well as benefits resulting from the company's economies of scale – the external measure of the company, leads to sustainable growth. C. Zook and J. Allen call the process that leads to this growth a journey north from the land of rebel start-ups to the world of mature rebels.

In the context of the transformation of founding roles in companies, P. Drucker's view is valuable, which states that company value can increase provided that high-quality managers are educated in the company, and this requires the focus of shareholders on shaping successors as well as the potential of direct collaborators. He also adds that building company value requires building a top-class management team long before a new venture really needs such managers and before it can afford it. This unambiguously gives a hint to current and future shareholders regarding the required attitudes or areas of concentration of their activity. It is therefore possible to see that the immediate environment of the shareholder helps overcome further challenges, and at the same time may determine the company's potential to make the right choices, creating opportunities for effective and long-term creation of company value.

The issue of the founder's mentality in the company's choices, and shaped through organisational culture, strongly indicates the approach of shareholders, especially founders, to planning their long-term engagement in the company. This approach is strongly reflected in the decisions made by the leaders of global technology companies, who openly inform the market about their long-term approach and express this in their roles and tasks for their companies. This is particularly evident in the actions of Michael Dell (Dell, Dell Technologies, active in managerial roles in the company (group) since 1984), N. Robert Hammer (Commvault, active in managerial roles from 1998 to 2018), and Bill Gates (Microsoft, active in managerial roles from 1976 to 2006) while transforming their role in companies.

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2 Value-based management

Case of IT sector companies

2.1 Value-based management

The observation of economic practice leads to the conclusion that increasing relationships occur between the core areas of business strategic and operational management and the long-term perspective of company's development. The new paradigm of enterprise management, based on the subordination of the management system to the requirements of effective creation of company value, has made the maximisation of its value a determinant of the concept of doing business and a guarantee of the long-term existence of the company on the market (Dudycz, 2005, 31).

The analysis of the literature allows for a conclusion that company value is the best and comprehensive measure of assessment, as it maps full information about the company's activities over a long period of time. In this sense, company value can be used as a long-term assessment tool. In a pragmatic sense, value-based management (VBM) can serve as a measure of management's performance and can be an inspiration for shareholders to make decisions in terms of management goals and consistency of strategic choices (development strategy, a business model). According to M. Siudak, the static measures of short-term assessment, such as return on equity (ROE) or earnings per share (EPS), are used to assess the creation of company value to a small extent (Siudak, 2001, 42). A similar stance is also presented by J. Jeżak and other, who point to the key disadvantages of the profit criterion approach and in the application of performance indicators. Consequently, performance indicators built on the basis of profit do not take into account the scale of the company's operation, the possibility of more efficient use of equity capital or the financial condition of the company (Jeżak, 2010, 99–101; Rappaport, 1999, 15–35).

Taking into account the shortcomings identified by practitioners and researchers in the balance sheet (accounting) profit and the indicators developed on that basis, a measure was sought in the theory of financial management that would negate said shortcomings and would allow for the measurement of the effectiveness of the company's operation in a more efficient, and at the same

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time reliable, way for the participants of the capital market. Net cash flow has become such a category, on the basis of which new classifications have been built, such as cash flow, economic value added (EVA), market value added (MVA), and shareholder value added (SVA). At the same time, researchers are discussing the relationship between company value and shareholder value. According to Polish and foreign researchers, value creation requires a clear and unambiguous definition of the ownership structure, which in turn allows capital owners to determine their preferences and supervise the multiplication of value. The creator of the SVA concept is A. Rappaport, who assumed that company value consists of the sum of the market value of equity and the value of borrowed capital (Rappaport, 1986, 32).

On the other hand, the critical view of practitioners and researchers on return ratios and the recognition of the increasing share of intangible (off-balance) assets gave rise to the development of a new concept of enterprise management, known as VBM. The literature includes numerous definitions of VBM. These approaches do not contradict each other, which makes it possible to conclude that VBM involves taking strategic and operational investment, organisational and financial decisions that contribute to increased market value of the company. A. Cwynar and W. Cwynar (2004) state that VBM is a management system in which all financial, investment, and organisational decisions made by managers aim to achieve the goal of maximising the value of capital investment. At the same time, A. Jaki points out that the assumption of the concept of VBM is to consciously inspire, undertake, and implement actions that are focused on increasing company value. According to J. Knight, VBM is a combination of strategy with the company's finances, which results in the maximisation of value.

The concept of VBM therefore assumes the conscious inspiration, undertaking and implementation of actions aimed at increasing value. Value is created at all levels and in all organisational units of the company, therefore all management functions should be focused on this objective (Jaki, 2011, 821–829). Thus, the role of shareholders, who, through informed decisions aimed at maximising value, set goals and verify them, is gaining importance.

The literature defines the phenomenon of a "value gap" that arises when a company, having a chance to create value, resigns from creation thereof consciously or by omission. The creation of the gap leads to risks related to the continued functioning of the company by increased vulnerability to the acquisition by another entity, when both shareholders and stakeholders lose. As a consequence, the pursuit of value creation should be a common goal of both shareholders and entities in the company's environment; however, shareholders bear the greatest risk of their activity, and at the same time are expected to have the highest motivation to increase value.

The maximisation of shareholder value is an obvious strategic objective, without doubt from the point of view of owners, but resulting in the question whether such an objective does not conflict with the objectives of company stakeholders. The issue has been thoroughly investigated by researchers, and empirical research, inter alia, by T. Copeland, T. Koller, and J. Murrin (2000), demonstrated that increased shareholder value is not contrary to the objectives of other stakeholders. Increasing their value, good companies generate higher value for employees, customers, suppliers, managers, and the state (taxes, economic growth indices). Thus, there is a positive correlation between company shareholders and stakeholders.

As research is conducted in the IT sector, it applies strategic and operational management methods due to the high competitiveness of the sector and the strong impact of innovation on the long-term position of the company. In addition, the growing role of the dependence of most sectors of the economy on information technology provides IT companies with strong growth dynamics and at the same time contributes to constantly growing expectations from suppliers, and thus from their shareholders, who are forced to take on new challenges, accept new development projects and new risks. Thus, the economic environment affects both the business model and the assessment of ROI for investors (shareholders), where company value becomes one of the measures. Taking these factors into account and observing market participants, it can be seen that VBM is one of the leading management concepts in the analysed sector. A review of the literature gives grounds for stating that VBM means making strategic, operational, and investment decisions to increase company value. It also means setting goals for the company, responding to the company's performance and, above all, maximising shareholder value.

In order to ensure increased company value in the long term, value drivers should be applied, which are closely related to VBM. Their identification, introduction to management, and monitoring together with optimal management result in increased company value. Then the basic condition that, according to the concept of A. Rappaport, VBM should satisfy, i.e. the maximisation of value, is met. Following this thread, M. Marcinkowska (2000, 23) proposes the following division of value drivers:

1 factors related to financial statements (balance sheet): unregistered assets, undervalued assets, synergy effect, cost of capital, profitability, risk, and growth,
2 factors unrelated to financial statements (off-balance):
   a external factors: location, access to natural resources, resource control, weak competition, monopolistic position, infrastructure development, and owners;
   b internal factors: human capital, intellectual capital, organisational culture, vision, mission, strategy, loyal customers, product, innovation, know-how, research, development and quality, brand, trademarks, information, data, information systems, strategic alliances, mergers, acquisitions, environmental impact, effective advertising, and public relations.

VBM requires the development of a measurement tool that could answer the question of shareholder value created over a given period. A fundamental measure of shareholder value creation is considered to be EVA proposed by Stern Steward & Co. in 1982. According to A. Cwynar and W. Cwynar (2004), this measure was based on the criticism of accounting profit and other accounting profit-based traditional measures.

EVA is based on a model that assumes that the amount of income generated should exceed the amount of the risk incurred, and its core value factor, as emphasised by J. Jeżak (2010), is the so-called economic income. EVA was also critically analysed by T. Dudycz (2005), who points out that the value of EVA depends on the invested capital (IC). At the same time, the management board can manipulate future growth by increasing the current value of EVA at the expense of reducing it in future investments (Nowicki, 2018).

The combination of balance (financial) and off-balance methods is an important factor in the creation of company value in the context of the components of business models. One example is the relationship between EVA and intellectual capital valuation and management models (Mouritsen, 1998). Researchers are searching for the valuation methods of intellectual capital, in particular during research into knowledge-based companies as an alternative method to other methods of company valuation.

Another tool for measuring value creation is MVA proposed by T.A. Stewart as a method of measuring intellectual capital. This method assumes that intellectual capital is the difference between the market value and the book value of the company (Kicińska, 2006, 199).

In the literature, in addition to the MVA method, the market-to-book ratio (MV/BV) is mentioned (Staniewski & Szczepankowski, 2012, 2) in the context of the valuation of intellectual capital, which is also referred to as the indicator of intellectual capital company saturation (Urbanek, 2004, 183). The presented principle of MV estimation (expressed by the formula: MV = IC + BV) is a consequence of the fact that when selling a company, the following are subjectively priced: customer loyalty, brand knowledge, or long-term trading contracts. While management theorists define this difference as intellectual capital, in financial accounting this difference is called “goodwill”. The difference arising from the acquisition or sale of a company is defined by the accounting rules as goodwill and is recognised in the buyer’s balance sheet.

In the practice of MVA application, the following formula is used:

$$MVA = V - K$$

where K is the value of capital invested by owners and creditors in operating assets.

Traditional financial indicators based on accounting data do not take into account all factors affecting goodwill. VBM created the need for additional measures to assess company performance. The measures of increase in the value of a company are MVA and EVA. The capital invested in operating assets includes the book value of long-term debt (the book value of this debt is approximately equal to its market value D), the adjusted book value of equity Ke, i.e. K = D + Ke. MVA is defined as a surplus of the company market value over the value of the capital invested in the company. MVA is the difference between the value of the total cash inflows that all shareholders could obtain by withdrawing their capital from the company and the amount they had previously invested by purchasing shares issued and reinvesting profit.

The relationship between the market value of invested capital (V) and its carrying amount (K) can be presented by means of the so-called economic balance. This is a "statement which shows the state of capital and net operating assets according to their market value" (Duliniec, 2011, 70–71). The balance is used in managing the capital invested in the company. The economic balance is expressed by the formula (Duliniec, 2011, 70–71):

$$Ve + Vd = V = K + MVA$$

where

Ve – the market value of equity, i.e. the current market price of one share multiplied by the number of all issued shares, Vd – the market value of the foreign capital, i.e. the market value of the interest-bearing debt; Vd can only be determined if it is listed on a stock exchange or an over-the-counter market; V – the market value of the company; it is the sum of the market value of equity and foreign capital, in parallel it is the market value of the net operating assets, K – balance sheet value of the invested capital.

At the same time, the MVA method is criticised by some researchers who believe it is wrong to define intellectual capital as a difference in market and book value, as it should be defined as higher value. First, according to J. Mouritsen (2003), intellectual capital cannot be the value of the difference in market and book value, since all changes in accounting policy would affect its value. The book value of the components of the balance sheet depends, inter alia, on the method used to value assets and liabilities, which consequently makes the value of intellectual capital dependent on the accounting policy adopted in the company. Another shortcoming of MVA is that book value is based on historical cost, which is updated at the balance sheet date, which means that its value may differ from current asset value (Kicińska, 2006, 206).

In the literature, there is a strong current approach to measuring MVA in relation to EVA. As J. Jeżak (2001) points out, MVA is a surplus of the company market value over the book value of the share capital. He adds that there is a close link between EVA and MVA in the sense that the EVA ratio always refers to a specific period (t), current or future. Therefore, the assessment of a company's ability to create value added by the capital market depends on the development of economic value-added indicators in the future. The sum of the discounted values of EVA indicators, which the company, according to its development plans, is expected to achieve in the future, determines MVA. A condition for the correctness of the above equation is the assumption about the effectiveness of the capital market, i.e. that share prices correctly reflect all information on the effects of the company's future activities. According to A. Cwynar and W. Cwynar, this measure may also serve as an external measure of the assessment of managerial performance by investors and the capital market. According to M. Kacprzyk, M. Ruchter, and R. Wolski (2009), there is a relationship between EVA and MVA, where the value of MVA is equal to the sum of the discounted EVA. If shareholders expect the positive EVA in future, this means that company value will increase by EVA. Therefore, the total value of the company is equal to the sum of the discounted future EVA and the current MVA. The relationship between MVA and EVA shows the expected results of investors' profits resulting from the investment in shares issued by the company. MVA is used to assess the management board's activities by the market. If it is positive, it indicates the company's investment in its assets. On the other hand, the management board's work is assessed by shareholders based on EVA. EVA is a good tool for this purpose because it is not related to the share price, but it takes into account operational and financial management.

The review of the literature on the approach to measuring company effectiveness by means of financial measures indicates a wide set of ratios used in the measurement process. This approach strongly hampers the long-term assessment of companies, taking into account the views of researchers who point to the dynamics of the business environment as a key reason. This leads to a multidimensional look at the issue of measuring the effectiveness of company value creation.

K. Obłój argues that the survival of the company for a period of more than three years should be assessed as a success of founders-shareholders. This view can be evidenced by data on the survival scale of companies, which shows that only 18% of companies are likely to survive in the first three years since their establishment. Consequently, companies with a lengthy track record of activity on the market, in particular those with relatively low share capital, must be assessed as those which have created value effectively over the long term. This led to the search for such measures that would allow for alternatives to financial methods or measures defined by the principles of the financial market, methods of value estimation that will allow for the supplementation of the inference process regarding the company's ability to create value in the long term. In this context, it is also valuable to pay attention to the views expressed by J. Hausner (2017) on the approach to the importance of tangible and intangible assets in companies. He points out that in new technology companies (and such a group includes IT companies), where the issue of development is more important than the issue of growth, the relationship between tangible and intangible assets and their interdependence play an important role in the long-term corporate strategy. He also stresses that intangible assets often account for more than 80% of company value. According to this concept, only companies where intangible assets, which also include employees, are treated subjectively, and shareholders and management boards create opportunities for development and increase their chances of long-term creation of company value. This leads to a situation where a significant part of company value is not included at all in the company's balance sheet, which makes it very difficult to assess their real value for researchers, investors, and capital markets. This approach is defined in the concept of the *company-idea.*

Through in-depth interviews with entrepreneurs and representatives of sectors which finance and invest in entities in the IT sector, W. Muras (2022) made an attempt to develop a simplified valuation model, based on factors (in particular those related to intellectual capital), which are not directly visible in the financial statements of companies, and in the opinion of the interviewees, are important in the real valuation of companies. The analysis shows that the approach of investment funds is dominated by the division of factors into those related to future events (*the future*) and past events (*the past*). The author's proposal for the model of valuation of IT companies in terms of off-balance factors (intellectual capital) is shown in Table 2.1.

In the opinion of experts, it is important to identify determinants that reduce company value, and often even block investments. According to experts, key determinants include the reputation of shareholders and corporate reputation, in particular in explicit and implicit areas, and identified at the stage of estimating company value by auditing the entity and shareholders. At the same time, the conditions for the use of the above model have been agreed and they concern the type of acquirer of the company. It concerns the valuation of the company in order to maintain its business continuity, further development aimed at value creation, assuming that the acquirer determines and implements a controlling model relevant to its business activity and leaves operational activities to company representatives (management board). The model does not take into account individual factors pertaining to the significant strategic objectives of the acquirer (e.g. elimination of a competitor, time pressure related to capturing the market or employees or contracts).

The analysis indicates differences in the level of mentality of the financial investor and the natural person (in particular the founder). The level of expected valuation of companies, the time or the manner of obtaining income from holding corporate rights are factors of which the strength (meaning) thereof is significantly different for the types of investors (owners). In the shareholder's perspective, expectations of benefits in terms of their volume are shaped by personal needs, and in the case of an investment fund, it is the fulfilment of

Table 2.1 Model of valuation of IT companies in terms of off-balance factors (intellectual capital)

Period of analysis	*Category of capital*	*Identification of the determinants of company value*	*Share (weight) of estimation*
FUTURE	Human capital	Management potential (independence, experience, leadership) and shareholder motivations (excessive and unjustified diversification of assets while maintaining activity in the company)	12.5%
		Team potential (motivation, bravery, knowledge and skills, scale (size) of the team)	12.5%
	Structural capital	Organisational culture (focused on cooperation, strategic renewal, courage, customer focus)	10%
		Quality of customer portfolio (level of diversification, permanent contracts)	10%
		Elements of competitive advantage (value added and the size of the barrier to achieving this value by competitors, level of innovation)	25%
		Potential to scale the company's offer (services, products)	5%
PAST	Human capital	Reputation of shareholders (business ethics)	5%
	Structural capital	Ability to achieve operational and strategic objectives (evidence of strategy and operational objectives)	10%
		Brand reputation (recognition, market relations, activities in accordance with applicable law)	5%
		Other: activity in the area of CSR (including reporting), company awards which build the position of a reliable partner, company certifications	5%

Source: Muras (2022).

obligations towards its shareholders. These distinguishing features may be a guideline for shareholders on the search for higher benefits from corporate rights than before.

By adopting the model of "soft" valuation based on the future (75 %) and the past (25%), it can be assumed that in the alternative mixed valuation model proposed (compared to valuation by means of financial measures), the relationship between the factors responsible for the shaping thereof is as follows:

$$wp = kw + EBITDA * wb * [wdm]$$

where, wp – company value; kw – equity; EBITDA – operating profit before interest, taxes, and depreciation; wb – industry indicator (often interpreted in stock valuations as multiple profits and depends on the potential of the IT subsector where the company operates); wdm – soft determinant vector.

Thus, the indicator method, with the use of the EBITDA indicator, is reliable and achieved through the use of soft management methods and gives grounds for use in the valuation of private companies and those which are not listed on the stock exchange. This model strongly refers to the model proposed by L. Edvinsson (1997), which takes into account the distribution of the company market value – these are financial and intellectual capital factors, divided into structural capital and human capital factors. The above described author's original proposal for estimating the effectiveness of value creation of an IT company can be an inspiration and direction of further research into estimating the value of companies which operate in the IT sector as a representative of modern economic sectors.

2.2 The IT sector in strategic economic development

The importance of conducting research in the information technology sector is supported by a progressive information revolution, which strengthens the significance of information in the development of the global economy. Hence, an increasing number of proposals to distinguish the fourth sector of the knowledge-based economy, namely the acquisition, processing, and provision of information (advanced services) emerge. The proper typology of IT services as a specific subsector belonging to the group of advanced services sector (for business) is valuable. Today the goals of information and communication technology (ICT) development are one of the most important areas of efforts for both business owners, who have already highly appreciated the benefits of digitisation of their activities, and the government that has an appropriate intent. The IT sector is classified in a group of modern sectors of the economy, which today, and in particular in the following years, will significantly contribute to the creation and implementation of innovations at the level of processes, products, and services. Such positioning of the IT sector can provide opportunities for their shareholders and employees (and other stakeholders) in the context of prospects for building the capacity of IT companies to create their value in the long term (to the benefit of their shareholders) and inspiring challenges (for the benefit of their employees and the business environment). Such a combination can encourage strong cooperation between shareholders and co-workers, taking into account opportunities in development domains and personal financial goals. At the same time, the achievement of the ambitious goal of creating company value and dynamic personal development requires courageous and wise decisions taken by shareholders, managers appointed by them, and co-workers following their visions. In turn, high competitiveness in the IT sector forces their participants, both leaders and partners, to constantly search for the elements of competitive advantage. Consequently, it becomes possible for such rules and conditions of competition in the IT sector, due to a strong focus on innovation, to provide improved solutions to the economy and, at certain intervals, to implement updated business models using modern technologies. In technological terms, the IT sector provides a catalogue of information and knowledge (by replacing the collected data) from individual business processes, ensuring their circulation, supporting decisions, and automating repetitive activities. From the perspective of the recipients of IT services, technology companies bring significant changes in the context of building new possibilities for the implementation of business processes or channels of reaching and cooperating with customers, while enabling their measurement. The condition for a lasting competitive advantage of modern companies is therefore the ability to consistently perceive and develop the IT potential in a faster and cheaper manner and with higher value added than competitors do. The adaptation of IT goals to business goals is not only a matter of achieving a competitive advantage but also determining the survival of the organisation. Although the importance of IT in creating a competitive advantage is widely discussed, in practice it is difficult to identify and assess all the benefits achieved through IT.

For companies functioning in the conditions of global competition, with a high level of uncertainty and market chaos, the core success and survival factor is to have an effective and efficient business model that, on the one hand, ensures continuity of running a business and its growth and development at the same time, and, on the other hand, enables the implementation of strategies based on the use of opportunities (Sobińska, 2015). It assumes several business models in the company. Each of them has its own rationale, and companies compete by means of innovative business models, not only innovative products or services. The engine of change in the context of creating new business models is primarily ICT and, as it develops, better and more effective tools for exchanging, diffusing, and developing organisational knowledge through expanding networks of relations and business environment cooperation emerge. As a result, the IT teams of modern organisations are increasingly dependent on external suppliers (customers), hardware and software manufacturers, telecommunications service providers, or cloud computing service providers. The skilful use of IT resources can determine the market success of companies in each sector. Organisations should therefore pay a lot of attention and effort to improve IT management, which requires the constant adaptation of the range of processes and services to current needs, capabilities, and constraints.

The review of the literature and the authors' own observations indicate a high share of the application of IT solutions in the implementation of the company's development strategies (including the implementation of digital transformation), planning and implementation of new business models based on modern technologies, which creates new areas for the development of IT companies and their further development. This, in turn, results in a further increase in the share of IT companies in the local economy (measured in GDP). C.K. Prahalad and M.S. Krishnan conducted interesting research into IT suppliers in India, the leader in providing IT services in the outsourcing model, which shows an unambiguous trend (Prahalad & Krishnan, 2010). According to the research, the impact of adding value in the economy (and provided by IT companies) over the long term was identified. According to researchers, the decision-making measures of companies (the recipients of the IT sector) in the 1980s were a cost criterion, and the value provided by the IT sector was the maintenance of IT systems and applications. In the 1990s, the decision-making criterion was supplemented with quality (a provided service), and at the same time, support for the efficiency of business processes became an added value. In turn, since the beginning of the 21st century, the decision-making criterion of cost and quality has been gradually supplemented with technological maturity and the ability to create innovation, and the expected effects (adding value) have been extended by participation in research and development projects (R & D) and data analysis. This leads to the conclusion that innovation strategies require appropriate qualifications and that the ability to dynamically select talent from around the world to meet the needs of specific tasks can become a source of competitive advantage for companies in many sectors of the economy. Global companies focus their attention on markets such as India and China due to their rapid growth and access to talent. On the other hand, transnational corporations such as Tata Group, ICICI, and Infosys focus on Western markets. It can be noted, therefore, that the search for talent is not limited only to low-cost markets, but it covers the whole world and its main motive is no longer just costs, e.g. Indian companies offering IT services in the field of software development. Although at the beginning their advantage was based on low personnel costs, they began to build an advantage based on quality and innovation over the years and while gaining experience and continuously improving processes. The spectacular increase in exports of this branch indicates the emergence of comparative advantages of the economy, which, in the case of this type of activity, involve the availability of specific human capital, i.e. highly qualified personnel (Glapiński, 2018).

At the same time, the review of consulting reports indicates that the value of companies is shaped through new information technologies. According to IT experts, four core areas of value delivery are identified, namely company efficiency, increased agility, shaping new products and services, and updating and building new business models. As a consequence, it is possible to implement a new paradigm of the management of a data-driven company. This view is strongly in line with the digital transformation trend, which, when implemented by cloud computing, big data, artificial intelligence, and 3D printing effectively changes internal processes and the quality of cooperation with customers, and also facilitates business model updates. At the same time, it is increasingly recognised that the effective application of computer science (especially the indicated trends) requires strong change leaders, who will not only lead the changes in a thoughtful way but also will do so in building the understanding and motivation of colleagues. According to N. Hatalska, business representatives observe that digital transformation will change the nature of industries and give them new opportunities for growth. At the same time, digital transformation is a big challenge, as evidenced by the numerous failures of the undertaken projects (seven out of ten projects fail). At the same time, only 34% of respondents asked whether organisations analyse non-technological social, economic, environmental, legal, and regulatory areas to a large extent while working on the transformation gave a positive response (Hatalska, 2019). According to IDC research firm, global expenditure on digital transformation reached $1.8 trillion in 2022, which is 50% more than over the previous five years. Companies primarily invest in technologies such as the Internet of Things (IoT), cloud computing, Big Data and Business Intelligence, and Machine Learning. Digital transformation is increasingly called the most important civilisation megatrend of our time. Not only the economic but also social consequences of these changes become the subject of advanced research projects of the European Commission or programmes implemented under the auspices of the World Economic Forum in Davos.

In order to understand current changes, it is worth going back almost half a century to the works of Alvin Toffler, an American writer, sociologist, and futurologist. His and his wife's Heidi publications entitled "Future Shock" (1970) and "The Third Wave" (1980) identified technology as one of the fundamental factors of civilisation and social change, signalling the coming third wave of fundamental changes for our civilisation. The first, agrarian wave transformed humanity from collectors and hunters to farmers and breeders. The second, quite recent wave is industrialisation and the world of mass production, mass media, mass education, and mass communication. In recent years, we have been strongly experiencing the third wave of civilisation changes and the dawn of a new era. Toffler described it as post-industrial, and the adjective "digital" is increasingly used, especially with regard to technology that drives these changes. Numerous predictions which previously evoked disbelief are now obvious to us. In turn, K. Schwab, the founder and chairman of the World Economic Forum, called the emerging challenges the fourth industrial revolution. The first and second industrial revolutions are the drivers of industrialisation, leading to the industrial phase of the agrarian phase. The fourth revolution is born on the foundations of the third industrial revolution and will result in the creation of new social and economic paradigms of the third post-industrial era. Organisational and technological changes characterising the transition between these phases are referred to as the digital transformation due to the dominant importance of digital technologies.

The opportunities for other sectors of the economy, which the IT sector can provide, result from the decision-making capabilities that provide quick access to data, its analysis, which translates into the rationality of decisions and their relevance (based on history and forecasting tools). Forty years ago managers were like captains of great ships. The data they had at the time of the decision were about the past, often quite distant. They made decisions on the basis of incomplete information, based on instinct rather than rational calculation. It is different now, in the era of access to data, due to a multitude of measurement points and their analysis over time (time series).

2.3 Economic environment of the IT sector: directions of changes, impact on the development potential of the sector

The IT sector, assigned to the innovative sectors of the new technology sector, must respond quickly to changes in other economic sectors and participate, as a technology advisor, in updating the business models of its customers. It is important that other sectors of the economy increasingly expect the IT sector to participate in research and development and search for innovation at both the levels of processes and products. The above observations are described in the works of C.K. Prahalad and M.S. Krishnan (2010), where the role of IT companies in the 1980s was limited to cost-effective delivery of IT systems to current expectations in the delivered value, measured by support in data management and the ability to co-create innovation. In turn, economic practitioners, entrepreneurs who shape the global IT sector, must meet these expectations and the companies that will do it more effectively than others not only will survive but also will be able to create their value. In this context, S. Burke sets a transformational goal for companies in the IT sector, proposing a strategic service provider (SSP) model. He emphasises that the business model often understood as "eat what you hunt" is a non-permanent model (in the sense of unfavourable value creation in the long term), while at the same time it brings less and less value to recipients (Janoś, 2016). The SSP approach forces IT sector representatives to broaden their knowledge of the sectors of activity of their clients, the rules of competition that apply there, which benefits both parties in the long term. Based on the literature review, the authors attempted a simplified analysis of the evolution of the business model of IT companies and the simultaneous changes in the shareholding model. The results of the analysis are presented in graphical form (Figure 2.1).

Long-term analysis (reaching the beginning of the sector on the world market – 1960s/70s up to the present time) indicates that the sector is undergoing evolutionary changes both in the area of value proposition and a service delivery model (business model) and changes in the shareholding structure. According to the authors, the core determinants of the change are the

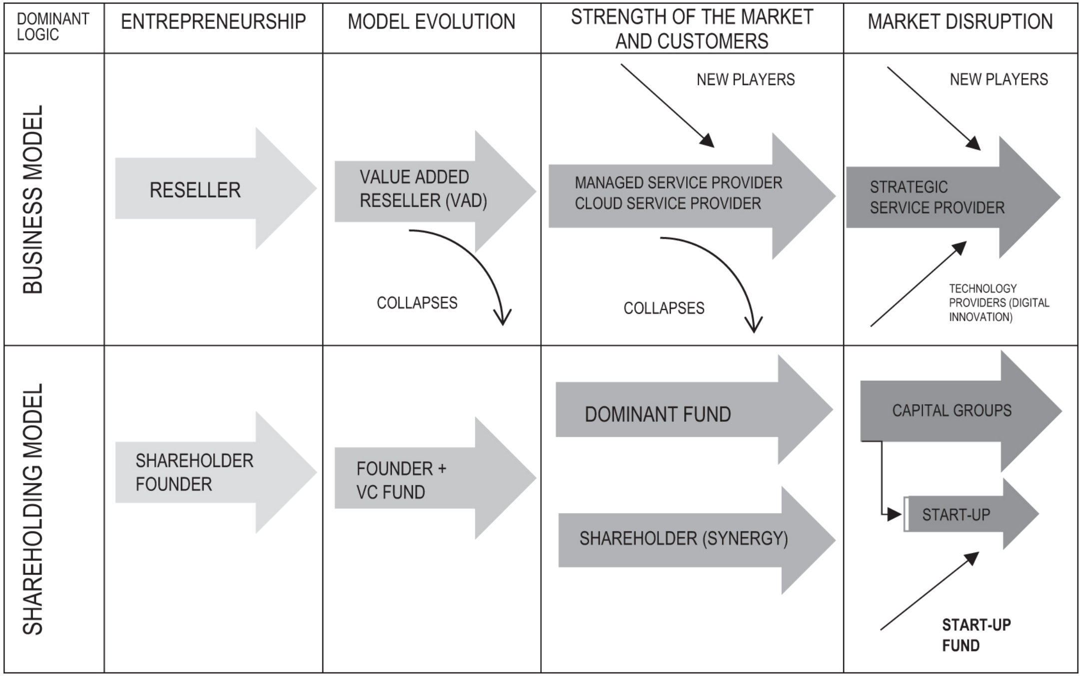

Figure 2.1 Evolution of the business models of IT companies and changes in the shareholding model.

Source: Own study.

growing expectations of the recipients of IT products and services, which, in turn, forces the development of business models of suppliers (an IT sector), and the importance of shareholders may be crucial in this task. The authors' observations show that the Polish IT sector follows global changes, however, it does so with a certain delay and at the same time with a higher dominance of shareholders as natural persons than investment funds in shareholding structures. According to the authors, the sources of such dynamics include the size of the local market, defined as large enough to ensure its survival, and at the same time too small for the accumulated capital to allow for strong expansion. Therefore, the Polish IT sector, by the decisions of the shareholders of the capital companies representing thereof and the efforts of its participants, must continue a kind of transformation in order to compete more effectively on the global market.

Medium-sized enterprises, which are organisationally mature and have the financial potential, are represented in the global IT sector. The attitude of IT sector companies towards what is a real customer challenge is increasingly visible. A condition for good consultancy is to understand the problem and search for solutions together, taking into account the aspects of technological or operational risks and conducting analyses of the financial effectiveness of the project and its delivery model. Decisions on the choice of technology should be taken only at a later stage of the process. Thus, the IT integrator must gain trust and prove that he can solve the identified problem, having adequate human (both at the levels of competency and culture of cooperation) and the financial potential to achieve the goal, with the involvement of people representing the company. It is only after obtaining a specific acceptance test of the supplier that cooperation and the selection of solutions become possible. However, it is valuable to recognise the role of start-ups, which, after becoming companies operating in the model expected by customers, can bring new quality to the IT sector.

The role of the IT sector comes down to a strategic partnership, where consultancy and the model of delivering value to the customer are crucial by answering the questions about how new technologies (cloud computing, blockchain, Artificial Intelligence) can change the activities of companies, how these technologies can be used to achieve strategic goals faster and more efficiently, while updating and creating new business models.

The representatives of such economic sectors that dominate as the clients of IT services such as banking, trade, administration, or industry believe that the adoption of the following assumption is valuable for the future and role of the IT sector: the end of IT projects (it does not make sense to talk about IT projects) because IT is an immanent part of every undertaking, the time of the dictatorship of cyber-proletariat (mobile technologies and the universality of programming have changed the market and labour relations), and the paradox of complexity (as complexity increases the chance of disaster). At the same time, they point out that the path of mutual development leads by undertaking joint ventures (an IT sector – other sectors of the economy) as part of the open team model. They emphasise that not only the largest companies in the IT sector but also those that will most effectively adapt to the new conditions of cooperation will survive. The observation of decisions taken by IT companies also shows that willingness to make changes and the ability to search for their own business concepts are growing. This is evidenced by the published strategies of companies, which, on the one hand, refer to the SSP concept described by S. Burke, as well as increasingly address the expected values (quality, innovation) and methods of cooperation (open team) articulated by clients. In the opinion of J. Filipiak, president and founder of Comarch S.A., competitive advantage is already created by access to talents and competent human teams. This results in the growing importance of services defined as “IT specialists as a service”.

According to W. Ribaudo, another direction of changes in the IT sector can be seen in the context of capital structures. The gradual unification of economic sectors, supported by ubiquitous technology, favours the blurring of traditional (and known) sector boundaries. Rapid innovations create space for new business models that appear in almost all industries (Ribaudo, 2018). At the same time, the traditional division into manufacturing and service companies is blurred in many branches of the economy. The authors’ review of the strategy of key companies from the IT sector, in particular the leaders of the banking, trade, and insurance sectors, shows that the progressive digital transformation, and thus the dependence of other sectors on the IT sector, simultaneously changes the rules of competition in the sector. This observation is visible in the market emergence of companies not previously belonging to the IT sector and offering services related to technology. In this way, non-IT companies attempt to include the role of IT (modern technologies), previously assigned to their suppliers (the existing IT sector), as own services, often developed on an equal footing with traditional IT suppliers, providing services to their clients (e.g. positioning a bank as a technology company with a banking license). Changes in the role of the IT sector can be seen especially in industries strongly dependent on direct customer relationships, and at the same time where high investment capital is available, such as the financial sector. New entities are also created by companies from different sectors with IT entities to develop products and services provided for their own needs as well as market offerings.

The ongoing transformations of companies in other sectors, so far not recognised as those representing the IT sector, will continue, which will be a visible element of the entire transformation of the image and definition of the IT sector we have known so far. On the one hand, this creates a new competitive environment, and on the other hand, the growing demand for IT services and products, as well as the readiness of entities of sectors previously recognised as not belonging to IT, and it creates new opportunities for companies and their shareholders. The high (modern) technology sector, where the IT sector belongs to, is characterised by a high level of commitment to discoveries and research, the intensity of R&D expenditure, and the employment of scientific and technical staff. At the same time, in search of the competitive advantage, IT companies quickly attempt to implement production, developed innovations, and search for such business models, where developed patents and intellectual property (often in the form of licences for the use of products) will effectively contribute to making profits. Following this path, IT sector companies play an important role in creating new knowledge, inventions, or innovations. According to A. Zakrzewska-Bielawska, a high-tech company is a knowledge-based, intelligent, learning, and innovative enterprise. Its most characteristic features include high expenditure on R&D activities, high capital expenditure, and openness to high investment risks, a high level of creativity, innovation, entrepreneurship, and agility, the large share of intellectual values in value added to the product, the rapid diffusion of technological innovations or high flexibility of organisational structures combined with the use of the potential of teamwork and the independence and autonomy of employees at the same time. In the context of the management of modern technology companies, these characteristics of the company determine its ability to respond quickly in a dynamically changing economic environment and the rules of competition in it. Emerging market opportunities or changes in trends will be used only by companies where their characteristics and methods of operation will allow them to be quickly identified and used for their own growth and development. In relationships in knowledge-based organisations, an agile organisation uses both human capital and partnerships (network organisations), information technologies, and management methods in the learning process. These factors create the organisational potential. It should be noted that the agile company effectively integrates an intelligent, virtual organisation and methods and techniques of flexible response and the implementation of ideas in the concept of lean management. Thus, it is possible to define the model of the agile company, which uses human capital and transforms it through decisions and actions into knowledge in the company (resources, transfer, conversion of knowledge) and a specific ability to take advantage of subsequent opportunities. Consequently, the agile company, through its agility (relations with the environment, estimation of risks), flexibility (resource management, flexibility of structures), intelligence (strategies, staff development), and cleverness (knowledge management, business activity) creates possibilities to take advantage of emerging opportunities (Zakrzewska-Bielawska, 2010).

Researchers believe that the importance of the human potential is crucial in the context of management, and in particular building organisational agility. Representatives of the economic environment share their opinion. J. Filipiak argues that the conversion of financial capital into human capital is a development strategy chosen by his company, which can guarantee further growth and development. He also adds that a global war for human capital is taking place and its outcome will be important for the future of the Polish IT sector. In turn, A. Góral, the president and founder of Asseco Poland, the largest Polish company in the IT sector, claims that investments in innovation in the group are carried out in three areas. The first is the development of own products, the second is the acquisition and purchase of ready-made solutions. The third is part of the "Asseco Innovation Hub". It is a special programme to accelerate innovation and develop start-ups aimed to create innovative products. This approach demonstrates the strong role played by the aspects of organisational agility and access to human capital capable of addressing new challenges. However, not all companies are ready for such a far-reaching search for innovation due to the business model offered or the place in the supply chain (they are not producers) and value. In the opinion of sector representatives, companies that try to adapt their structures, models for providing services and products, providing added value to their customers will provide their shareholders with the opportunity to maintain value and even its growth in the long term when they make and implement effective decisions. According to A. Kuźniak, Vice President of ABCData (ALSO), integrators and distributors should change the profile of their companies in order to optimally adapt to the current situation. This requires the diversification of their product offer as well as their business.

The opinions cited by IT sector participants indicate that there is no single effective management method in the sector in the face of high dynamics of change. Researchers, however, pay attention to the importance of organisational agility, which creates specific foundations, which result in methods, techniques, and methods of operation, create opportunities, adapting to requirements, and at the same time, factors conducive to shaping the future, where the first may receive a bonus for the risk and effectiveness of action. As a result, they increase the chances of long-term creation of the value of managed companies. At the same time, researchers emphasise the importance of choices made by the company in enterprise management in terms of short-term orientation as an opportunistic approach and medium- and long-term orientation as a relational approach. In the opportunistic approach, where the "business of business is business" approach prevails, the goal of economic activity is profit. This means that anything that makes a profit is by definition good for a company if it is allowed. And everything that generates outlays and costs and causes an accounting loss is bad. In turn, the new business correctness requires a company to be a value-driven company, which is defined as building the market position and efficiency, thanks to clearly declared values. And in this trend, a relational approach, focused on long-term cooperation, responsibility for obligations, and cooperation in the search for value as the core values of the company, is an opportunity for high-tech companies to create their value in the long term.

The observation of the IT sector indicates that the relational approach is gaining importance, as can be increasingly seen in the choices made by clients, in particular where the goal is long-term cooperation and there is a willingness to share potential benefits in the future. However, this requires honesty in relationships and readiness for long-term commitment, which, in some way, is contradictory to the opportunistic approach. Changes can also be observed in the approach of the recipients of the offer of IT companies, who are increasingly willing to cooperate with companies in the IT sector, building a margin for mistakes, but at the cost of building partnerships and synergies, which will be used in subsequent joint initiatives.

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3 The shareholder's role in value creation of IT sector companies

Research methodology

3.1 Methodology of empirical research: applied approach and research methods

The specific nature of individual sciences determines the choice of adequate scientific methods, such as induction, hypothetical-deductive methods, and deduction (Lisiński, 2013; Such & Szcześniak, 1999). This leads to the differentiation of methods used in empirical sciences and methods applied in formal sciences. In line with S. Nowak's view, induction methods are applied in empirical sciences, where management science belongs. In induction methods, so-called observation statements, frequently based on the individual and intuitive opinions of the researcher, play a decisive role (Nowak, 2012). Generalisations are formulated in this model based on empirical studies and adopt the form of concepts, proposals, and explanations, which simultaneously ensures their reliability and universality (Czakon, 2006).

The basic task of research methods is to efficiently solve the scientific problem that is being addressed. The researcher's task in the process of choosing the methodology is to account for both the feasibility aspect (in the selected area of research) and to ensure the unequivocal verification of research hypotheses. Hence, the chosen methods should ensure objectivity (independence from circumstances and the researcher), reliability (reproducibility), and accuracy (results that do not give rise to doubts). At the data compilation stage, quality methods (which provide answers to the question "why?") and quantity methods (which provide responses to the questions: "how much?" and "how often?") are distinguished.

The research process is the consequence of a logical analysis divided into research stages. The performance of actions based on specific research rules and procedures is of key significance for the quality of the research procedure, with a simultaneous critical approach to assumptions and continuous verification and control of the process. The purpose of these actions is to procure results of the analysed phenomena which will fully and reliably reflect the examined reality. Hence, the next stage is the choice of detailed research methods.

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Some researchers postulate an increased share of qualitative methods in the research on management sciences. The projected and postulated development of interpretive methods stems from the possibility of providing the researcher with an answer to the question of "why". Qualitative research is more explanatory than conclusive. It is used for descriptive and narrative reproduction of a certain element of reality (Silverman, 2013) and for explaining, decoding, or searching for meanings of individual phenomena. The main premises for the application of qualitative research are building a new theory, capturing the life experiences of individuals and interpreting such experiences, and a comprehensive understanding of cause-and-effect relations (Graebner, Martin, & Roundy, 2012).

One of the interpretive methods is case study research. According to J. Dul and T. Hak (2007), a case study is research where a selected case or a small number of cases set in an actual, daily context of functioning are subjected to a quality analysis. W. Czakon (2015) claims that a case is "an individual research object examined on account of a specific purpose, situated in a specific place and time, in observance of the circumstances that are relevant with respect to it". This definition highlights the contextuality of a case study by adopting an assumption about the high impact of situational determinants and features of the environment of an entity in the form of the final conclusions in the research.

Case study analysis is one of the methods widely used in management science. Its specificity fits with the idiographic research approach and the qualitative context of scientific research, allowing at the same time for a precise description of selected phenomena in a complex organisational reality. Case study allows for a very detailed description and analysis of the examined phenomenon on account of a significant number of variables and dependences among them. Such a description and analysis are often much more comprehensive and accurate than those obtained through quantitative research (Matejun, 2012a).

In the context of research methods used to compile information about a given subject, the authors see the justifiability of applying the Delphi method (heuristic method), where the participants represent a selected social or professional group. The group forms a panel of experts from a given area. The heuristic method relies on an assumption that the accuracy of group opinions is higher than that of individual experts. A more in-depth look into the purpose of the technique makes it possible to note that the Delphi method is designed to facilitate structured group communication in order to gather a consensus of expert opinions in the face of complex problems, expensive endeavours, and uncertain outcomes. The principles of the method are that more minds are better than a single mind, and – when used as a forecasting tool – that structured group efforts lead to more accurate forecasts than unstructured ones (Grime & Wright, 2016). According to M. Wójciak (2015), in-depth and exceptional expert knowledge in a given field may compensate for the ignorance and lack of knowledge of other experts who are experienced in other areas. If the experts are properly chosen, the effect of opinion balance will be created, which is of special significance in the Delphi method, where consistency of opinions, defined by the methodology and the decisions of the research author, is sought (Rogalska, 2010). S. Sudoł (2016) narrows down the core of proceedings in the Delphi method to several points, which encompass questions for the group of experts asked by the research manager, the compilation of answers, along with interaction by means of sharing the research results as part of the group and seeking a joint opinion. As a result of the research process the results and conclusions received are a product of the collective, i.e. a team of experts. In line with the underlying premises of the method, the data sought from the experts are subjected to a statistical analysis, which encompasses the designation of measures of location for the purpose of assessing the consistency of experts.

The researchers indicate the application of the Delphi method to estimate the time range of occurrence or performance of the examined phenomena or specific states. However, according to S. Sudoł, the Delphi method may also be applied in the analysis of the existing reality. Hence, the Delphi method retains its universal character, and limiting its application only to the examination of the future is unjustified. It may be applied to studies in the area of social life, the economy, science, and technology. M. Matejun (2012b) claims that the Delphi method fulfils the criteria of application in the research process and research areas such as the identification and analysis of factors in the general development of an enterprise, problems on the functional, process, or resource levels, and management dilemmas on the strategic, tactical, and operational levels. However, specific advantages and disadvantages of this method are also discussed. The advantage of this research approach is the possibility of the synergistic use of the knowledge and experience of experts to solve problems for which no answers are currently available. Nevertheless, the unwillingness of economic practitioners to take part in surveys may pose a threat.

The observation of the economic environment leads one to the conclusion that the paradigms of organisational management undergo dynamic changes in the course of time. This is visible in both the implementation and evolution of enterprise management methods and in scientific disputes conducted in parallel. On the theoretical level, conceptualisation is dominant, while in the milieu of practitioners, operationalisation is. With the specific instruments at their disposal, researchers look for optimum methods of scientific research in order to respond to strategic questions of management. These instruments are set, among others, in quantitative and qualitative research, case studies, experimental research, and simulation research based on triangulation and longitudinal studies. Arguments in favour of applying longitudinal studies in management sciences emphasise that research devoted to the dynamics of organisational and management processes should, by its nature, be longitudinal. In such research, searching for mechanisms of change becomes important to understanding the process, instead of determining the stage of development (Kimberly, 1976; Miller & Friesen, 1982; Stańczyk-Hugiet, 2014). According to A. Jabłoński

(2016), it is very difficult to draw conclusions about the operation of an organisation by looking at snapshots from studies of various organisations. In the cognitive context, it is more valuable to look at some of them in operation, to see how their components depend on one another from the perspective of their initial and final position. This allows one to capture the changing and static elements alike; every researcher needs such knowledge. Companies' ability to manage business continuity, including their abilities related to strategic revival or restructuring, is acquiring special significance which should contribute to ensuring the continued creation of company value.

In the authors' opinion, the triangulation of research methods and data sources is of value in the context of an attempt to understand the shareholder dependencies, company value management, and the terms of competition in the IT sector. Simultaneously, the role of shareholders with respect to the long-term creation of company value does not have the nature of a one-off assessment (limited exclusively to a point in time) or averaged for a specific period of analysis. Such an approach would not allow one to capture important aspects of shareholder impact such as the transformation of their role. The choices made with respect to the research procedure in the context of the proposed research problem and the objectives of the study are presented in Table 3.1.

Table 3.1 Basic information about the process of empirical research

Area of research process	*Research characteristics*		
Methodological model	Induction logic (qualitative research) as dominant		
Research approach – comprehensive(hybrid) approach	Nomothetic		Idiographic
Research sample – data triangulation	Purposeful sample		Purposeful sample
Research analysis	Qualitative (interpretive)		Qualitative (interpretive)
Research sampling (data compilation) – research method triangulation	Delphi method (team of 30 experts)	Content analysis (literature sources)	Case studies for five IT sector companies
Research tools and techniques	Questionnaire survey and follow-up interview	Analysis of entries	Questionnaire survey with an in-depth interview, analysis of company documentation, and longitudinal studies
Research methods (data analysis)	Intuitive inference (interpretive analysis) with elements of statistical analysis		Intuitive inference (interpretive analysis) with elements of statistical analysis

Source: Authors' own study.

Simultaneously, the choice of the heuristic method is confirmed by the active presence of one of the co-authors in the IT sector and direct access to people of high repute and authority in the sector, which allows for the study to be conducted in a mode ensuring reliability in the context of the choice of the group of experts.

Capturing the phenomena in a long time horizon, the identification of factors subject to change, and their impact on the examined relationship may constitute a fragment of new knowledge and thus offer a better understanding of the research problem. At the same time, the case study creates possibilities for in-depth interviews, which will offer a more efficient solution for the research problem than carrying out a limited (in terms of the research area) study on an extensive group of companies (statistical sample approach).

The work has been organised in several stages and produced a research model and tools that allow for the commencement of proper empirical research:

- an overview of the literature pertaining to the typology of shareholders and their significance in enterprises, company value, and a discussion of the IT sector and its prospects;
- an overview of the views of economic practitioners on the problems related to the role of shareholders and challenges related to company development, creation of company value, operational and strategic management – an overview of scientific publications was carried out, along with papers, interviews, and multimedia comments, overview of collective reports about the IT market and its participants;
- the identification of features of publicly held IT companies (shareholding structure, financial results, capitalisation of companies, report publications) in the context of relations of changes in the shareholding structure and company capitalisation – an in-depth analysis of 25 companies listed on the main floor and on the NewConnect market was made, along with the identification of the role of shareholders and any changes in the capitalisation of companies, including the available public information for the period of the last five years. An analysis of changes in stock exchange indexes was also made (including WIG-INFO, which belongs to the IT sector) in correlation to changes in the capitalisation of the analysed IT companies;
- interviews with a group of experts as part of the pilot study – an in-depth interview was performed, based on a questionnaire survey comprising 14 diagnostic questions pertaining to the role of shareholders in companies and their impact on long-term value creation, distributed to a group of 22 experts;
- the analysis of the views of IT sector participants (shareholders, recipients, company managers): the performance of free-form interviews (seeking opinions) about the role of shareholders, the stances manifested by them, actions taken from the perspective of employees of companies in the IT sector, managers (outside of the shareholding structure), representatives of

global suppliers or key clients for IT services. The study encompassed 80 people with whom direct conversations were held during industry meetings or via telephone.

At the subsequent stages, the conceptualisation and operationalisation of the concept of shareholder impact on the efficiency of value creation in an enterprise were undertaken. The problem referred to the sector of IT companies. The objects of the study were companies from the IT sector operating internationally, and fulfilling the criteria of the company category, while their shareholders fulfil the criteria of the shareholder typology category (Tables 3.2 and 3.3).

Considering the fact that the interpretive method was applied in the research procedure, an in-depth overview of IT sector companies in the context of the

Table 3.2 Basic criteria for the research sample in the category of companies

Assessment criterion	*Definition of minimum requirements*
Service sector	The company is classified and provides services or manufactures products that belong to the category of IT services and/or related services as part of its core business.
Good governance model	The company confirms, via its binding corporate documents or declarations of senior officials, that management mechanisms are applied, with a degree of use of modern methods and management concepts in management.
Company duration	The company is classified as mature, i.e. fulfilling the criterion of presence on the market for a minimum of five years.
Company size	Definitions of the assessment of company size were adopted (in the micro-, small-, medium-sized, and large categories) on the basis of financial data (net revenues and balance sheet total) and the number of employees, in compliance with the legal basis. The study includes companies fulfilling the criterion of company size such as SME (small- and medium-sized) and large companies.
Place in the supply (value) chain	Companies participating in the value chain in the following places: producer (systems, software, hardware), distributor (financial and logistics partner for the offer of a global producer), integrator (re-sale of a producer's offer as a commercial partner, system design services, system implementation, system maintenance), IT service provider (competence services, system management, training services), and additionally (as a form of operation) start-ups (new companies with an innovative business model or innovative products/services).
Form of ownership	Private company: limited liability company, limited liability company limited partnership, joint stock company. Publicly held company: joint stock company.

Source: Authors' own study.

Table 3.3 Basic criteria for the research sample in the category of shareholder typology

Assessment criterion	*Definition of minimum requirements*
Approach to participation in management	An active shareholder, i.e. performing actual managerial roles (decision-making, interpersonal, information)
Duration of investment	A shareholder (or stockholder) with long-term goals, i.e. has worked at the company for no less than five years
Level of corporate rights held	A majority shareholder, a dominant shareholder, or a minority shareholder (where, in the opinion of company managers or other shareholders, a significant contribution is made by the shareholder to financial, relational, or product capital)
Economic entity approach	A person (or a legal entity with a dominant corporate right of a natural person) or a group of persons/entities cooperating with a view to accomplishing a joint strategic objective, namely the long-term creation of company value.

Source: Authors' own elaboration based on the literature review.

identification of such cases where the impact of shareholders is relatively clear and there is a strong orientation towards value management from a long-term perspective – or the neglect of such an approach – is of the essence.

At the same time, taking into account the application of heuristic methods (the Delphi method), an element of the research process was the choice of principles and selection of the members of the expert group (Table 3.4).

The profile of the potential expert was qualified for the expert group if no fewer than one condition was met in a given group (according to the expert sampling factors column, i.e. CBD, CMO, CAZ). Next, the expert group that fulfilled the basic acceptance criteria was selected (Table 3.8).

The initial list of candidates for the group of experts included over 120 people. A study of the business environment was also undertaken, encompassing clients and the recipients of IT companies' products and services. According to this classification, a position criterion was assumed (KS), as was an experience criterion (KD), understood as the period of activity on the IT market. The position criterion was defined as the role of a team director/IT division or a member of the management board, while in terms of the experience criterion, a period of not shorter than five years was designated with respect to cooperation with IT suppliers. As a result of the process of selecting experts being carried out in this way, the number of experts was increased to 30 persons (Table 3.5). The selected team of experts comprises both outstanding representatives of the IT sector who work in first-rate enterprises and efficiently create their value, as well as opinion leaders often quoted in the industry press.

The inspiration for taking up empirical studies derives from the observation of actual decision-making dilemmas faced by IT sector shareholders. The

Table 3.4 Breakdown of criteria applied for the sampling of the expert group in the Delphi method research

Groups of factors in sampling the expert group	*Factor in sampling the expert group*	*Minimum requirements*	*Mode of verification*
Factors related to the business maturity of the participant (CDB)	Experience in IT company management	Five years of accumulated experience at positions of a member of the management board or chairman of the Supervisory Board	Verification of provisions in the National Court Register (KRS) and the author's familiarity with the IT sector
	Experience in setting up IT sector companies or acting as shareholder	Presence in at least one company as a stockholder/ shareholder with a minimum 10% share in capital or experience as company co-founder	Verification of provisions in the National Court Register (KRS) and the author's familiarity with the IT sector
	Experience in change of role in a company on the level of operational or strategic management or supervision	Performing at least two roles (shareholder, member of the management board, member of the Supervisory Board, team director) in a given company	Verification of provisions in the National Court Register (KRS) and the author's familiarity with the IT sector
Factors related to the personal branding of the participant (CMO)	High recognisability in the sector	Recognisability in three out of five cases of brand verification	Telephone interviews (a sample of five respondents – representatives of a global IT supplier, large IT recipient) from the business environment, with a view to confirming the minimum criterion

(*Continued*)

Table 3.4 (Continued)

Groups of factors in sampling the expert group	*Factor in sampling the expert group*	*Minimum requirements*	*Mode of verification*
	Thorough knowledge about the IT sector	Familiarity with the challenges faced by IT sector companies and global IT trends to a degree allowing for formation, by the potential interlocutors, of opinions about the market in a reliable way	Subjective assessment of the author based on history of talks and available industry publications
Factors related to the professional activity of the participant (CAZ)	Presence on the IT market (at the time of research)	Minimum 10 years of activity	Assessment carried out based on the declarations of candidates for the group of experts

Source: Authors' own study.

Table 3.5 The experts qualified for the Delphi method study and representing the IT sector as entrepreneurs (shareholders, stockholders) and as recipients of IT services and representatives of global IT suppliers

No.	*Role performed (at present)*	*Place in the supply chain in the IT sector/economy sector*	*Assessment of criteria met*
1	President of the management board (dominant shareholder, co-founder)	IT distributor (top ten on the Polish market)	CDB: 3/3 CMO: 2/2 CAZ: 1/1
2	President of the management board (former shareholder of the company managed, shareholder of other companies in the sector)	IT distributor (top ten on the Polish market, in a dominant multinational group)	CDB: 3/3 CMO: 2/2 CAZ: 1/1
3	President of the management board (shareholder, founder)	IT producer (ERP sector)	CDB: 3/3 CMO: 2/2 CAZ: 1/1
4	Member of the management board (shareholder, founder)	IT producer (Big Data)	CDB: 3/3 CMO: 2/2 CAZ: 1/1

(*Continued*)

Table 3.5 (Continued)

No.	*Role performed (at present)*	*Place in the supply chain in the IT sector/economy sector*	*Assessment of criteria met*
5, 6	President of the management board (shareholder)	IT producer (sector of business applications)	CDB: 3/3 CMO: 2/2 CAZ: 1/1
7	President of the management board (shareholder)	IT service provider (cloud services)	CDB: 3/3 CMO: 2/2 CAZ: 1/1
8	Member of the management board (shareholder, investor)	IT service provider (security systems)	CDB: 3/3 CMO: 2/2 CAZ: 1/1
9	President of the management board (shareholder, investor)	IT service provider (security systems)	CDB: 3/3 CMO: 2/2 CAZ: 1/1
10	President of the management board (shareholder)	IT service provider (software house)	CDB: 3/3 CMO: 2/2 CAZ: 1/1
11	President of the management board (shareholder)	IT service provider (training services)	CDB: 2/3 CMO: 2/2 CAZ: 1/1
12	President of the management board (shareholder)	IT service provider (Smart City design services)	CDB: 2/3 CMO: 2/2 CAZ: 1/1
13–17	President of the management board (co-founder, shareholder)	IT integrator	CDB: 3/3 CMO: 2/2 CAZ: 1/1
18	Shareholder (co-founder, chairman of the Supervisory Board)	IT integrator	CDB: 1/3 CMO: 2/2 CAZ: 1/1
19	Shareholder (co-founder, member of the supervisory board)	Start-up	CDB: 2/3 CMO: 2/2 CAZ: 1/1
20	Shareholder (co-founder, president of the management board)	Start-up	CDB: 2/3 CMO: 2/2 CAZ: 1/1
1	Member of the management board	Financial sector	KS: 1/1, KD: 1/1
2	IT director	Distribution sector	KS: 1/1, KD: 1/1
3	IT director	Industry sector	KS: 1/1, KD: 1/1
4	IT director	Service sector	KS: 1/1, KD: 1/1
5	IT director	Financial sector	KS: 1/1, KD: 1/1
6	EMEA region director	IT producer (global)	KS: 1/1, KD: 1/1

Table 3.5 (Continued)

No.	*Role performed (at present)*	*Place in the supply chain in the IT sector/economy sector*	*Assessment of criteria met*
7	Country manager	IT producer (global)	KS: 1/1, KD: 1/1
8	Enterprise manager	IT producer (global)	KS: 1/1, KD: 1/1
9	IT investment director	Investment fund (leading, international)	KS: 1/1, KD: 1/1
10	Member of supervisory boards of listed companies	Corporate supervision	KS: 1/1, KD: 1/1

Source: Authors' own elaboration based on the criteria adopted for the assessment of candidates for the team of experts in the Delphi method study.

dominant goal of the investors (shareholders), namely the creation of company value from a long-term perspective, attracted attention among them. This was confirmed by the expanded interviews conducted with recognised shareholders from the IT sector and stakeholders of the economic environment (representatives of IT clients) who – making up the expert team – were actively engaged in sharing observations, remarks, views, and experiences with respect to shareholder relationship formation and the value of a company operating in the IT sector. The dilemma related to the identification of the best potential places of impact of the shareholders on the efficient creation of company value was frequently mentioned during the discussions. At the same time, it was noted that shareholders intent on company development look for places to exercise their impact, in a continuous way and from a long-term perspective. This led to the definition of the shareholders' dilemma as a specific decision-making problem, which transformed into a research problem in the course of the research:

Decision-making problem

- Does the managerial role performed by a shareholder guarantee opportunities for the efficient and long-term creation of company value?
- Which factors of the internal (company) and external environments (business environment, market) may shape the power of this dependence?
- Which actions should a shareholder perform with respect to the company (providing them with adequate priority) to prevent the degradation of company value more efficiently, and put the company on the track of value creation from a long-term perspective and to maintain the trend of value creation?

Research problem

- Is it possible to indicate the power and the direction of the relationship between managerial roles performed by shareholders and the efficient and long-term creation of value in IT companies?
- Is it possible to indicate the power and the direction of the relationship between the actions taken with respect to the company and the efficient long-term creation of value in IT companies?

It may be assumed that the research problem is limited to the verification of the relationship that takes place between a shareholder and the capacity of an enterprise for efficient value creation.

When analysing the views and the research legacy with respect to the formation of the relationship of the owners' (shareholders of companies) impact on building the company's capacity to create its value, two dominant approaches to the description of the relationship are noted:

1 general (holistic) approach: the search for and identification of the place of a shareholder's impact on company value (or factors significantly affecting it) – by identifying determinants and accounting for the entire perspective of the company's activity, its environment and their owners (shareholders). Such an extensive cognitive horizon offers a proposal of a group of determinants affecting efficient value creation, dependent on groups of factors on the ownership side (entrepreneurs, shareholders), the company as such and other identified groups of factors. The total potential of a company is primarily determined by certain cause-and-effect dependences occurring among its individual components. Therefore, the factors that shape the relationship between a shareholder and company value, whether directly or indirectly, are also sought. Such a holistic approach leads to an attempt to describe, understand, and examine a broad area of dependences, without focusing exclusively on a selected, detailed aspect (an individual feature or a group of features) related to the owner (shareholder). The holistic approach may lead to understanding the problem on a high level of generality, simultaneously without noticing narrow (individual) areas related to the owner (including the features of a shareholder, or the places of impact on the examined relationship), which may shape the efficient creation of company value in a specific way.
2 specific (narrow) approach: the identification of determinants related to the owner (shareholder) which – by means of the proposed measures and their examination on a research sample – allow for the assessment of the strength and direction of their impact on the capacity of companies for long-term value creation. As a consequence, this leads to an attempt to understand and examine both the narrow and specific (pertaining to a single selected cause-and-effect

dependence) areas of dependence related to the owner (shareholder) and the company value over a long-term horizon. Such an approach, given its cognitive limitations, may be encumbered with an error resulting from overlooking a broad set of factors in the research model, which may potentially moderate the examined relationship or significantly limit the power of impact of the cause (shareholder) on the effect (value), the occurrence of which on a specific level (strength) is the required condition.

Hence, combining two of the observed approaches may be worthwhile. Tables 3.6 and 3.7 present review of literature related to the formation of the relationship between ownership and company value.

Conclusions from the views presented above underpinned the author's proposed research models, accounting for both the narrow approach (focused on tasks and stances presented by the shareholders) and the holistic approach (relying on the concept of managerial role and the intervening variables of the studied relationship).

In the initial (pilot) study, the research tools comprised two questionnaire surveys, and in-depth individual interviews were carried out by means of the Delphi method on a group of 20 respondents. A high level of responsiveness for the invitations sent was recorded in the study, exceeding 70% (i.e. 22 participants).

The initial identification and examination of the significance of factors shaping the relationship between shareholders and company value were essential to the proper continuation of the study. The applied mechanisms of value management and factors shaping the shareholders' decisions were identified. The study was carried out in two rounds of research. The stances and roles of shareholders whose impact is the greatest on long-term value creation, or forms a barrier for its further development, were indicated as significant advantages of the research stage by the experts. The compilation of expert opinions allowed for the initial classification of factors into those that are sourced from internal processes in a company (organisational factors), those with sources deriving from the external environment of a company (market factors) and those identified as motivation, manifested stances, and investment goals (personal factors). After the analysis of the collected data with the use of statistical methods of compliance testing, the results confirmed the conjectures with respect to the validity of the research issue in the context of pragmatic goals and were a source of knowledge for further research processes.

Key conclusions resulting from the study included:

- the significance of visionary competence in the formation (choice) of the place of a shareholder within the structure of a company's management board;
- the significance of the diversity of the company's capitals (relational and product capital) contributed by shareholders, apart from financial capital;

Table 3.6 Review of literature related to the formation of the relationship between ownership and company value: the general approach

Literature review	*Key views on the formation of the relationship between ownership and company value*
Carlsson (2001) Schumpeter (1975)	The source of enterprise development is strategic renewal, which is affected by market destruction (creative destruction = incessant renewal) and skilful comprehension thereof by an enterprise with learning competence (learning centre). Simultaneously, setting this relationship in motion requires efficient decisions of a company headed by an owner (shareholder). Thus, R. Carlsson identifies the impact of an owner via market relations, company skills, and owner stances (identifying the approach to risk and risk management as being of key importance).
Karpacz (2011)	The freedom of an entrepreneur's actions is conducive to strategic renewal, which efficiently leads to the creation of company value from a long-term perspective. In terms of determinants shaping the relationship with the freedom of the entrepreneur's actions, Karpacz points to those related to the entrepreneur's potential (owner, active shareholder) and the company's potential as complex components. The measures of the entrepreneur's potential are the level of knowledge, skills, and personal qualities of the entrepreneur.
Lee and Rye (2003) Morck Shleifer, and Vishny (1988)	The ownership structure of enterprises is an endogenous variable with respect to the efficiency of company value creation. Simultaneously, Morck, Shleifer, and Vishny show different findings. Such observations highlight the holistic nature of the issue of the relationship between the owner (in the case of researchers, a focus on ownership structure) and the efficiency of value creation.
Schumpeter (1934)	By means of the theory of economic development, J. Schumpeter indicates the role of a shareholder (entrepreneur) who – as the company's inner force – makes a greater contribution to economic development than external factors.
Mintzberg (1973)	Three groups of roles that are most often performed by managers: decision-making (distribution of resources, management of disruptions), interpersonal (leader, connector between the internal and the external world), and information (representative, supervision).
Nehring (ed.) (2007) Stankiewicz (2002)	The total potential of a company is primarily determined by certain cause-and-effect dependences occurring among its individual components. Such dependences require proper coordination. Thus, the manager (in particular of small- and medium-sized enterprises), the owner or the shareholder should efficiently use the existing components of the potential (causes) to guarantee the best possible condition of such components in the future (effects).

Source: Authors' own study based on the literature review.

Table 3.7 Review of literature related to the formation of the relationship between ownership and company value: the specific (narrow) approach

Literature review	*Key views on the formation of the relationship between ownership and company value*
Zakrzewska-Bielawska (2009)	According to the author, some of the most important features of a small enterprise manager are a manager's engagement, desire for success, desire to grow and ability to make sacrifices, market demand for a product or service offered and managerial competence (and high-level professional qualifications), individual mental and physical predisposition and personality, the accomplishment of goals, positive personal qualities, fostering positive motivation or value and personal significance as well.
Carlsson (2001)	An owner's (shareholder's) approach to risk and ability to manage shape the company's capacity to understand the market, and thus to create opportunities for the strategic renewal of the company. The key management skills identified by the researchers are risk management, operational management (motivation, crisis management, choice of associates), creation and implementation of ideas and vision (along with the development of organisational value and a culture supporting development), and the development of a strong institutional position of a company.
Hall (2012)	The researchers, looking to conceptualise shareholders' impact on value management, indicate key areas where shareholders' impact is realised. They identify areas such as a company's investment priorities (resulting from the shareholders' approach), flexibility in company management rules, moderate dividend policy, an exclusive focus on company growth in the context of its development, openness to new risks, cost control, and searching for competitive edges as an element of strategy.
Schumpeter (1934) Langrish Gibbons, Evans, and Jevons (1972)	J. Schumpeter listed the following fundamental features of an entrepreneur: leadership skills, dynamism, and a constructive approach, acting against set views. This view is supplemented by J. Langrish, who claims that a manager is a person whom 40% of the success of a company depends on.
Hecking (2002)	The researchers note that the factors directly related to the decisions or stances of shareholders include moderate dividend policy accounting for the company's investment needs, readiness to make long-term investments aimed at building an element of competitive advantage or aligning with market requirements (in the author's opinion, this calls for patience on the part of shareholders in terms of waiting for the results, at the same time reducing short- and mid-term profits from property rights), flexibility in approaching long-term projects and investments, openness to risk (often at a higher level than that of competitors), building and supporting (motivating) employees' potential, skilfully capturing opportunities in synergies among enterprises and those pursued via partnerships or capital investments.

(*Continued*)

Table 3.7 (Continued)

Literature review	*Key views on the formation of the relationship between ownership and company value*
Zook and Allen (2016)	The researchers defined the concept of the founder's mentality, describing those features of the manager (shareholder/founder) which, when promoted and cultivated in an enterprise, significantly affect the preservation of dynamics and agility of an enterprise, permanently shaping its culture and contributing to the preservation of the ability for cyclical strategic renewal, which is conducive to the long-term efficient creation of value. C. Zook indicates the significance of managers' and owners' activities pertaining to the renewal of a rebellious stance (bold mission, insurgency), owners' approach (focus on action), or frontline obsession (support, experimentation).
Obłój (2010)	K. Obłój indicates the concept of dominant company logic, a specific cognitive map of managers (a set of beliefs, values, and filters), which acts as a navigator in the complex world of excess information.
Mole and Mole (2010)	The potential of entrepreneurs is revealed in the actions they take, related to searching for, creating, and using opportunities and chances that emerge.
Liker and Morgan (2006)	Above all, the researchers indicate the significance of taking a long-term perspective among factors shaping highly efficient companies. This leads to the replacement of short-term and direct profits with the approach to continuity (a long-term perspective), which is conducive to the construction of relations with shareholders and a focus on clients.
Szczepańska-Woszczyna (2021)	In order to be efficient, a manager who creates value through innovations should manifest competence within the scope of creative problem solving, be able to work conceptually, and possess managerial competences. At the same time, such a manager must be able to combine management and coordination of work with people in such a way as not to suppress the employees' creativity – but, on the contrary, to reinforce it to the greatest possible degree. An innovative manager requires three levels of competence: prospective thinking, diagnosis of the present, and problem resolution, including, in particular, handling changes.

Source: Author's own elaboration based on the literature review.

- the significance of business maturity in key choices made (choice of associates, rules of motivating them, type of strategic orientation, type of organisational culture).

At the same time, the experts raised the significance of understanding the company's potential and the value contributed thereby for clients', the managers', and the shareholders' capacity to self-reflect (in the area of decisions made and personal values contributed to the company) or readiness to "compare themselves" to competitors (on the level of the company's results and roles of shareholders), personal brand, as well as patience when it comes to waiting for the effects of the designated strategic goals. The significance of the power of a "mandate" to implement short-term tasks (managerial roles performed) as part of new business challenges on the part of shareholders as compared to outsourced managers was also indicated.

It was assumed that the conceptualisation of shareholder impact on the efficient creation of company value in the IT sector should be defined in terms of two key paths of making such an impact (Figure 3.1).

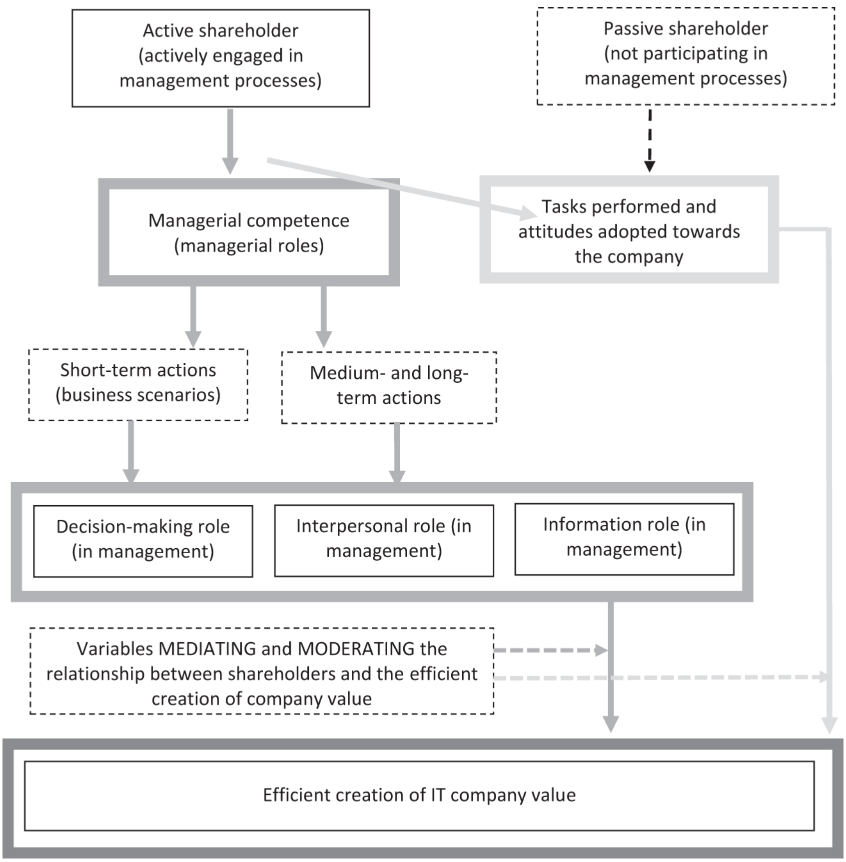

Figure 3.1 Interpretation of the identified paths of shareholders' impact on IT companies in the context of the efficient creation of company value.

Source: Authors' own elaboration based on the literature review and own pilot studies.

In the first path of shareholder impact on the efficient creation of company value proposed above, the essence is the designation of the managerial role performed by the shareholder in a company as the cause, while the effect is the level of efficiency of company value creation measured by the adopted value creation measures. Simultaneously, the cause-and-effect implication proposed in this way offers extensive possibilities of searching for the factors that may shape the force and direction thereof, which fits the proposed general (holistic) approach of shaping the relationship between shareholders and company value management.

In the second proposed path of the impact, the essence is the designation of actions taken by the shareholders or the stances adopted by them with respect to the company as a cause that potentially shapes the efficient value creation of a company from a long-term perspective, understood as an effect of shareholders' actions. In the opinion of the author, such an approach to said dependence fits well into the narrow approach.

Hence, both the holistic approach (managerial role) and the narrow approach (shareholder tasks and stances) were taken into account in the studies.

The applied research approach differs from that proposed by A. Rappaport (1998) and the approaches to shareholder value creation variously represented in the literature, which indicate factors such as increased sales, improved profitability, efficient tax rate, the cost of capital and the size thereof, and investment capital as value drivers. In the approach taken in this discussion, the value drivers are the owners (shareholders) of companies, who – by means of the designated paths of exerting their impact – shape the efficient creation of company value.

In the interviews carried out with representatives of economic practice, the evolution of the role of a shareholder was also indicated, both with respect to the duration and the dynamic development of a company, along with market changes (technological trends, strategy updates and new business models, preferences, and business requirements of clients in relation to the IT sector). Such an approach may be an element of the new knowledge which contributes to the process of decisions made in terms of the transformation of the role of shareholders in companies from the IT sector.

3.2 Conceptualisation and operationalisation of the research model for the general approach

The stage of transformation of the decision-making problem into a research problem delivered evidence for the complexity of the issue as a whole. The research process, accounting for the critical overview of literature, numerous interviews with IT sector representatives and the initiated pilot studies, provided the basis for formulating the initial assumptions of the research model describing the relationship between shareholders (with managerial role as the cause) and the efficiency of company value creation (as the effect). The emphasis was placed on searching for the direct and unequivocal dependence of shareholders and the role played by them, as well as the capacity of an IT company to create its value from a long-term perspective.

Relying on the accomplishments of researchers and numerous reviews with representatives of the IT sector, a descriptive and simplified concept for the presentation of the research model was sought, which describes the relationship between the shareholder and company value in the most holistic way possible. The search for strategic renewal (as a source of building competitive advantage) was adopted as the source of value creation, which is justified in the works and views of Carlsson (2001), Obłój (2017), Jabłoński (2013), and Karpacz (2011). The strategic renewal of the company's potential is an effect of utilising the opportunities to introduce changes to the current layout of resources. These changes depend on the size of the potential at the disposal of an organisation and the impact of external forces stimulating not only the level of such potential but also the mode of its use. Hence, it is possible to conclude that these determinants may belong to the external environment, and may be related to the person acting as the entrepreneur and the economic entity operated by said entrepreneur (a company) (Lichtarski & Karaś, 2003). J. Karpacz (2011) lists the following determinants of strategic renewal of enterprise potential (for small- and medium-sized enterprises): external (exogenous), defined by the determinism of the competitive environment, manifested by the impact of business partners and competitors on the company; and internal (endogenous), defined by the knowledge, skills, and personal qualities of the owner managing a company (defined as the entrepreneur's potential) and an organised set of tangible and intangible resources used to conduct business activity.

The review of reference books shows that the formation of a given dependence (managerial role of a shareholder – company value creation) is affected by factors related to:

- shareholders and their personal potential (Karpacz, 2011), business maturity (Baczyńska, 2018), approach to risk (Zakrzewska-Bielawska, 2009), personal brand (Grzesiak, 2018), approach to risk (Carlsson, 2001), market capital (Carlsson, 2001), and vision formation (Carlsson, 2001);
- enterprise and its organisational culture (Obłój, 2017), the owner's mentality with respect to the company's choices and its culture (Zook & Allen, 2017), the capacity for implementing changes and innovation (Carlsson, 2001; K. Szczepańska-Woszczyna, 2021), leadership (Szczepańska-Woszczyna, 2015), and the potential of immediate environment of the entrepreneur/shareholders (Rutka, 2001);
- the market and existing creative disruptions (Carlsson, 2001).

The above-mentioned factors were supplemented with additional ones, indicated by the representatives of economic practice as part of the pilot study. The most frequent factors impacting the strength and the direction of the relationship were the visionary approach of the managers, the rules of competing on the market (new market creation, joining an existing market), market potential (power of recipients), consistency of goals in the shareholding structure (and mutual trust and support), moderate dividend policy, the level and type of capital contributed (financial, relational, competence), and the personal potential of direct associates of a shareholder (shareholder environment) co-shared (or handed over to) outsourced managers as part of the division of rights. In turn, following the studies of D. Kahneman, entrepreneurs indicate that the activities that they perform for the sake of a company significantly affect the effects visible in the company, to a degree no lower than 80% of overall importance. Entrepreneurs are convinced that the company's fate is entirely in their hands. There is no doubt that they are mistaken, as the results of their actions depend on the actions of companies, as well as the conditions of competition on the market and market changes. At the same time, the researcher proves that people are prone to overestimating their skills in order to cope with specific challenges (Kahneman, 2011).

Following D. Kahneman's views, one can find indications of dependence between the potential of an entrepreneur (shareholder) and an enterprise (company) in reference material. Entrepreneurs play a significant role because they impact various factors that determine the duration of a company to varying degrees from a long-term perspective (Drucker, 2012). The interaction between the potential of an entrepreneur (shareholder) who manages a company and his internal environment (an organised set of tangible and intangible resources), as well as the competitive environment, is manifested in actions (Gudkova, 2015). Simultaneously, there is feedback between the potential of entrepreneurs and the actions which they take. Hence, actions depend on the potential at the disposal of a given entrepreneur at a given moment, and this in turn changes under the impact of feedback pertaining to the actions taken (Boyatzis, 1991). At the same time, some of the problems related to the operation of a company follow from the characteristics of an entrepreneur. That is why – as researchers stress – it would be good if the entrepreneurs were not only aware of this fact but also used such impact to multiply their potential. To this end, it is important for entrepreneurs to "regularly reflect on themselves and listen to what others have to say". Only a significant failure makes them question what they have previously done or thought (Obłój, 2004). Such postulates are also noted by experienced shareholders (forming a group of experts as part of one's own initial studies), who indicate the high level of significance of the capacity and ability to self-reflect (with respect to one's decisions) and readiness to continually question the values contributed by oneself as a shareholder to the construction of a company's capacity for development and thus a long-term capacity for value creation (fragment of an interview with Zbigniew Szkaradnik, owner and president of the management board of one of the largest ICT companies in Poland). The researchers note that in small- and medium-sized enterprises where there is no division into managerial roles and accountabilities, the owner (often the dominant shareholder) must make decisions pertaining to both the present set of circumstances and the future (Szczepańska-Woszczyna, 2014). In such a case, it is easy to fall into a trap: given the excessive burden arising from current affairs, the entrepreneur is not able to make strategic decisions or makes them too late. A way to avoid this trap is to separate the areas of rights and accountabilities of operating directors (Rutka, 2001). They also note that an entrepreneur managing a company not only exerts significant impact on the formation of its potential but is also more bound to it than an outsourced manager. That is why he is greatly intent on not having his own assets and those of his company reduced; on the contrary, when an opportunity emerges, he attempts to increase them.

A proposal for the conceptualisation of the research model for the relationship between the managerial role of a shareholder and company value creation is presented in Figure 3.2.

The significant dependence of factors on the part of the entrepreneur (shareholder) and the enterprise on the capacity of said enterprise to carry out strategic

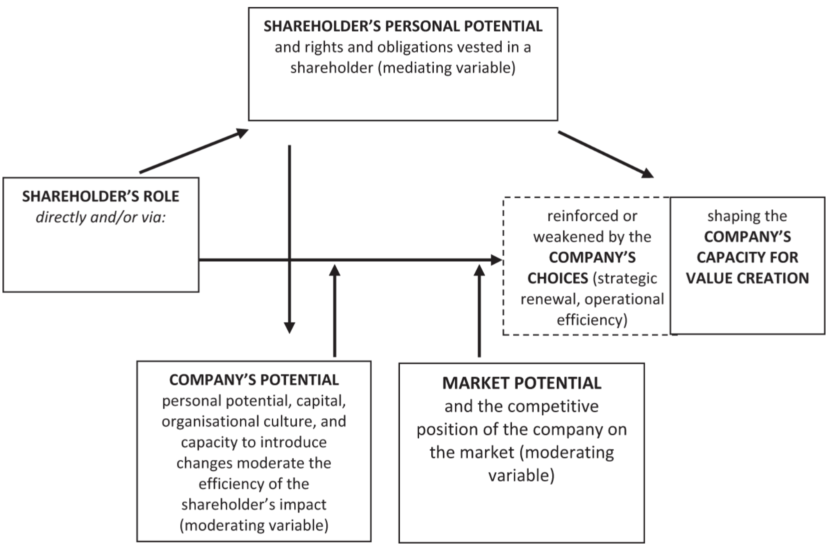

Figure 3.2 Demonstrative outline of the research model for the relationship between the managerial role of a shareholder and company value creation – the general (holistic) approach.

Source: Author's own elaboration.

renewal is also indicated by J. Karpacz. Karpacz (2011) concludes that the strategic renewal of the potential of small- and medium-sized enterprises is determined by the potential of a purposefully organised set of tangible and intangible resources used by the entrepreneur to conduct business activity, the potential of the entrepreneurs, and the freedom of their operation. In turn, R. Carlsson (2001) points out the impact of creative destruction, following the views of Schumpeter. Carlsson claims that introduction of a new, renewed offer of an enterprise may change the rules of a market game, where new entities conquer the market and others disappear.

In effect, when describing the dependence of the managerial role of a shareholder and the efficiency of value creation of an IT company, the following groups of factors (diagnostic variables) shaping the examined relationship may be indicated:

- the potential of shareholders (PA), such as the personal potential of shareholders, their business maturity, shareholders' code of conduct, their approach to risk, shareholders' capital (financial, relational, product), the mode of thinking of shareholders, investor relations, and personal brand;
- the potential of the company (PS), such as the potential of the shareholders' environment (direct associates), the potential (capacity) of the company to introduce changes (strategic renewal), the presence of the owner's mentality in selected companies (and its organisational culture), the type and quality of leadership in the company, the logic of company management, and other balance sheet and off-balance sheet factors;
- the potential of the market (PR), such as the market's purchasing potential, elements of competitive advantage of the company, and the rules of competing in the sector.

The conceptual constructs proposed for the purpose of conceptualising and operationalising the research models, such as the shareholders' potential (PA), the company's potential (PS), and the market potential (PR), are aimed at ensuring legibility and explicitness in the identification of a group of factors and the features assigned to them (diagnostic variables) and are used exclusively for the purpose of organising the research process.

Table 3.8 presents operational definitions (quoted directly according to the researchers or as interpretations derived on that basis) for the features studied (diagnostic variables).

To formalise the research model, four categories of variables were used; the first category acts as a dependent variable with respect to the second. The variable that was explained was the dependent variable. In turn, the variable that was used to explain the value of the dependent variable was the independent variable. The remaining two categories comprise the intervening variables (mediators and moderators) and control variables (Zakrzewska-Bielawska, Lis,

Table 3.8 Conceptual definitions applied in the research model

Name of the studied feature	*Operational definitions of the features studied (diagnostic variables)*
Shareholder's potential	The approach proposed by J. Karpacz (2011) was used, whereby the shareholder's potential comprises his knowledge, skills, and personal qualities.
Shareholder's capital	It was assumed that the capital contributed by the shareholder comprises the following types of capital: financial, relational, and product (know-how) capital.
Investor relations	It was assumed that the measure is the level of the shareholders' capacity to set joint goals and support the management board in the implementation of strategic goals.
Shareholder's environment	Understood as the level of potential (personal, as defined for the shareholder's potential) of the immediate associates of the shareholder, supplemented by the offered (guaranteed) level of joint liability for performance of the entrusted operational tasks and strategic goals.
Business maturity	Understood as the identified level of a shareholder's skills and expressed in the following domains: awareness (among others, liability and sense of impact), understanding the goals, building relationships, defining them, and applying methods of task performance. The author extended the above approach to the aspect of the level of experience in the implementation of tasks related to investment activity and management, which led to the division of business maturity into two subgroups: managerial maturity and investor maturity.
Shareholder's personal brand	It was assumed that the power of a brand is determined by the recognisability of shareholders in the milieu of stakeholders in the following domains: competence (level of expertise resulting from knowledge and experience) and reliability (confirmation in action).
Visionary competence	It was assumed that the power of visionary competence is the shareholder's capacity to shape the vision and to inspire both the stakeholders (in particular associates) and shareholders, as a measure of competence and reliability (confirmation in action).
Shareholder's role	The views of H. Mintzberg (1973) were adopted, which indicate that a shareholder in an enterprise performs managerial roles: interpersonal, decision-making, and information.
Shareholder's approach to risk	The approach of K. Jajuga (2007) was adopted in the approach to risk, where aversion to risk (as a value on one side of the approach to risk axis), indifference and inclination to risk (at the other end of the axis) are distinguished.
Shareholder's mode of thinking	The views of C. Dweck (2017) were adopted, where individuals (people) are classified in two extreme categories (agreed mode of thinking and prospective thinking).

(*Continued*)

Table 3.8 (Continued)

Name of the studied feature	*Operational definitions of the features studied (diagnostic variables)*
Company's potential to introduce changes	The company's capacity – as a combination of tangible (power of financial potential) and intangible assets (including key features of organisational culture, level of innovation culture, and the ability to build synergy and partnerships) – to carry out strategic renewal and/or introduce directed actions aimed at the improvement of economic efficiency.
Company management logic	The author limited the definition of management logic to key choices pertaining to planning and market relations and management styles. In the context of key choices, the theory of the idea company, as defined by Hausner and Zmyślony (2015), was applied, while D. Goleman's (2017) model was applied in the context of management styles.
Leadership in a company	The author accounted for the concept of leadership in a company in the form of measures of leadership quality, defining leadership skills, efficiency, and type of leadership (single-person or distributed).
Shareholder's/ owner's mentality	The views of C. Zook and J. Allen were adopted, where the founder's mentality is identified in the company's choices through the owner's approach, insurgency with respect to achieving the goals and frontline obsession with daily decisions in a company.
The company's capacity for the renewal of strategy and the business model – strategicrenewal	The views of S. Prashantham (2008) were adopted, where the acquisition and use of new knowledge by means of innovative behaviour, leading to the development of skills and, in effect, the modification of the strategic domain were adopted. This concept is also defined by S.A. Zahra (1996) as the transformation of an organisation within the scope of changes to its operations or strategic concepts and as the alignment of resources and capacity with the conditions of the environment to increase the company's competitive edge.
Capacity for the efficient improvement of operational efficiency	Adopted as a capacity by means of which to improve the degree of performance of the company's strategy in financial, operational, market, and development areas. Any actions conducive to the improvement of efficiency that are an important factor on the way to improving the company's competitiveness.
Market potential	The approach of Cybulski (2016) was adopted as the estimation of the maximum volume of sales that can be accomplished by all companies on a given market. The term also refers to the total level of sales expected on a specific product market in a strictly defined timeframe, assuming an adequate marketing effort incurred by the suppliers. As a consequence, measures of market potential were proposed that describe the demand potential for the company's products and services.

Table 3.8 (Continued)

Name of the studied feature	*Operational definitions of the features studied (diagnostic variables)*
Company's competitive edge	The approach to the identification of competitive advantage was applied with differentiation of the sector where the company operates and the products and services offered as compared to immediate competitors.
Company value creation	In reference books, the concept is understood as accomplishing a higher rate of return from the engaged capital than the cost of its acquisition and use. The market value added (MVA) was applied as the measure shaping the decisions pertaining to the efficiency of creation, where the value added means efficient creation, a value of close to zero signifies strategic drift, and negative value testifies to the degradation of company value.

Source: Authors' own elaboration based on the literature review.

& Ujwary-Gil, 2022). The review of the applied variables and the description thereof is presented in Table 3.9.

The outline of the research model for the approach described and the applied diagnostic variables is presented in the annex. In line with the proposed research model, the following dependences occur among variables:

- the impact of the shareholder's managerial role (variable X20) on efficient value creation (Y30) is moderated by the indicated groups of variables on the company side (Z20–Z25), the market (Z40–Z42), and, as shown, the strategic choices made (Z50–Z51) which supplement the research model (proposal);
- the impact of the shareholder's managerial role (variable X20) on efficient value creation (Y30) is mediated by a group of variables (M26–M34) assigned to shareholders.

Based on the review of reference books and in-depth interviews performed as part of pilot studies, embedded relations can be noted in the research model between the role of the shareholder who – by the sheer force of his personality – may shape the moderating factors identified with the company (among others, the shareholder's environment, the company's potential for changes, or the owner's mentality in terms of the company's actions). Evidence for the existence of feedback between the entrepreneurs (shareholders) and the activities which they perform was confirmed in reference books (Schjoedt, 2009). In the course of the discussion, the relationship between independent variables on the shareholder side, such as shareholders' potential (marked as variable M26 in the research model), business maturity (M27), shareholders' code of conduct

Table 3.9 The diagnostic variables applied in the research model proposal describing the relationship between the managerial role of a shareholder and the efficiency of company value creation along with intervening variables

Designation of variables	*Definition of variable*	*Measures of diagnostic variable**	*Impact on variable*
X20 (independent variable)	Shareholders' role	a type of managerial role: information, interpersonal, decision-making	Y30 (company value creation)
Z21 (independent variable, moderator)	Shareholders' environment	a level of engagement of associates in accomplishing strategic goals b level of identification with the company, rules of work, and long-term goals c level of compliance of closest associates' stances with the stances of shareholders in the context of fostering conditions conducive to value creation	Shaping the strength and direction of the relationship between the role of a shareholder (X20) and the capacity for company value creation (Y30)
Z22 (independent variable, moderator)	Company's potential to introduce changes	a type/class of organisational culture b level of innovation culture (the company's capacity to understand the significance of innovations and experimentation) c power of financial potential (understood as the ability to implement new challenges and to compete efficiently) d readiness to incur new risks or raise the level of current risks e ability to build partnerships with other entities and the use of the synergy effect	As above
Z23 (independent variable, moderator)	Owner's mentality	a level of insurgency b level of frontline obsession c level of the owner's approach	As above
Z24 (independent variable, moderator)	Leadership in a company	a type of leadership in a company: transactional (including autocratic), transformational (distributed, democratic), and charismatic (vision, service) b quality of leadership as a level of leadership skills guaranteed by company resources	As above

Z25 (independent variable, moderator)	Company management logic	a power of opportunistic approach –focused on short-term goals, with a dominance of risk as a key assessment factor to the power of the relational approach – focused on the good reputation of the brand, sustainable development b management styles in a company	As above
Z20a (independent variable, moderator)	Other balance sheet factors (financial)	a level of volume and cost of capital (in relation to immediate competitors) b level of capital profitability (in relation to immediate competitors)	As above
Z20b (independent variable, moderator)	Other off-balance sheet factors (structural, human)	a access to human potential (new employees) b loyal clients (in relation to immediate competitors) c research and development (structures, budgets, and priorities) d copyright (patents, licenses, and works)	As above
M26 (independent variable, mediator)	Shareholders' potential	a level of shareholders' knowledge b level of shareholders' skills c power of shareholders' personal qualities	Shapes the relationship between managerial role (X20) and the efficiency of company value creation (Y30)
M27 (independent variable, mediator)	Business maturity	a level of managerial maturity (understood as a pool of shareholder experience in company management) b level of investor maturity (understood as a pool of shareholder experience in investor relations)	As above
M28 (independent variable, mediator)	Shareholders' code of conduct	a level of compliance of stances – in executive structures where the shareholder is a member	As above
M29 (independent variable, mediator)	Shareholders' approach to risk	a level of openness to risk	As above

(*Continued*)

Table 3.9 (Continued)

Designation of variables	*Definition of variable*	*Measures of diagnostic variable**	*Impact on variable*
M30 (independent variable, mediator)	Shareholders' capital	a level of financial capital (contributed to the company as share capital and other capital, e.g. loans) b level of relational capital (contributed quality of relations affecting the efficiency of the company's actions) c level of product capital (contributed as the so-called "know-how" within the scope of key substantive competences of the company (product, service)	As above
M31 (independent variable, mediator)	Shareholders' mode of thinking	a mode of thinking – according to fixed/ mixed/growth categories b declared and cherished values	As above
M32 (independent variable, mediator)	Investor relations	a level of compliance with long-term goals in the shareholder structure b level of active support (readiness to search for opportunities, ask constructive questions, and cooperate in crisis situations)	As above
M33 (independent variable, mediator)	Shareholders' personal brand	a level of competence – good, positive opinion of the market about a shareholder in terms of personal features and professional competence b level of reliability – confirming the efficient performance of business goals in managerial/investor roles	As above
M34 (independent variable, mediator)	Visionary competence	a level of competence in terms of the ability to shape the vision and thereby inspire the stakeholders (in particular associates), as well as shareholders b level of reliability – confirmed by the efficient implementation of the created vision	As above

Z40 (independent variable, moderator)	Market potential	a market type/class – new (created, hitherto unavailable demand potential and potential created by the company) or existing market (company jointly creates a competitive environment) b level of demand potential (understood in the context of readiness to accept and purchase new/updated services/products and the mode of their delivery by the company)	Shaping the power and direction of the relationship between the role of a shareholder (X20) and the capacity for company value creation (Y30)
Z41 (independent variable, moderator)	Company's competitive advantage	a level of competitive advantage with respect to the recipients' market (e.g. the banking sector) b level of competitive advantage with respect to products and/or services offered	As above
Z42 (independent variable, moderator)	Rules of competing on the market	a company's position in the supply chain	As above
Z50 (independent variable, moderator) – proposal supplementing the model	Capacity for renewal of strategy (OS) and business model – strategicrenewal	a level of strategy and business model validity with respect to market trends (analysis in comparison to local competitors and global market participants) b level of agility of introduced changes as a result of operational capacity, strong leadership, financial and HR potential, and organisational culture conducive to these changes (as compared to immediate competitors)	As above
Z51 (independent variable, moderator) – proposal supplementing the model	Capacity for efficient improvement of operational efficiency (EO)	a level of concentration of company strategy and actions on searching for operational efficiency b level of agility of introduced changes	As above
Y30 (dependent variable)	Company value creation	a market value added (MVA)	(-)

Source: Author's own elaboration based on the literature review and own pilot studies.

Note

* For the measures proposed in the research tools, bipolar measuring scales (seven-point), or a Likert scale (five-point) were adopted for numerical variables. For this type of variable, assessment with respect to immediate market competitors with whom the company competes in terms of its core business activity was applied. Among the diagnostic variables, a type of categorical variable was also proposed, for which glossary definitions were prepared in the research tools.

(M28), shareholders' approach to risk (M29), shareholders' capital (M30), shareholders' mode of thinking (M31), investor relations (M32), shareholders' personal brand (M33), shareholders' visionary competence (M34) – and independent variables on the company side (enterprise) – such as shareholders' environment (Z21), the company's potential for changes (Z22), the owner's mentality in actions taken by the company (Z23), leadership in the company (Z24), and the logic of management in the company (Z25) – was proposed. A potential relationship was indicated between each variable on the shareholder side (variables marked M) and each variable on the company side (marked Z).

However, elaborating on the issue of preparation of a research model proposal as a concept by means of which to describe and set out the rules of relationship formation, a further in-depth analysis of potential relationships identified among variables in the research model was made. It was assumed that the variables related directly to the shareholder would form a group of mediating variables, while the ones related to the company, the market, and choices would act as mediators of the analysed relations (Gao et al., 2010). Furthermore, potential additional accompanying variables were noted in the model – described as weights (w1, w2), which simultaneously moderate the value drivers of basic variables (marked as Z and M), related to the shareholder, the company and the market (w1 weights), and the strategic choices made (w2 weight). The resulting research model is a theoretical construct, and as a proposal for describing the research problem through the application of research variables and their mutual relations, it may provide inspiration for further directions of research.

Inference indicators are frequently applied in empirical management science studies. The use of a set of questions instead of a single question allows one to better capture the intentions of the respondent. Every indicator in the study may be treated as a variable, but not every variable is an indicator. Only measurable variables are indicators, i.e. empirically accessible. According to J. Juszczyk (2018), measurable variables may only be assigned to non-measurable variables via operationalisation. Hence, non-measurable variables are indicator variables, meaning that they can be measured only with the use of other variables, the so-called descriptors, which in turn are directly measured and refer to the observed features of an item. According to J. Karpacz (2011), the solution most frequently applied in the measurement of non-observable notional constructs – and such are the constructs in this research problem – are summary scales. Due to this, it is possible to build indicators operationalising the definitions of these categories, thanks to the construction of measuring tools relying on the Likert scale and used in the questionnaire survey. The application of a scale of this type in measurement tools requires the use of statements as part of a given statement indicator which is characterised by the intensification of a feature described by such an indicator. No standard methods of measuring the impact of the role of a shareholder on the creation of value of an enterprise operating in the IT sector have been formulated to date. Hence, the degree of statistical data aggregation and the type of source that generates factors influencing the relationship, i.e. the shareholder, company value, and the IT sector, were adopted as the criteria for their classification.

The indicator classification criterion is the degree of data aggregation which results in a division into analytical indicators (characterised by a low- and medium degree of measurement aggregation) and synthetic indicators (characterised by a high degree of measurement aggregation). In the course of the research process, synthetic and analytical indicators which make it possible to describe and measure the model were proposed. The high-level synthetic indicators are:

- indicators of the power and potential of shareholders, their relationships, approaches and business experiences, and the attributed corporate rights, which were marked "PA" in the research model,
- an indicator of the power and potential of the company and the tangible and intangible assets of which it is comprised, defining the company value, which was marked "PS" in the research model,
- a market potential indicator for the company's products and services and market competition conditions, which was marked "PR" in the research model.

As a consequence, it is possible to apply medium-level synthetic indicators, where each of the research variables is an independent indicator (e.g. a "visionary competence indicator" – PAW), aggregating to adequate high-level indicators (e.g. shareholders' potential – PA).

In the course of the empirical study (conducted by means of case studies, according to the Delphi method), the designation of variables was applied (with the exception of the designation of the direction of aggregation) as the designation of indicators for the sake of the legibility of individual studies.

3.3 Conceptualisation and operationalisation of the research model for the narrow approach

In the course of prior research, it was determined that the occurrence of dependence among the tasks performed by the shareholders for the sake of the company or the stances adopted with respect thereto (as the cause), shaping the power and the direction of efficient value creation of a company (as the effect), is possible. In the course of the analysis of the research problem, such an approach focused on the selected factors shaping the efficiency of creation was called the narrow approach (as opposed to the previously described broad and holistic relationship between a shareholder and company value creation).

Following this thread of thought, the identification of actions and tasks performed by the shareholders for the company's sake, which provides them with an adequate (according to the shareholder's knowledge, skills, or willpower) level of engagement or a stance adopted with respect to the company, may become an equally significant and valuable proposal by means of which to determine the purpose of the work.

Numerous indications of selected stances or actions initiated by the owners and managers are perceived by researchers, which may contribute to the formation of company value, either fostering opportunities for it or significantly degrading it. Table 3.10 shows the result of a synthesis of views of researchers that are

Table 3.10 Review of research issues addressed in the context of impact of actions and stances of owners and managers on company value management in light of the literature review

List of research issues	*Review of researchers addressing the indicated research issue*
Shareholders' focus on long-term company development	Hecking and Tarrazon-Rodon (2002); Zakrzewska-Bielawska (2009); Liker and Ross (2018)
Openness to risk	Carlsson (2001); Zakrzewska-Bielawska (2009)
Suppliers of capital for enterprise development	Gruszecki (1994)
Openness to new opportunities, searching for them, creative innovation	Karpacz (2011); Rakowska and Sitko-Lutek (2000); Obłój (2017)
Motivation to build one's "own kingdom" to conquer	Schumpeter (1995)
Leadership	Zakrzewska-Bielawska (2009); Hawkins (2002); Zabolotniaia Cheng, and Dacko-Pikiewicz (2019)
Openness to changes, creativity, and implementation of innovations	Zakrzewska-Bielawska (2009); Zamorski (2003); Szczepańska-Woszczyna (2021)
Readiness for continuous learning and personal development	Prahalad (1998)
Common goals of managers and owners	Zakrzewska-Bielawska (2009)
High standards of conduct	Prahalad (1998)
Development of organisational culture	Obłój (2017); Kostera and Koźmiński (1995)
Building wise (efficient) synergies with other business entities	Obłój (2017)
Support for cyclical strategic renewal (addressing market changes and searching for competitive advantage)	Karpacz (2011); Obłój (2017)
Resolving conflicts and problems	Cacciatori (2012); Cloke, Goldsmith, and Cloke (2000)
Honesty and openness in company management	Zakrzewska-Bielawska (2009)
Authentic engagement, managerial robustness	Zakrzewska-Bielawska (2009); Woodruffe (1991); Boyatzis (1982)
Control of cost to revenue relationship	Hecking (2002)

Table 3.10 (Continued)

List of research issues	*Review of researchers addressing the indicated research issue*
Owner's mentality in company choices (and its organisational culture) via an aversion to bureaucracy and complexity, enforcing liability among collaborators, bold mission, and strong focus on clients	Zook and Allen (2016)
Formation of the immediate environment, stimulation of development of others, fostering positive motivation	Zakrzewska-Bielawska (2009); Armstrong (2000); Armstrong and Baron (2005); Hecking (2002)
Owners' capacity for self-reflection and their understanding of the company's prospects	Baczyńska (2018); Zamorski (2003); Obłój (2004)
Loyalty of owners and managers to the company	Woodruffe (1991); Boyatzis (1982); Hecking (2002)
Setting long-term goals and choice of priorities conducive to company development	Lumpkin Brigham, and Moss (2010)
Patience in accomplishing business goals	Zakrzewska-Bielawska (2009); Obłój and Sengul (2012)
Emotional maturity of managers and stress resistance	Luthans (2002); Zakrzewska-Bielawska (2009); Baczyńska (2018)
Personal brand	Langrish, Gibbons, Evans, and Jevons (1972); De Chernatony and Segal-Horn (2003); Carlsson (2001); Grzesiak (2018)

Source: Author's own elaboration based on the literature review.

dominant and allow for inclusion in the conceptualisation and operationalisation of the research model.

The most frequently listed actions of owners and shareholders for the sake of a company and stances adopted with respect thereto included leading key changes, the contribution and construction of relational capital, the construction of compromise culture as part of the shareholding structure in the context of building common goals, as well as openness in relations supported by authentic engagement in the actions performed. At the same time, the significance of understanding the company's prospects on the market was indicated, as was the capacity for self-reflection pertaining to one's own role and area of actions in the company (*How do I or can I contribute to the creation of company value?*), the ability to think in terms of company-based categories and not exclusively in the context of one's own (often short-term) goals, to guarantee a long-term perspective for accomplishing goals or noticing (and taking decisions that support the

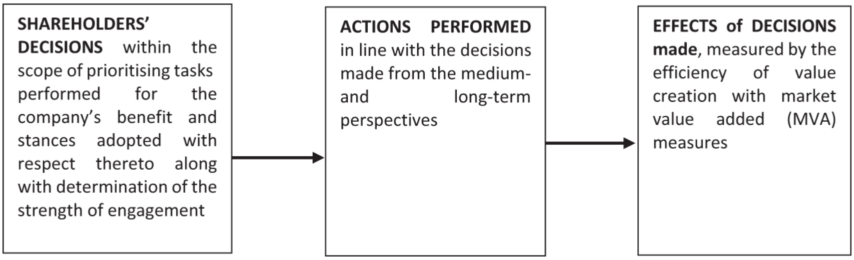

Figure 3.3 Implications of shareholders' choices in the context of shaping the company's capacity for long-term value creation.

Source: Authors' own elaboration based on literature review.

management board) market opportunities and guarantee the brand of the company with the personal brand of stakeholder.

Simultaneously, the paths for shareholders to exert an impact on the efficient creation of company value, in particular by accepting and assigning adequate priorities for the tasks performed for the company, form a strong part of the praxeological approach. According to L. von Mises (1949, 1960), economics is strongly related to the general theory of human action. Following this discussion, it may be concluded that if praxeology is an *a priori* and deductive science, verbal deduction resulting from the observed assumptions is a cognitive method. If, in turn, such assumptions are considered certain, then by creating axioms, they allow for the adoption of the axiom of human action as obvious (Rothbard, 1973; Bowley, 1949; Hutchinson, 1973). In turn, in the context of the presented research problem, this leads to the conclusion that the shareholders become engaged in conscious actions to accomplish the goals they have set. The mental argument revealed the possibility of constructing a research model describing the implications of shareholders' choices (Figure 3.3).

As a consequence of the literature review, a synthesis of the researchers' views supplemented with the results of the researchers' own initial (pilot) studies, a signature proposal of a "catalogue of tasks" and a "catalogue of stances" of shareholders was proposed. The compiled catalogues were applied in the research tools as diagnostic variables (Table 3.11).

3.4 Premises of instruments supporting shareholder decisions

To prepare a concept of a prototype instrument supporting shareholders' decisions in the context of the role performed for the company's benefit, it was necessary to establish a method allowing for the application of results

Table 3.11 List of diagnostic variables of the research model ("catalogue of tasks" and "catalogue of stances") – the narrow approach

Name of catalogue (group of variables)	*Description of diagnostic variable*	*Designation of diagnostic variable**
Catalogue of tasks	Building a network of relations (relational capital)	zd1
	Observing the economic environment and asking what should be changed in the company to improve competitiveness	zd2
	Supply of financial capital	zd3
	Taking interest in opinions about the company	zd4
	Noticing emerging opportunities and acting to take advantage of them (analysis of market trends and competitors' actions)	zd5
	Supervising the cost and revenue relationship	zd6
	Recruiting talented managers and associates	zd7
	Searching for own successors	zd8
	Stimulating the immediate environment of associates to help them develop, maintaining their high engagement in terms of accepting new challenges	zd9
	Building the recognisability of the company's brand by building a guarantee of trust in the company	zd10
	Ensuring diversity in management	zd11
	Acting as the negotiator (arbiter) in crisis situations	zd12
	Renewal of rebellious stance (bold mission, insurgency)	zd13
	Owner's approach (focus on action, strong concentration, aversion to bureaucracy)	zd14
	Frontline obsession (support, experimentation)	zd15
	Ongoing development of the personal potential of a shareholder (to understand the surrounding world and the rules governing it better)	zd16
	Developing leadership in the company (charismatic leadership in the context of the role of the management board and distributed as part of HR teams)	zd17
	Building a strong organisational culture based on healthy principles, allowing it to last and to grow	zd18
Catalogue of stances	Loyalty through long-term engagement in the obligations accepted with respect to the company	ps1
	Readiness to put the company's goals above personal goals (shaped by the company's goals)	ps2
	Ability to rekindle one's own passion for new challenges	ps3
	Meeting obligations towards stakeholders	ps4

(*Continued*)

Table 3.11 (Continued)

Name of catalogue (group of variables)	*Description of diagnostic variable*	*Designation of diagnostic variable**
	Readiness to verify own views (logic of understanding the economic environment) and capacity to adjust own views and actions	ps5
	High levels of mental and physical resistance	ps6
	Open manifestation of trust in associates	ps7
	Focus on the ongoing development of the enterprise (company)	ps8
	Patience in waiting for results combined with consistency of tasks performed and obligations	ps9

Source: Authors' own elaboration based on the literature review and own pilot studies.

Note

* For the proposed variables, the Likert (five-point) scale was adopted as the research tool.

from various case studies. By means of the extraction of features of diagnostic variables, it was possible to work out such measures that allowed for the performance of comparative analyses, the process of conclusion and their implementation in the constructed instrument (prognostic tool). When attempting to normalise the research periods, decisions were made about the use of groups of moderating variables for each examined case, in terms of the company's potential and the market potential, identified at the stage of conceptualisation and operationalisation of the research model (as part of the general approach). At the same time, the variable of shareholders' potential was applied as equivalent to the "company potential" (PS) variable and the "market potential" (PR) variable as moderating variables instead of the mediating variable, as indicated in the model for shaping the dependence of the shareholder's role and the efficient creation of company value. Such an approach is justified for the simplification of the adopted model and the goal of the study that was set. A graphic representation of the updated research model is presented in Figure 3.4.

As a consequence of the arrangements above, an updated (normalised in the context of source data) research model for the purpose of comparative analyses (attempts to shape generalisations from case studies) and the preparation of a prototype of an instrument supporting the shareholders' decisions, accounting for the diagnostic variables, was applied (Table 3.12). The proposed model retains its validity as a significant improvement on the research model describing the narrow approach ("catalogue of tasks" and "catalogue of stances" of a shareholder).

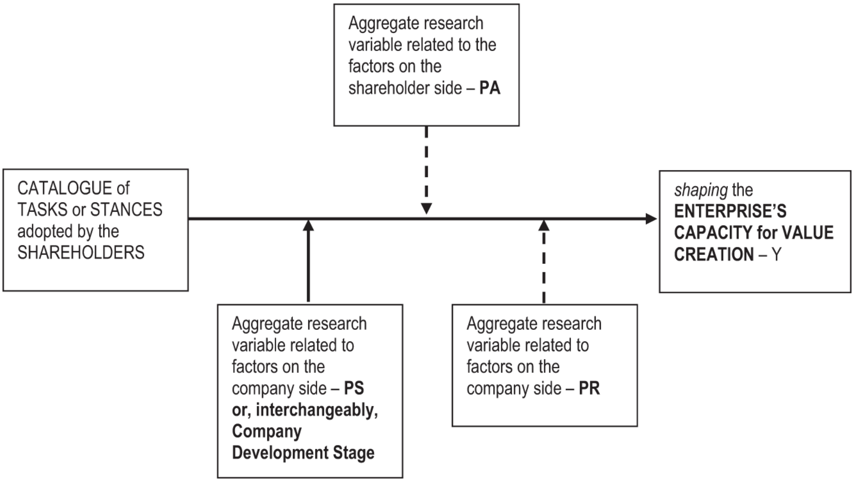

Figure 3.4 Simplified outline of the updated research model accounting for the relationships between tasks performed by shareholders and the stances adopted by them – narrow approach.

Source: Own study based on the conceptualisation and operationalisation of the research model.

Table 3.12 List of variables in the updated research model: narrow approach

Type of diagnostic variable	*Description of diagnostic variable*
Auxiliary (information) variable	Observation index (optional)
Auxiliary (moderating) variable – alternative approach	Stage of company development* (categorical variable – class)
Auxiliary variables (moderating in the model)	Level of aggregate research variable Shareholders' Potential** (not included in the prognostic model) Level of aggregate research variable Company Potential*** Level of aggregate research variable Market Potential**** (not included in the prognostic model)
Independent variables (basic)	Group of variables X1–X18 (numerical variable)
Dependent variables (basic)	Y variable (MVA) (categorical variable – class)

Source: Own study based on the conceptualisation and operationalisation of the research model.

Notes

* Nominal scale: entrepreneurship, growth, maturity (including stabilisation), and decline and revival (including transformation).

(*Continued*)

Table 3.12 (Continued)

** Five-point Likert scale (1 – very low, 5 – very high), where the level was estimated as the arithmetic mean of independent variables of the research model, assigned to the group of variables "Shareholders' Potential".

*** Five-point Likert scale (1 – very low, 5 – very high), where the level was estimated as the arithmetic mean of independent variables of the research model, assigned to the group of variables "Company's Potential".

**** Five-point Likert scale (1 – very low, 5 – very high), where the level was estimated as the arithmetic mean of independent variables of the research model, assigned to the group of variables "Market Potential".

If no answers allowing for the estimation of the aggregate variable were forthcoming, then the value of the variable was estimated during the interview with the respondent as part of the simplified study with the application of a comparative scale in relation to the immediate competitors (also with the application of a five-point Likert scale, where 1 – definitely lower than that of the competition, 5 – definitely higher).

Including the supplementary studies in the research procedure (apart from the examination of the strength and direction of dependence of diagnostic variables indicated in the research model) that are related to the quality analysis of conditions of shaping the shareholder–company value relationship provides new evidence for the process of drawing scientific conclusions. In particular, the performance of a comparative analysis for a manager/shareholder and an outsourced manager with respect to the business challenges identified (business scenarios) in the context of the impact on the efficiency of long-term creation of company value is a valuable research issue. Such an approach also underlies the premise that the location of the study in the Polish IT sector results in the fact that companies fulfilling the SME criteria are a definite majority of companies operating in the sector, where the managerial roles are performed by their co-owners. An overview of the research methods and tools, including simplified characteristics, is presented in Table 3.13.

In the process of empirical studies, an expert sample was selected and participants' acceptance was sought for cooperation as part of such studies; cyclical meetings were held, along with telephone conversations and electronic correspondence, the purpose of which was to compile opinions about the presented research issue. Given the high complexity of the research problem, the broad range of the research tools and the limited availability of participants, the period of data compilation exceeded 12 months. Each participant was invited to give an opinion on more than 100 diagnostic questions, usually during several sessions of meetings and conversations, which simultaneously inspired the author to engage in further in-depth studies.

Table 3.13 Overview of applied research tools along with their characteristics: own empirical studies

Data compilation method	*Research issue*	*Research tool*	*Characteristic of designed research tool*
Delphi method (a team of up to 30 experts)	Identification of a shareholder's role in the IT sector	Questionnaire survey (diagnostic questions)	In total, 12 main cafeteria questions were applied that required ordering the answers on a five-degree Likert scale (1–5) or a bipolar scale (applied in supplementary studies)
	Notional definitions – critical approach and assessment of the IT sector's potential		In total, five main cafeteria questions were applied that required ordering the answers on a five-degree Likert scale (1–5) or the estimation of significance (weight) for the indicated characteristics (applied in supplementary studies)
	Analysis of the relationship between shareholders and the company's capacity for long-term value creation		In total, 16 main cafeteria questions were applied that required ordering the answers on a five-degree Likert scale (1–5) or a bipolar scale (applied in supplementary studies in and research models for "Managerial role" and "Catalogue of tasks"/"Catalogue of stances")
Company case study (net-o-logy) and subsequent case studies of four IT companies	Analysis of the relationship between shareholders and the company's capacity for long-term value creation	Questionnaire survey (diagnostic questions)	Ten chapters were used with the main diagnostic questions (in line with the indicated groups of diagnostic variables in the research model) containing over 100 diagnostic questions measuring the applied measures (strength of the research variable) (applied to research models "Managerial role" and "Catalogue of tasks"/"Catalogue of stances")

Source: Own study based on the planned and completed process of empirical study.

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4 Shareholders vs. efficiency of value creation in IT companies

Results of empirical studies

4.1 Shareholders in managerial roles

Basic premises for empirical studies performed with the Delphi method

The expert group in the study contained 30 people in total; the authors made sure that for each of the research issues examined with the use of the research tools, the number of responses derived from no fewer than 16 respondents, thus fulfilling the methodological requirement. In the research process, apart from the research model described above, the diagnostic questions take into account business scenarios describing the managerial role (as defined by H. Mintzberg) of shareholders, categories of companies (company size category), and other factors differentiating the managers (categories of capital links with the company, i.e. entrepreneurs and intrapreneurs).

The source of research issues in the empirical studies was the proposed research models outlined in Chapter 3 and supplemented with new areas deriving from the results of a pilot study and interviews with representatives of a group of experts. Based on the scope of research prepared in this manner, the issues that were indicated most frequently in the initial (pilot) study were qualified for the proper study; simultaneously, they formed the basis for further verification by means of applying the research methods and tools in the proper study.

In the research process, the respondents responded to 33 research questions divided into research areas such as the identification of a shareholder's role in the IT sector, definitions of concepts, a critical approach to and analysis of the inherent potential of the IT sector, and an analysis of the relationship between shareholders and the company's capacity to create its value.

The interviews were carried out between September 2018 and December 2019 with representatives and founders of global companies who, by expressing their opinion from the perspective of managing the largest international enterprises, at the same time offered inspiration in terms of the search for a solution to the research problem.

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The study was divided into research issues, with two or three interactions between the researcher and the expert. This mode of study performance guaranteed effectiveness, a high level of engagement, and the continued interest of experts. A significant advantage of the research process was taking the results into account and holding discussions with selected representatives of the expert group about the results received, which offered considerable support in the process of the analysis of results and scientific reasoning. At the same time, it provided an element of deliberation and in-depth consideration, both for the authors and the representatives of the group of experts.

The results of the study were processed with the use of descriptive statistics (measures of location and measures of variation) for each of the diagnostic questions included in the empirical study. A broad perspective of the IT sector was adopted for every question (category of location in the supply chain in the IT sector), as was a long-term assessment horizon (category of longitudinal studies) not shorter than 10–15 years (or five years in exceptional cases), calculated for both companies and their shareholders.

Taking into account the methodological restrictions with respect to the application of the results of the expert group in the process of analysing the results, the formulation of generalisations and the verification of research hypotheses, the adopted research method was verified with respect to the levels of compliance of the expert opinions (as sources of empirical data). Simultaneously, the complexity and breadth of the studies required a sample for the verification of results. In the context of the validity of the issues addressed, as well as the number of diagnostic questions applied, the authors chose two areas that may allow for the formulation of opinions in the context of the verification of the level of compliance. The data sourced from the experts were subjected to a statistical analysis encompassing the determination of measures of location and the evaluation of the compliance of a given opinion. The most frequently applied measures of location are position measures, i.e. the median and the mode. Following the opinion of M. Cieślak, expert compliance may be characterised by means of measures of variation. The choice of the measure to assess the compliance of expert opinions is made depending on the scale on which the experts' statements are measured. If strong scales were used, i.e. an interval scale or a ratio scale, the inter-quartile range is used to assess the compliance (for the first and third quartile) (Cieślak, 1997). To assess the compliance of expert opinions, the authors included studies undertaken according to a narrow approach of the formation of shareholders' impact and company values in the process of verification (shareholders' tasks and stances in the context of shareholders' impact on efficient value creation). To this end, a statistical analysis was undertaken.

The authors assumed that the respondents' opinions were compliant if the average inter-quartile distance did not exceed 1.00 (20% of the value on the measurement scale used). For the relationship between shareholders and the efficient creation of company value in the narrow approach (catalogue of tasks, catalogue of stances) in the research model a result below 1.00 was received, which proves that the respondents' views are compliant. With respect to the assessment of compliance, Z. Bobowski voices a similar opinion, claiming that a level of variation below 25% should be considered low (Bobowski, 2004). Given the results of empirical studies, the authors estimated the arithmetic mean and the standard deviation for each of the research questions. Such an approach allows for the assessment of the level of variation in applying the variation coefficient, defined as the quotient of standard deviation from the sample and the arithmetic mean of the sample (Krysicki, Bartos, Dyczka, Królikowska, & Wasilewski, 2006). In the context of empirical studies, the sample is a group of experts who assess a quality (diagnostic question). As manifested by J. Mucha, if the variation coefficient is within the range of 0%–20%, it may be assumed that the level of variation among the results is low, for the range of 20%–40% it is average, and above 40% it is high (Mucha, 1994). Following this approach, the authors verified the level of variation for randomly selected diagnostic questions (no less than 30% of the research questions). From the authors' viewpoint, the level of compliance of the experts' opinions, obtained during the empirical studies with the use of the Delphi method, offers a basis for assuming that the level of compliance is high. This is confirmed by the variation results (Vśr) that are at a "low" level (values within the range of 0.07–0.16), where, in turn, the maximum value does not exceed 0.36 (average) for each of the analysed results of diagnostic questions.

As a consequence of the process of verification of expert compliance, the authors assumed that the results obtained make it possible to deem the outcomes of empirical studies valuable and reliable in terms of application in the process of scientific reasoning.

Shareholders in managerial roles

In line with the views of H. Mintzberg, in the context of the tasks performed and powers held, managerial roles may be assigned to three key areas: decisional, interpersonal, and informational (Mintzberg, 1973). In the expert study, the significance of managerial roles in the IT sector was determined as being at high (sector of large enterprises, level 4.46 on a five-point Likert scale) and moderate (SME sector, level 3.58) levels. These data corroborate prior assumptions of the authors about the necessity of extending the research areas to the narrow approach (conceptualisation of the research model, Chapter 3), which indicates the tasks performed by the shareholders for the benefit of the company or stances adopted with respect to the company. It is also supplemented by business scenarios and comparative analyses of managers (categories of capital links with the company). At the same time, the high level of experts' (managers') approach to management is a valuable observation, with separation of management areas through managerial roles in large enterprises, which may testify to the high level of maturity of the IT sector.

Following this trail of thought, the authors verified whether the identification of managerial roles that result from new business scenarios performed by the shareholders in companies in the short term is also significant in the context of company value creation. The results obtained may confirm the conclusion pertaining to the maturity of the Polish sector of large IT enterprises, where the practice of separating managerial areas by holding managerial roles in both short- and long-term horizons tends to be predominant. In turn, in the SME sector, the model of dynamic changes in managerial roles as a result of adjustment to new challenges and situations was applied more often than in large enterprises.

In the course of the studies, the authors also verified whether a shareholder's managerial role (in line with H. Mintzberg's theory) in a company must be clearly defined in the context of its impact on the company's capacity for value creation from a long-term perspective for defined types of companies (the company size criterion). The results show that:

- large companies with a higher level of maturity clearly strive to professionalise managerial roles (understood as the separation of management areas);
- flexibility in the adopted managerial roles is essential – meeting the short-term objectives set in new business scenarios (organisational challenges, external circumstances) as a factor conducive to building the agility required for survival in a dynamic business environment.

At the same time, the authors verified whether the absence of clearly determined managerial roles performed by a shareholder does not adversely affect value creation for business and organisational scenarios. In cases where the managerial role has not been clearly identified, the scenario approach to the areas and categories of accountability (scope of managerial competence) shows a variety of dependences, both with respect to company size and acquired experiences:

- in large enterprises, the level of compliance with the thesis (i.e. the lack of clear specification of the role does not adversely affect the capacity for value creation) is assessed as being at a low or very low level, which shows that, in large enterprises, importance of managerial roles is significant in the context of efficient value creation;
- in the case of SMEs, if positive experiences of managers' associates (4.08 on a five-point Likert scale) and a high level of compliance of shareholders' objectives (3.46) are present, then flexibility in the formation of managerial roles performed by the shareholders, along with the specification of the scope

of managerial competence (e.g. an organisational area in an enterprise) may be of value for the company when it comes to building its operational agility.

As a side note, the authors also studied the specific dependence affecting the decisions on keeping a shareholder within the structure of a company's management or outside of it as a relationship of dependence of two factors: the level of compliance of the management board's objectives (and modes of conduct) and the amount (whether financial capital or estimated company value) that a shareholder has invested in a given company. The study was conducted in the form of brainstorming, and a certain recommendation for the shareholders was formulated, which may influence the initial decision pertaining to the rules of choosing managerial roles in a company. The study offers a premise for reaching the conclusion that, together with an increase in the scale of investments in a company, the shareholders' focus on assuming strong managerial roles (decisional, interpersonal) is growing; it is moderated by the level of compliance of objectives (both on the shareholder level and manifested by the management board that was appointed). If this level is high, the shareholders are more ready to share the areas of management with others.

Change of shareholders' managerial roles in a company: barriers and factors conducive to change

The identification and analysis of the strength of barriers to the introduction of changes by the shareholders and the factors that motivate them to decide on a change have been shown to be valid in the context of the analysis of the impact of managerial roles assumed by shareholders on the efficiency of long-term company value creation. In the course of the study, the authors verified the strength of the impact of factors (on the part of a shareholder and described as business scenarios) on the potential disruption of a company's (for the SME category) capacity for value creation when a shareholder decides not to change his/her role. It was noted in the course of the study that:

- a change of managerial roles by shareholders (in the SME sector) was combined with the search for the point at which such a change increases the company's potential to efficiently create its value (or slow down the speed of its degradation);
- the impact of change of the managerial informational role assumed by the shareholders was the weakest (most often defined as low).

The significance of the impact of a change of roles – managerial, interpersonal, and decisional – in the context of company value creation was estimated on a similar level, which may offer a premise for positioning the interpersonal role in the IT sector on a par with the managerial decisional role. Such an opinion also seems to be confirmed by the view that in the technology and service sectors, people and their talents are the key resource, while HR management poses a significant challenge for managers. The significance of human capital in company value creation is highlighted by a number of authors. The key triggers for the change of the role, in the context of preserving the company's opportunities for value creation that the shareholders should account for, include deterioration of health (4.91 on a five-point Likert scale), failure to understand the current rules of competition in the sector (4.45), exhausting the known methods of management (in particular with respect to the decisional role), and the deterioration of one's personal brand (in particular with respect to the interpersonal role).

The authors also investigated the strength of barriers to a change in managerial roles in the context of consequences of omissions or failure to notice the necessity of the decision pertaining to such a role change (value degradation, strategic drift). High and very high levels of barriers related to personal concerns and convictions were observed in the course of the study: *nobody is going to handle the company's business better* (4.41 on a five-point Likert scale), a low level of trust in associates and the direct environment of the shareholder (3.50). A clear barrier, and at the same time a limitation of the decisional area, was the shareholder's strong position as a leader with a clear personal brand (4.41) and treating the company as a "founding father" (4.59). When compared across SMEs and large enterprises, a higher level of barriers was found in SMEs (one level higher on a five-point Likert scale) with one exception referring to the observance of confidentiality as it pertains to the modes of conduct; in such a case, the barrier is higher for large enterprises. Simultaneously, the respondents indicated that the highest impact of barriers in the context of a company's capacity for creating its value refers to these factors that are strongly related to the unfulfilled tasks (duties) of shaping the personal potential of direct associates (no successors – level 4.18), which is particularly visible in SMEs.

In the course of the study, it was also noted that the transformation of the managerial role may be a tool of strategic and operational management on the part of the shareholders. Hence, an assessment of market experiences (management practices) was made with respect to the change of managerial roles by the shareholders. The authors verified whether there was an actual (not only formal, but also with respect to the level of demonstrated competence) change of managerial roles fulfilled by shareholders in IT companies. The results show a moderate (average) level of actual transformations of managerial roles held by the shareholders.

With a view to further identifying the transformation of managerial roles (or the absence thereof), an attempt was made to assess the frequency of positive effects of the transformation of managerial roles (by shareholders) and scenarios where the absence of such a transformation does not reduce the company's efficiency in terms of long-term value creation. The results obtained may offer a basis for the conclusion that the transformation of the managerial role translates to a significant threat to the company's ability to retain its capacity for value creation in the future. An observation was made during the initial studies that there is a lower risk of change – in particular in the SME sector – when the transformation of managerial roles is made with the use of direct associates rather than searching for candidates on the market and appointing them to managerial positions (in particular the successors of shareholders).

At the same time, it was noted that in some cases the absence of the transformation of the role does not necessarily have to reduce the company's capacity for efficient and long-term value creation. The key aspects listed by the respondents included the leader's ability to share decisional powers (3.50 for SMEs and 4.14 for large enterprises on a five-point Likert scale) and the strong visionary competence of the shareholder, combined with trust in the ability to meet obligations (3.77 in SMEs and 4.23 in large enterprises). At the same time, the respondents stressed that in case no transformation was identified on the level of a managerial role with a simultaneous clear division of duties and sharing of liability, such a transformation may be the first step towards the full transformation of managerial roles in the future.

The key conclusion that follows from the data compiled is that transformation is necessary in companies; if conducted efficiently (well-prepared and communicated), it may significantly affect the company's long-term capacity for value creation.

4.2 Shareholders in the context of value creation

The value of a company operating in the IT sector

When looking for determinants shaping company value in the context of the place of an IT company in the supply chain, the authors verified the strength of impact of the identified groups of factors (financial, marketing, intangible) on long-term company value creation. The strongest impact of financial factors is visible in IT distributors (0.6 on a scale from 0.00 to 1.00, where 1.00 is the total for the specified groups of factors) and producers (0.4), which determined the dominant share of the factor in the company's capacity for value creation. In turn, in companies that deliver added value, the intangible factor was predominant (for a start-up, the level was 0.7, while for an IT provider it was 0.6, and for an integrator 0.5). From the authors' viewpoint, this is a valid observation that may offer the shareholders a guide to which factors are most conducive for building the company's capacity for value creation.

IT sector: current status and prospects

When attempting to assess the condition of the IT sector and the directions of further transformation, the ways in which the potential (ability to accept new challenges) and the competitive position of companies would change were verified by taking a comparative approach for the category of position in the supply chain in the IT sector (and stage of operation: start-up) in the next three to five years.

In the assessment of experts, the IT sector is currently undergoing a thorough transformation which will be ever more intense in the coming years. In Chapter 2 of this paper, the authors presented the transformation cycle of an IT company from a re-seller (partner of global suppliers, limited to a commercial representative) to the role of a strategic partner, an adviser and a supplier of services in IT projects (strategic service provider [SSP]).

In the course of the study, low development potential was noted for hardware suppliers, in contrast to the good prospects for those IT companies that are intent on delivering IT as a service in their business models and strategic choices (4.00 on a five-point Likert scale), offering advice (4.17) and data distribution (4.39), together with suppliers of applications (3.89). This view was confirmed by studies on which of the identified models of IT companies (system producer, reseller, VAR, software house, data sources, CSP, SSP, hybrid company client – IT supplier) increase the company's chances of building long-term value in the nearest future (three to five years). The dominant model is that related to management and data supply (data sources – 4.28, which is consistent with the type of activity, namely that of a data distributor) and service provision (CSP – 3.94, and SSP – 4.06).

Shareholding in the IT sector: current status and prospects

A look into the future is also of the essence, in terms of a reliable resolution of the research problem in the context of IT companies, by investigating the following question: *which values should IT companies contribute to the economic environment?* as well as enquiring about their shareholders: *who should be the future shareholder in the IT sector?*

In the opinions of experts, the areas of activities that are predominant for current shareholders in IT companies (valid at the time of preparation of the research process) are as follows: a shareholder guarantees relationships (level 3.72 on a five-point Likert scale) and innovative ideas (3.83). In the future, the above-mentioned areas of activity will remain predominant, yet the area of leadership will have greater potential for exerting a growing impact in the context of the efficient creation of company value (current level 3.06, future – 3.83). The above observation may offer inspiration for shareholders as to the areas on which they should focus their personal activities and areas that they should delegate to other economic operators or direct associates. At the same time, the respondents noted that the limited role of capital suppliers is valid in the current macroeconomic situation (the wide availability of debt capital and financing with the use of investment funds for the assessment performed in 2019). If the central banks change their approach, this factor, namely capital suppliers, may moderately increase their significance to a level exceeding 3.00 (on a five-point Likert scale).

Shareholders in the context of value creation: the narrow approach of the research model (catalogue of tasks)

When examining the formation of dependence between the efficiency of long-term value creation and the activities (tasks) performed by the shareholders for the benefit of the company, an attempt was made to determine the strength of this relationship.

In the catalogue of tasks, the following actions of a manager/shareholder were identified and designated as independent variables: building a network of relations (relational capital); observing the economic environment and asking what should be changed to improve competitiveness (to understand the business); taking interest in opinions about the company; noticing emerging opportunities and acting to take advantage of them (analysis of market trends and competitors' actions); supervising the relationship between costs and revenue; recruiting talented managers and associates; searching for one's own successors; stimulating the immediate environment of associates to help them develop, maintaining high levels of engagement in terms of accepting new challenges; building the recognisability of the company's brand; noticing negative perspectives for the company; ensuring diversity in management; acting as the negotiator (arbiter) in crisis situations; the renewal of a rebellious stance (bold mission, insurgency); the owner's approach (focus on action, strong concentration, an aversion to bureaucracy); frontline obsession (support, experimentation); the ongoing development of the personal potential of a shareholder, developing leadership in the company (charismatic leadership in the context of the role of the management board and distributed as part of human resource teams); and building a strong organisational culture based on healthy rules allowing it to last and to grow.

The results obtained show that the strength of impact (of the tasks performed on the efficiency of value creation) is higher in SMEs (for the majority of the identified actions) than in large enterprises, which leads to the conclusion that SME shareholders must manifest a higher level of vigilance and engagement in their tasks so as not to overlook significant decisional moments, as well as continually searching for and contributing value to the environment of associates and the potential of the company. The highest level of significance of actions taken, in the context of building the company's capacity for value creation, was indicated for actions such as the observation of the economic environment and asking what should be changed in the company to improve competitiveness (level 4.09 in SMEs and 3.59 in large enterprises on a five-point Likert scale), building a strong organisational culture (4.09 in SMEs and 3.45 in large enterprises), noticing emerging opportunities (4.14 in SMEs and 3.73 in large enterprises) and factors related to the founder's mentality (4.14 in SMEs and

3.77 in large enterprises) in the choices made by the company (frontline obsession, renewal of a rebellious stance, the owner's approach), the recruitment of managers (4.23 in SMEs and 4.04 in large enterprises), and ensuring diversity in management (3.95 in SMEs and 4.05 in large enterprises).

Shareholders in the context of value creation: business scenario approach

The authors also analysed business scenarios in which shareholders should remain within the management structure (in managerial roles, even with a limited area of accountability) in order to preserve the company's capacity for value creation (or for halting the degradation of such value). Furthermore, unique moments were sought in the life of companies and shareholders which affect – whether positively or adversely – the company's capacity to create its value from a long-term perspective. The following business and organisational scenarios were listed in the study: the strong personal brand of the shareholder in internal relations (managers' and employees' trust in the company); the strong personal brand of the shareholder in external relations (stakeholders' trust in the company); the shareholder's unique ability to lead; planned or conducted processes of acquisition of other entities that are significant to the company; and visionary stances presented by the shareholder (confirmed by the environment).

Assuming that a shareholder performing a managerial role and the company's capacity for value creation from a long-term perspective constitute a positive approach, the greatest likelihood of success comes when a shareholder is a visionary and the founder of the company and the name of the company is frequently related to his/her name (e.g. Michael Dell). This is particularly clear in the context of an external personal brand (4.17 on a five-point Likert scale), as well as a guarantee of trust with respect to acquisitions (4.22) for large enterprises, where it reaches higher levels than in SMEs. This results from the level of engaged capital, the scale of challenges and liabilities, which is often higher by an order of value than in SMEs. The significance of a high level of unique change management competence (leadership) was also noted for both categories of companies. At the same time, it was observed that the strongest degrading impact with respect to the company occurs when a shareholder with limited knowledge of the IT sector assumes a management role (3.83 in SMEs on a five-point Likert scale). Such results were confirmed by the observations of experts, who listed numerous cases of failing companies where such a scenario was pursued for an extended period of time.

Shareholders in the context of value creation: the narrow approach of the research model (catalogue of stances)

With respect to the catalogue of stances as the independent variable of the studied relationship, the following stances of a manager/shareholder were identified and studied: loyalty through long-term engagement in the obligations accepted with respect to the company; patience in terms of waiting for results combined with the consistency of tasks performed and obligations; the readiness to put the company's goals above one's personal goals (shaped by the company's goals); focus on the ongoing development of the enterprise; the ability to rekindle one's own passion for upcoming challenges; the open manifestation of trust in associates which, at the same time, forms a model of stances in an organisation at every level; meeting obligations towards stakeholders; the readiness to verify one's own views (logic of understanding the economic environment) and the capacity to adjust one's own views and actions; and high levels of mental and physical resistance.

Based on the comparative approach (according to the size of the company), a higher level of impact of the stances identified (by one level on a five-point Likert scale) on the efficient creation of company value was noted in SMEs as compared to large enterprises. The results favour a view that shareholders in SMEs must demonstrate a higher level of vigilance, engagement, and flexibility in assuming (adjusting) their stances with respect to the company, so as not to miss significant decisional moments, as well as continually contributing value to the environment of associates and the company's potential. The highest level of significance for the stances adopted was indicated with respect to those related to patience in terms of waiting for results combined with the consistency of tasks performed and obligations (4.8 on a five-point Likert scale), readiness to put the company's goals above one's personal goals (4.54), meeting obligations towards stakeholders (4.29) or focusing on the ongoing development of the enterprise (4.13).

4.3 Managers in the IT sector: entrepreneurs or intrapreneurs

When performing a comparative analysis of tasks executed by a manager, whether an intrapreneur or an entrepreneur, the scenarios that – following a review of the relevant literature, as well as interviews with economic practitioners – were identified as the most important in the context of solving the research problem were taken into account.

The study verified which of the identified actions (catalogue of tasks) taken by the manager as part of the assumed managerial roles (limited to decisional and interpersonal roles) have a higher strength of impact on (are conducive to) the long-term creation of company value if they are performed by an entrepreneur or an intrapreneur, who assume the same managerial role in an enterprise (simultaneously having similar levels of personal potential, which is the sum of one's knowledge, skills, and personal qualities).

The empirical data obtained confirm the conclusions drawn from the review of reference books (pertaining to an extensive perspective of economic sectors) that in the IT sector it is also possible to indicate these actions (tasks performed) that are executed more efficiently by entrepreneurs and these that are performed more efficiently by intrapreneurs, in the context of their impact on value creation. Differences were also noted (albeit less than 0.5 on a five-point Likert scale) specifying entrepreneurs as individuals affecting value creation in areas indicating their long-term relationship to the company and the durability of obligations towards the company (factors such as building a network of relations with the economic environment or the recognisability of the brand). Differences are also perceptible in the strength (efficiency) of forming the entrepreneur's mentality in the company's choices, readiness to build (and implement) charismatic leadership and to notice emerging opportunities. In turn, intrapreneurs are more efficient when it comes to noticing negative perspectives for the company and in supervising the cost-revenue ratio.

The authors also verified which of the stances adopted by the managers have a more favourable impact on the creation of long-term company value if they are demonstrated by an entrepreneur and an intrapreneur who perform similar roles in an enterprise (and simultaneously have similar personal potential). Entrepreneurs are marked higher (a difference of at least 0.5 on a five-point Likert scale) for stances such as high levels of mental and physical resistance, patiently waiting for results, and focusing on the ongoing development of the enterprise.

Shareholders: leaders of change

In the course of studies on the research problem, an attempt was made to identify the level of leadership in IT companies. At the same time, the authors assessed whether the shareholder as a leader – leading changes in an enterprise – may be conducive to its efficiency as compared to leaders from outside the company, and the conditions in which such efficiency would be strongest.

The level of leadership was assessed following the views of J. Collins, whereby a first-level leader is merely a highly capable individual (with good knowledge and organisation); a second-level leader is a contributing team member (who helps the team accomplish better results); a third-level leader is a competent manager (who organises people and resources in terms of tasks); a fourth-level leader is an effective leader who elicits engagement and implements a vision; and a fifth-level leader is defined by J. Collins as having made the transition from a good leader (executive) to a great one, whose maturity is manifested, e.g., in the philosophy of searching for the sources of failures and successes. For identification purposes, each of the levels of leadership was assigned a suitable level on the Likert scale, where the first-level leader was assigned a score of 1 on the Likert scale, while the fifth-level leader was assigned a score of 5.

With respect to the strength of shareholder leadership, the level of quality of leadership was verified in IT companies for the indicated levels of maturity with the application of differentiating criteria (company size, type of manager/leader). The results show that in SMEs, the level of leadership is lower (2.67 on a five-point Likert scale) compared to large enterprises (3.39). In the view of experts, such conclusions result from a higher level of professionalisation of management methods in large enterprises. At the same time, a slightly higher level of leadership is guaranteed by entrepreneurs (3.06) compared to intrapreneurs (2.78). It is also important to note that the predominant level of leadership in IT companies is closer to level 3 (good organisation of people and resources) with few companies where the level of leadership reaches the fourth level (with ambitions to reach the fifth level).

When looking for the impact of a leader/shareholder on the efficiency of the changes introduced, the authors – by means of a review of reference books and in-depth interviews with managers active in the IT sector – identified these business and organisational scenarios where the factor studied (business scenarios, business challenges) may be of significance, simultaneously introducing differentiating criteria (company size, type of manager). The study takes the following scenarios into account: a financial crisis in a company (with an actual risk of bankruptcy) and the necessity of making arrangements with the environment and a guarantee of meeting the obligations towards stakeholders; performance of a process of consolidation of several companies; loss of the main source of income (clients, changes in partner contracts) and, as a consequence, the necessity of addressing a drop in associates' motivation, along with the risk of losing production capacity (human resources); cost restructuring of the enterprise, which may result in redundancies; introducing a completely new product/service to the market, shaping the new markets or clients' habits with a relatively high risk of financial losses (and damage to the company's image); management of image risk; preparation, communication, and implementation of a new strategy; responsibility for issuing a communication to the market and the team after completing the process of introducing a new investor to the company; problems with performance of a key contract and active participation in such a project (steering committee, operating leader in a project).

The empirical data constitute the basis for concluding that a leader/entrepreneur is more efficient than an intrapreneur acting as a leader in such scenarios (challenges) where a personal guarantee of task performance in a right and proper way is required. Such a view is particularly clear in crisis activities (financial crisis in a company), entering new markets or liability for preparation, communication, and overseeing a strategy. The efficiency of entrepreneurs is also noted in crisis situations (loss of the main source of income, financial crisis) or a guarantee of performance of a key contract or the introduction of strategy. During the comparative analysis, the respondents indicated that the efficiency of a leader/entrepreneur in the context of the challenges above is higher by no less than 0.7 up to 1.3 when compared with a leader/intrapreneur (on a five-point Likert scale).

It should also be noted that the impact of an entrepreneur acting as a leader is higher in SMEs than in large enterprises (a difference of 1.00 on a five-point Likert scale). The exception is the image risk management scenario, where the experts decided that the level of entrepreneur efficiency is higher in large enterprises than in SMEs.

Shareholder maturity vs. efficiency of decisions made in the context of value creation

Following the views of A. Kozak, a mature manager is primarily a mature person who efficiently meets set goals, aiming to accomplish them with determination and with a sense of self-identity. Managerial maturity is also manifested by an objective view of oneself, not adjusting to the expectations of others, but making conscious decisions. A mature manager has a system of values which underlies the managerial decisions that are made. The results of the study show that the level of business maturity of shareholders in the Polish IT sector is moderately high (3.67 for SMEs and 4.11 for large enterprises on a five-point Likert scale). In the experts' view, such a high level results from over 30 years of experience, which is particularly noticeable in large enterprises where the shareholders guarantee a higher level of maturity than in SMEs. At the same time, the authors verified whether the high level of business maturity of shareholders positively affects their capacity for self-assessment (of their individual potential), the potential of the company and the potential of the market as factors shaping the choices made by the company, and its ability to create long-term value. The results support the conclusion that a high level of business maturity among shareholders affects the ability to assess factors that influence the company's choices, and thus increases opportunities for long-term value creation. The respondents indicated such scenarios (challenges) where the high level of business maturity is most conducive to the quality of the decision-making process pertaining to the company. The highest level of significance of shareholders' business maturity, in the context of opportunities for long-term value creation, was indicated in areas related to risk management (4.83 on a five-point Likert scale), the introduction of strategic changes (4.78) and personnel changes in the management board (4.89). A slightly lower level was recorded for decisions related to managing a crisis situation (4.33), acquisitions made (4.22), supervision of a key contract (3.67), making decisions with a short-term impact (3.22), and chairing the work of the supervisory board (2.67).

Formation of company potential through shareholders' potential: general approach of the research model

A critical review of the literature, supplemented by a pilot study, revealed the existence of a potential impact of formation of the "company's potential" (marked

PS; a concept describing an enterprise where tangible and intangible factors were taken into account with respect to the company) through "shareholders' potential" (marked PA, a concept describing the personal potential and mutual relationships among the shareholders). The factors involved in building the "company's potential" (PS) include the potential of the shareholder's environment (closest associates), the company's potential for changes, the presence of the owner's mentality in the company's choices, a guaranteed level of leadership in the company, and the logic of company management. The factors shaping the "shareholders' potential" (PA) include shareholders' knowledge, skills and personal qualities, business experience, approach to risk, personal brand, modes of thinking, visionary competence, capital contributed (financial, relational, and product), the code of conduct, and the relationships among shareholders.

To verify whether the identified potential dependence occurs, the strength and the direction of dependence between the "shareholders' potential" (PA) and the "company's potential" (PS) was measured. The empirical data offer a basis for assuming that such a dependence exists, while the "shareholders' potential" more strongly affects the factors shaping the "company's potential" if such potential is represented by the shareholders who fulfil decisional and interpersonal roles as compared to informational roles. This observation remains valid both for large enterprises and for SMEs. In turn, a direct comparison of the strength of the impact of the decisional and interpersonal role shows a slightly higher level (from 0.2 to 0.6 on a five-point Likert scale) for the decisional role performed by the shareholders, with the exception of shaping the level of leadership, where the interpersonal role was considered more efficient (both for large enterprises and SMEs), and the presence of the founder's mentality in the company's choices (refers exclusively to large enterprises).

The study shows that managerial decisional roles have the strongest impact on the formation of the company's potential through factors shaping the shareholders' potential, followed by interpersonal roles (excluding one's personal brand), with informational roles performed by the shareholders having a significantly lower impact. At the same time, with respect to all the relationships studied, the strength of impact is at a higher level (from 0.5 to 1.1 on a five-point Likert scale) for SMEs as compared to large enterprises. From the point of view of the authors, this may result from a higher level of business maturity and the scale of operation of large enterprises, which reduces the speed and the efficiency of implementation of a process of changes. In turn, the analysis of factors related to the "shareholders' potential" shows that investor relations have the strongest impact (the highest value was taken into account) on the formation of the company's potential (4.68 on a five-point Likert scale), followed by the approach to risk (4.59) and the strength of one's personal brand (4.59).

At the same time, the empirical data compiled show that the "shareholders' potential" strongly affects factors related to the "company's potential" such as the potential of the shareholder's environment (3.86 on a five-point Likert scale), the potential of a company to introduce changes (4.05), the presence of the founder's mentality in the company's choices (3.77), formation of leadership (4.14), and formation of management logic (3.50).

The empirical data obtained and the statistical analysis thereof allow one to note that for each of the factors comprising the company's potential, the shareholders make a significant contribution to building this potential, yet the strength depends on the managerial role performed in the company. The results of the study offered inspiration for verifying the existence of the impact on the company's capacity for value creation of factors such as company size (SMEs, large enterprises), time of the company's activity on the market (young, mid-life, and mature companies), and type of organisational culture (opportunistic, relational) on the strength of factors related to the shareholders' potential (PA), the company's potential (PS), and market potential (PR). Based on the results of the study, it may be observed that for SMEs, the factors shaping the "shareholders' potential" are the most important (57%), and in the assessment of the group of experts, they most strongly affect the company's capacity for value creation (of the remaining factors, the "company's potential" is at 20%, while "market potential" is at 23%). Similar observations pertain to young companies (55%); however, along with an increase in the scale of operation (large enterprises) and maturing of companies, there is a gradual levelling of the listed categories of potential, with the strongest impact noted for those factors that shape "market potential", amounting to 40% (where "shareholders' potential" was at 23%, while the "company's potential" was almost as high as "market potential", namely at 37%). In the assessment of experts, the market (recipients) must provide opportunities so that the potential of companies can make use of them and generate positive financial flows.

In turn, the comparative analysis of companies with opportunistic and relational cultures shows a significantly stronger impact of the "shareholders' potential" in relational companies focused on the delivery of innovations or long-term planning (38%, compared to 12% for companies with an opportunistic culture).

Views of global IT leaders on shareholders' impact on the efficient and long-term creation of value in the IT companies they manage

An in-depth observation of IT sector participants induces a view that the directions of development in technological areas and methods of management are set by foreign companies and their founders, primarily incorporated in the United States and operating globally. The market activity of the authors of this paper allowed them to conduct elite interviews with two renowned personalities from the IT sector (NASDAQ and/or S&P 500 listed companies: Commvault (founder, COO) and Dell Technologies (founder, CEO)), who were asked diagnostic questions during an abbreviated research survey pertaining to their personal activity in the companies over an extended period. During the interview, the respondents answered the following open-ended questions:

> What is the value of your current role in the company (position, scope of tasks and accountabilities) for you? Is the role which you perform the best possible role in the context of long-term value creation? If so, why?
>
> How has this role changed in the last 10 years?
>
> Has the stance also changed (mode of management, division of accountabilities among other people)?
>
> Today, having greater knowledge and experience, would you have made similar decisions about your role and the stances you presented?
>
> Which 3-5 factors determined the success of your company? In which of them was the shareholder of key significance?

The following key remarks were selected from the interviews: *The key values that I was guided by included respect for the associates, partners, and other shareholders. This gave me the authority to lead changes and to encourage others to take on new challenges.*

My managerial role has not significantly changed over an extended period of time. This is a decisional role, in the course of time supported and supplemented with subordinate talented managers (intrapreneurs). I have been continually learning; I have remained open to changes in the environment; I have supported new processes and rules of communication that guaranteed that the company was agile.

The shareholders' key activity should focus on building the long-term position of the company, which in the case of companies offering ready-made products means striving for the best possible product. At the same time, the ability to build consistent objectives among the shareholders is important, as well as setting long-term goals with short- and medium-term assessment time frames.

Table 4.19 contains key observations resulting from the interviews.

Summary of Delphi method studies

The scope of the study specified at the stage of planning the research process was implemented as part of studies undertaken with the use of the Delphi method, while the respondents (experts) who comprised the research sample guaranteed the quantity criterion for each of the research issues addressed. At the same time, the in-depth interviews carried out as part of the research process allowed the researchers to supplement the empirical data which, from the authors' perspective, considerably increased the reliability of the reasoning process. At the same time, the experts participating in the study were characterised both by extensive experience as shareholders and managers of IT companies, which they acquired in the course of long-term business practice, and a well-recognised and renowned personal brand in the sector. As a consequence, the authors were able to state confidently that the data compiled in line with the adopted research process, as well as the analysis and interpretation thereof with the use of statistical methods, may offer reliable evidence for the initiation of scientific reasoning for the purpose of the research hypotheses that were put forward. Simultaneously, the scope of the research and the premises accomplished for the process of scientific reasoning may offer valuable inspiration to continue such studies as part of the presented research problem.

4.4 Managerial roles of company shareholders vs. efficient company value creation: case study

Basic premises of empirical studies performed as case studies

Taking into account the nature of the research problem and the proposed course (idiographic approach, interpretive analysis – case study), the basic research tools (a questionnaire survey) were prepared and supplemented with additional diagnostic questions for the purpose of an in-depth interview.

The goal was to ensure the highest possible reliability of the study; for that reason, it was undertaken with the participation of both company owners (shareholders, stockholders) and their long-term employees in order to compile information that was significant for the course of the research process. In this way, it was possible to assess the diagnostic variables listed in the research model from the perspective of different observers. This approach seems consistent with the approach proposed by D. Babińska, where the recordings of interviews may form a valuable source of information for the effective improvement of further research tools, while simultaneously fulfilling the requirements of a correctly performed research process (Babińska, 2003). Table 4.1 contains a description of the course of the research process for the case study.

The authors were particularly interested in examining the cause-and-effect relationship with respect to the managerial roles taken on by the company shareholders and the efficient creation of company value, measured by changes in market value added (MVA) in accordance with a longitudinal approach during the entire period of operation.

With respect to the research issues arising from the holistic approach to the formation of the relationship between the shareholder and company value, the mode of assessment of the strength of qualities attributable to the shareholder ("shareholders' potential"), the company ("company's potential"), and the market ("market potential") was adopted, relying on estimation by the shareholders and, if possible, supplemented with representatives of top executives (shareholders' environment). As part of the estimation of values of diagnostic variables, a comparative criterion was applied, whereby the respondents undertake benchmarking with their closest competitors. A five-point Likert scale was

Table 4.1 Description of the case study process

Identification of the stages of the case study	*Characteristics of the stages of the case study*
Formulation of the research question	Which roles of shareholders, fulfilled via managerial functions, tasks performed for the company's benefit, and stances presented with respect thereto, affect the efficiency of an IT company in terms of building a long-term capacity to create value better than others?
Case sampling	Individual case: net-o-logy Sp. z o.o. and no fewer than three supplementary case studies of companies operating in the IT sector
List of data compilation tools	Questionnaire survey as the basic tool, supplemented with an in-depth interview with study participants
Mode of compiling field studies	Individual meetings and conferences with participants, attended by owners (founders, shareholders) of the companies analysed, supplemented by employees (for the individual case)
Modes of data analysis	Statistical testing and intuitive inference
Rules for formulating generalisations	Data interpretation, statistical data analysis, and initiation of scientific reasoning
Approach to confrontation with reference books	Searching for confirmation of conclusions in reference books (based on primary and secondary sources)
Closing of the study (generalisation)	Final conclusions and an attempt to formulate generalisations (limited to the analysed cases)

Source: Authors' own elaboration based on the literature review.

applied where a value of 3 means a comparable assessment with the closest competitors, whereas values of 1 and 2 mean a lower assessment for the diagnostic variables examined (the qualities evaluated), while 4 and 5 are higher grades.

When selecting companies – and also shareholders – for the study, attempts were made to make sure that at the moment of the assessment, the respondents had extensive business experience and an extremely thorough understanding of the market.

The estimation of diagnostic variables (as part of the diagnostic questions that were asked) was made in the form of a direct in-depth interview and the answers given to the diagnostic questions asked by the authors, along with the independent work of the respondents with the research tool, followed by a discussion with the authors after the completion of the work. If the estimation of the diagnostic variable separately for each of the founders in the diagnostic questions was necessary, the task was performed by working out an answer during a brainstorming session and determining a median value (Wawak, 2012). The dynamics of change in the value of a diagnostic variable were demonstrated by applying retrospective study for the entire period of operation divided into periods of activity indicated by the company's founders as having been of importance (in the context of the defined research problem). The analysis of the results of estimation of the value of individual diagnostic variables was used to construct the key synthetic indicators. These indicators were defined as the arithmetic mean of the value of measures of the diagnostic variables examined. In this way, the adopted measures – corresponding to the dependent and independent variables in the research model – facilitate attempts to draw conclusions from the case study.

Based on the research model, a diagnostic survey was designed which accounts for the factors indicated therein (diagnostic variables), and adequate measurement scales were assigned as a result. The survey contains a set of cafeteria questions, representing ten problems:

- investigation of managerial roles performed by the shareholders and, in the concurrent period, by the shareholders' environment (management), along with an assessment of their personal potential in the company;
- examination of the strength of factors shaping the "shareholders' potential" (PA);
- examination of the strength of factors shaping the "company's potential" (PS);
- examination of the strength of market factors (PR);
- examination of the catalogue of tasks performed ("catalogue of tasks") and the stances ("catalogue of stances") adopted by the shareholders – as the outcome of applying a narrow approach – to measure the strength and the direction of dependence between shareholders and company value, along with additional issues (applied exclusively in individual cases):
- investigation of choices made by the company;
- examination of the efficiency of the creation of company value – in comparison to other companies (subjective assessment);
- examination of the strength of factors shaping the choices of managerial roles of the shareholders in the company;
- examination of the significance of the impact of the shareholder performing the role of a leader of change (change leadership) on the efficiency of the changes introduced;
- examination of the impact of the level of business maturity of the shareholders on the efficiency of company value creation.

Single case study: net-o-logy Sp. z o.o.

Cross-sectional characteristics of the analysed entity

The study covered the founders (shareholders) of net-o-logy in the context of the efficient creation of company value with the use of a longitudinal approach for the entire period of economic activity of the company on the market (i.e. 15 years). At the time of research, the company was active on the market and was pursuing its development strategy entitled "strategy 2020+" as confirmed by the resolutions of the General Shareholders' Meeting (GSM).

Basic information about 'net-o-logy Sp. z o.o.':

Headquarters (current status): Katowice, Warsaw/Poland

Form of operation: limited liability company

Year of foundation: 2004

Shareholding structure as of the date of company incorporation: 52%/24%/24%.

By means of in-depth interviews with the company's founders, the entire period of operation of the company was divided into shorter periods. The criteria for such a division included financial results (values, dynamics of changes), changes in managerial roles performed by the shareholders, and significant economic (external) or organisational (internal) events resulting in a significant (change of trend, strong creation, or degradation of value) impact on the efficient creation of company value. As a result, the following periods were distinguished for net-o-logy, which offered a temporal approach to measuring the impact of shareholders on the efficient creation of company value: 2004–2006, 2007–2009, 2010–2012, 2013–2015, 2016–2018, and finally 2019 (the year of preparation of the paper). Based on the interviews performed with the company's representatives, a review of the financial results and an assessment of the efficiency of the strategy pursued, the stages of development of the company were assigned to the periods of operation listed above.[1] It was assumed that the years 2004–2006 were the period of initial development; the years 2007–2009 were a period of growth; the years 2010–2012 were a period of decline; the years 2013–2015 were a period of revival; the years 2016–2018 constituted another period of growth; and 2019 was the beginning of the maturity phase.

In the analysed periods, the level of employment in the company ranged from six (2005) to 50 (2015) and up to 80 individuals (2019). The company's annual revenues ranged from EUR 1.5 million (2005) to EUR 5 million (2009–2012), EUR 10–12.5 million (2013–2015) and up to EUR 31 million (2018).

ESTIMATION OF COMPANY VALUE

The estimation of company value relied on the estimation of MVA. In line with this approach, it was assumed that the sum of discounted economic value added (EVA) indicators that the company is meant to accomplish in the future, in line with the plans it has adopted, determines the MVA. A detailed questionnaire for the applied method of estimating the value of a company is presented in the annex. Based on this, it was concluded that in each of the analysed periods, the company efficiently generated value, yet on a significantly different level in the dimension of the MVA (from EUR 114,000 to EUR 325,000).

The value estimation performed for individual periods of operation allows for the determination of the MVA for the entire period of operation (i.e. 2004–2019), which amounts to EUR 1,894,531, offering an average value of over EUR 126,250 annually, assuming 15 accounting periods. The positive MVA during the entire period of operation proves that net-o-logy efficiently creates MVA on a long-term basis, increasing the value of the company and simultaneously providing a basis for distributing value among the shareholders by conducting a limited dividend policy.

For the sake of comparison (with the market), an analysis of the WIG-INFO index published by the Warsaw Stock Exchange was made in the research periods that were adequate with respect to the case of net-o-logy. Measurements from 2004 to mid-2019 showed positive changes in the index at a level equal to 55%. In attempting to compare WIG-INFO and net-o-logy, it was assumed that a comparison for the period of the last ten years, i.e. 2009–2019, may be of value (and guarantee a more reliable conclusion). With respect to this criterion, the growth of the WIG-INFO index was almost 100%, while for net-o-logy, the growth amounted to 175% (the reference value was the sum of MVA to 2009 and increased value to 2018). Hence, it may be assumed with due prudence that in the case of net-o-logy, company value creation was more efficient than the estimated average measure of the WIG-INFO index for public companies.

IDENTIFICATION OF MANAGERIAL ROLES PERFORMED BY SHAREHOLDERS AND BY THE SHAREHOLDERS' ENVIRONMENT (MANAGEMENT) INCLUDING THE ASSESSMENT OF THEIR PERSONAL POTENTIAL

The participants in the study – shareholders and people from the company's managerial authorities separately – were asked diagnostic questions with the following opinion incorporated therein: *the choice of managerial roles performed by the shareholders was optimal in the context of building the company's capacity for long-term value creation, taking into account the company's potential (in particular the shareholders' environment) and the personal potential of shareholders (knowledge, skills, and personal qualities).* Using a five-point Likert scale, the participants assessed the strength of compliance with the opinion contained in the questions according to the following scale: 1 – a very low level of compliance, 2 – a low level, 3 – an average level, 4 – a high level, and 5 – a very high level.

Based on the data compiled and the statistical analysis (arithmetic mean and mode), a higher level of compliance was noted with the opinion presented in the assessment by the company's managers (direct environment of shareholders) than in the assessment by the shareholders themselves. At the same time, a clearly lower value of assessment was noticeable for the period of 2010–2015 than for the remaining periods of operation. The analysis of the empirical data shows that in the indicated period, there was a lower level of compliance of the shareholders' goals in the context of further directions of the company's development and the managerial roles performed. Simultaneously, the first effects of the global financial crisis became visible in the macroeconomic environment at that time (2008–2012). In the context of this research problem, it should also be noted that in spite of a clear decline in the suitability of the choice of managerial roles in 2010–2012, there was clear evidence of growth in the subsequent research periods. In the assessment of both the company's founders and managers, the fulfilling managerial roles was significantly higher (4.00 in the assessment of founders, 4.67 in the assessment of company managers) than the market practice (3.00).

Reference books testify to the existence of feedback between an entrepreneur (shareholder, stockholder) and the activities which he/she performs (Schjoedt, 2009). Hence, it may be assumed that such a relationship also occurs between the personal potential of a shareholder and the potential of a company where the entrepreneur fulfils managerial functions, influencing the creation of opportunities and making use of them, which leads to the creation of company value. Following this opinion, the shareholders' personal potential (for every shareholder separately) and the shareholders' environment (company management) were examined with the application of measures of knowledge, skills, and personal qualities. The study was performed retrospectively for the periods of the company's operation. A five-point Likert scale was applied as follows: 1 – a very low (negligible) level of potential (of the quality studied), 2 – a low level (perceptible deficiencies in quality), 3 – an average level (allowing for the efficient application of the quality, yet not offering a significant base for building an advantage over direct competitors), 4 – a high level of the quality studied, allowing the company to search for an advantage over competitors/higher efficiency, and 5 – an expert level (unique), offering a significant advantage. The result of the assessment affecting the synthetic index, defined as the "personal potential" (of a shareholder/shareholders' environment) for each of the measures, was the arithmetic mean for the estimated values of the shareholders' knowledge, skills, and personal qualities. Adopting this method of aggregation followed from the possibility of aggregation of the results derived from the Likert scale (Walesiak, 1996).

The assessment was perfor med in the following professional areas: administration and management of the company (adm), sales of IT services and products (sale), and familiarity with the company's technology and development of its offer (dev). The results obtained from observations led to the conclusion that the personal potential of the company's founders – and simultaneously the people who perform managerial roles in the company – significantly differed in the analysed periods of operation. It should definitely be noted that the shareholders followed the rules of assigning areas of professional accountability based on the analysis of personal potential. Considerably more extensive competence in the administrative area (adm) and sales and development (dev) was attributed to people whose relevant knowledge or skills were clearly the best. It may thus be surmised that professional criteria were used in the choice of roles, relying on the analysis of personal potential.

An equally valid observation is the positive dynamics of changes in the personal potential, which in the view of respondents grew from 1.33 (on a five-point Likert scale) at the beginning of operation to 4.00. In the authors' view, this resulted both from new experiences acquired in the subsequent years of operation and a high level of engagement in tasks related to personal development, as indicated by the respondents.

To better express the participation of shareholders in managerial roles in numerical values, the authors transformed the level of accountability (participation of shareholders) in individual managerial roles in the periods of business activity listed above. Percentage values, which express the relationship between the participation of shareholders (as individuals or a group of people) with respect to all individuals who held a given role in the company, were applied in the estimation. This means that if participation of less than 100% was listed for a selected role in a given period, some of the competences resulting from the attributed role were exercised by individuals who were not shareholders (in the research model, such individuals are labelled the "shareholders' environment"). The results of such estimation are presented in Table 4.2.

The key observation is a clear division both with respect to the managerial roles performed throughout the entire operation and accountability for professional areas in the group of shareholders. Taking the results of the study on the shareholders' potential into account, a high level of awareness of strengths and weaknesses was noted and reflected in the division of managerial roles and areas of accountability that potentially guaranteed the most suitable adjustment of roles, especially between 2004 and 2006 and 2007 and 2009, in particular the adjustment of the professional areas of accountability to suit one's personal potential.

Table 4.2 Results of the study of shareholders' participation in managerial roles from a long-term perspective: case study of net-o-logy

Research period	*2004–2006*	*2007–2009*	*2010–2012*	*2013–2015*	*2016–2018*	*2019+*
Decisional role	100%	100%	50%	50%	33%	33%
Interpersonal role	100%	100%	100%	33%	33%	33%
Informational role	100%	100%	100%	33%	33%	33%

Source: Own study based on data collected in the case study.

Such an adjustment, in the view of the shareholders, significantly contributed to the creation of development opportunities for the company which suited its potential in the analysed periods. At the same time, a growing trend of knowledge and skills in the professional areas was noted throughout the entire operation for all professional areas where growth (measured on a Likert scale) ranged from 10% to 37% of the value of assessment in the period of 2004–2012 and exceeded 60% between 2004 and 2018. Hence, the authors concluded that the choice of managerial roles was underpinned by the level of personal potential identified and developed throughout the period of operation. This trend was justified by the studies performed in accordance with the narrow approach of the research model, where – with respect to the diagnostic question related to the level of engagement in personal development (*Ongoing development of the personal potential of a shareholder – to understand the surrounding world and the rules governing it better*) – it was clearly noticeable that this level remained above 3.33 (on a five-point Likert scale) with an average of 4.03 for the entire research period, i.e. 2004–2018. From the authors' viewpoint, this was confirmed in talks with other market participants, who claimed that the factor most conducive to such a situation is work in the modern technology sector, close to (and in cooperation with) global IT suppliers, which offers an opportunity to observe their decisions and mode of conduct, along with the consequences thereof and attempts to follow them. More importantly, such attempts to follow other companies refer not only to declarations of will and intentions but also to experimentation and the possibility of indirectly endorsing their guidelines and recommendations. This was also confirmed by the results of studies on the diagnostic question: *the choice of roles performed by the shareholders was optimal with respect to the personal potential (of shareholders), the goals set, and the company's potential in a given period.*

Based on the assessment of the potential of managerial roles represented by the shareholders and the shareholders' environment, a clear transformation of managerial roles was noted from a long-term perspective, following the direction from the shareholders to their associates (shareholder's environment), with the simultaneous preservation of or a gradual increase in their personal potential. In the company which was the subject of analysis, such a transformation began between 2010 and 2012 and continued over the subsequent periods, with a shift of decisional roles and decisional and interpersonal roles to the associates (shareholders' environment) and a continuous increase of their potential, from the level of 2.83 (on a five-point Likert scale) when performed exclusively by the shareholders, to 3.56 when performed jointly, up to the level of 4.50 when predominantly performed by the associates. A similar tendency was observed for the interpersonal role which reached the level of 3.3 (on a five-point Likert scale) when performed exclusively by the shareholders, while after management joined forces with the associates and partially delegated responsibility for the area to the already developed potential of intrapreneurs, the figure grew to 4.33.

This may (including the estimation of changes in the market value added of an enterprise) lead to the conclusion that the mode of selection of managerial roles by the shareholders and the transformation of roles were conducive to the efficient long-term creation of company value.

EXAMINATION OF THE STRENGTH OF FACTORS AFFECTING SHAREHOLDERS' POTENTIAL, COMPANY POTENTIAL, AND MARKET POTENTIAL

Following the research model proposed for the formation of a relationship between the managerial role of a shareholder and the efficient creation of company value based on a general (holistic) approach, factors related to the shareholders, the company, and the market were listed as potentially affecting the strength and the direction of such a relationship. As part of the case study, the levels of these factors were studied (in the research model represented by diagnostic variables) separately for each of the study periods by means of a questionnaire survey and in-depth interviews.

Both founders (company shareholders) and key managers (shareholders' environment) took part in the study. Estimation of the strength of the diagnostic variable (as a measure) was made with the use of a five-point Likert scale, which is to be interpreted as the strength of a quality in an individual or group approach (a group of shareholders or shareholders' environment), where 1 means a very low (negligible) level of potential (of the analysed quality), 2 – a low level (perceptible deficiencies in quality), 3 – an average level (allowing for the efficient application of the quality, yet not offering a significant base for building an advantage over direct competitors), 4 – a high level of the quality analysed, allowing the company to search for an advantage over competitors/higher efficiency, and 5 — an expert level (unique), offering a significant advantage. Whenever a bipolar scale was used, it should be interpreted as the strength of the relationship of the indicated quality values (A, B), which means: 1 – a clearly (dominant) value (A) defining the quality of the variable, 3 – equal, and 5 – a clearly dominant value (B) defining the quality of the variable.

The result of the assessment that affects the synthetic indicator (each of the factors listed with respect to the shareholders) was an arithmetic mean for each measure assigned to a given factor (Table 4.3). Adopting this method of aggregation followed from the possibility of aggregating the results received from the Likert scale.

The results (Table 4.19) show a very high level (over 75%) of positive dynamics of changes in the variable describing the "business maturity" of the shareholders (from 2.09 to 4.17 on a five-point Likert scale), "personal brand" (from 2.09 to 4.09), an average value of "shareholders' potential" (from 3.28 to 4.17), and "shareholders' capital" (from 2.5 to 3.56) in the research periods. In turn, the greatest decline referred to the variable describing "investor relations" (from 4.17 to 3.17 on a five-point Likert scale) which, in the shareholders'

Table 4.3 Summary of the results of empirical studies for the estimation of the level of diagnostic variables attributed to shareholders and the company: case study of net-o-logy

Research period	*2004–2006*	*2007–2009*	*2010–2012*	*2013–2015*	*2016–2018*	*2019+*
Factors attributed to shareholders (PA)						
Shareholders' potential (M26)	3.28	3.67	3.45	3.67	4.17	4.22
Business maturity (M27)	2.09	2.59	2.83	3.5	3.75	4.17
Shareholders' code of conduct (M28)	4.25	3.17	2	3.75	3.67	3.91
Approach to risk (M29)	4.17	4	3	3.84	3.84	3.67
Shareholders' capital (M30)	2.5	3.06	2.84	3.11	3.39	3.56
Shareholders' mode of thinking (M31)	4.33	3.84	1.84	3.67	3.84	3.84
Investor relations (M32)	4.17	3.67	2.34	2.75	3.17	3.17
Personal brand (M33)	2.09	3.34	2.59	3	4.09	4.09
Visionary competence (M34)	2.00	3.00	2.33	3.33	3.67	3.67
Factors attributed to the company (PS)						
Shareholders' environment (Z21)	1.55	2.84	3.17	3.8	4.04	4
Company's potential for changes (Z22)	2.5	3.13	2.67	3.25	3.63	4
Founder's mentality (Z23)	4.22	3.78	2.89	3.67	3.89	3.67
Leadership in the company (Z24)	3.42	3.42	1.84	3.42	3.84	3.92
Logic of management (Z25)	3.5	4	2.84	3.67	4	4
Other balance sheet factors (Z20a)	1.67	2.67	1.67	1.67	2.83	3.17
Other off-balance sheet factors (Z20b)	1.58	1.92	2.08	2.42	2.83	2.67

Source: Own study based on the data collected in the case study.

Note: The name of the diagnostic variable indicated in the research model was specified in brackets (identifying the factor that affects the shareholders' impact on efficient company value creation as determined in the research model).

evaluation, indicates a high level of enthusiasm at the beginning of operation; the variable describing the unity of goals throughout the entire period of operation remains at a moderate level. A slight decrease was also observed in relation to the "modes of thinking", which the shareholders interpret as a decrease in readiness to accept new, high risks (the factor entitled "approach to risk"), or a decrease in the previously very high level of readiness for new challenges along with the period of the company's operation on the market (15 years); however, with the assessment at a level close to 4.00 at the end of the period, from the point of view of the shareholders it guarantees a continually high level of openness to changes and readiness to update the offer and the modes of operation.

In turn, with respect to the results received for the factors attributed to the company, the strongest dynamics are perceptible for the diagnostic variable describing the "potential of the shareholders' environment" (from 1.55 to 4.04 on a five-point Likert scale) and the company's potential to change (from 2.5 to 4.00). A high level of leadership is also perceived in the company, indeed since its very foundation (from 3.42 to 3.92). In turn, the factor whose value degraded, namely the "founder's mentality", is strongly related to the inertia of companies when it comes to changing their value, organisational culture or approach, along with growth in the scale of operation. In the in-depth interview, the shareholders unanimously stressed that the aspect of retaining the founders' mentality (strongly focused on rebelliousness, courage in the face of new challenges, frontline obsession, and greater agility of tasks performed rather than full compliance with the processes) offered strong motivation for the formation of managerial roles in the company in such a way as to avoid losing the impact on the formation of the founder's mentality in the choices made by the company. For that reason, in spite of changes in the managerial roles of shareholders, the shareholders are continually present in informational and interpersonal roles.

In the comparative analysis of the strengths of individual factors (diagnostic variables), high levels of these factors which – in the assessment of shareholders – resulted from enthusiasm ("investor relations", "code of conduct") at the start of the enterprise, as well as the courage to accept new challenges ("modes of thinking") and openness to high risks ("approach to risk"), were noted. From the point of view of the shareholders, such strong factors were the driving force which allowed them to overcome obstacles, compete over the long term, and thus gradually build the company's potential. At the same time, the potential of the environment (direct associates) was vigorously developed, in particular since 2007, and the transformation of the managerial roles of shareholders was viewed as an element of long-term enterprise management. A moderate level of the "shareholders' potential" at the beginning of operations is also notable (3.28 on a five-point Likert scale), constructed as it was in the course of several years of experience in the IT sector, which was sufficient to learn the rules governing the sector or the expectations of clients with respect to IT sector suppliers.

A detailed analysis of the results of the estimation of diagnostic variables for the subsequent periods shows a high level of compliance of the assessment pertaining to the trend (the reduction thereof) between 2010 and 2012 in the area of factors such as "shareholders' code of conduct", "approaches to risk", "shareholders' mode of thinking", "investor relations", and the "personal brand" of shareholders. Similar trends are visible with respect to the factors related to the company, where – apart from the "potential of the shareholders' environment" and "other off-balance sheet factors" – the values of the remaining factors degraded. Based on the interviews, the authors determined that there were two key events that affected both the strength of the factors and the company's capacity for value creation, i.e. the first process of change of managerial roles in the company's history (which demonstrated the differences in goals and modes of performance) and the beginning of the global financial crisis, which diminished economic growth in Poland (a key market for the company's recipients).

However, it is important to notice the shareholders' capacity to reverse the negative trend of changes in the value of the factors studied and the positive dynamics of changes for the majority of them in the subsequent research periods. From the perspective of managerial roles, the second change in managerial roles took place between 2012 and 2013, where only one shareholder (founder) kept a decisional (or interpersonal) role, while the remaining roles and professional areas were handed over to managers outside of the shareholding structure (direct environment of shareholders).

During the in-depth interview, the shareholders added that the study covering such an extended period of time allowed them to measure the factors affecting shareholders' impact on efficient value creation more reliably by performing a retrospective overview of the presented research problem. At the same time, they noticed that in the course of daily operating activities, they did not attribute significance to the factors indicated and thus did not perform such analyses. The approach presented to them induced a reflection which may lead, with certain limitations, to providing shareholders and future shareholders of companies in the IT sector with valuable inspiration. The shareholders listed the time and place of the analyses performed with respect to the development of the IT sector, the level (considerably higher than 15 years ago) of Polish and global economic development, and the readiness of the present-day generation of investors, founders, and companies to show such patience in waiting for the results, combined with low pay levels, as the potential limitations. Hence, the formulation of generalisations from the study is additionally hindered; however, this does not mean that it is impossible to do so, as the factors listed by the researchers are embedded in the reality of the decisions made by the shareholders and the actual impact on building the companies' capacity for value creation over a long-term time horizon. Indeed, they may remain valid in the years to come.

CASE STUDY FOR THE RESEARCH MODEL: A NARROW APPROACH

The results of the authors' own empirical studies are presented below and are divided into factors indicated in the research model, affecting the strength and the direction of the shareholders' relationship in the context of tasks (catalogue of tasks) performed for the company's benefit and the stances adopted with respect thereto (catalogue of stances) on efficient company value creation.

The study of the shareholders' impact on efficient company value creation via the tasks which they perform (catalogue of tasks) for the benefit of the company and providing them with an adequate level of engagement and priorities, as well as the adoption of adequate stances (catalogue of stances) towards the company, form part of the narrow approach of the research model adopted herein.

Accounting for changes in the managerial roles performed during the period of business activity, value-based differentiation was undertaken for both those founders who performed managerial roles (decisional, interpersonal, and informational) and those who remained outside of the management structures. To estimate the strength of a factor (quality), a five-point Likert scale was applied, where 1 means a very low level (negligible), 2 – a low level (tasks performed *ad hoc*/rom time to time), 3 – an average level (one of many tasks, yet in a fixed catalogue of tasks/stances), 4 – a high level (one of the several most important factors), and 5 means a very high level (a key factor). The breakdown of the results of the empirical study of the level of shareholders' engagement in tasks (catalogue of tasks) is presented in Table 4.4.

The results (Table 4.4) show that the strength of shareholders' engagement in accepting tasks for the benefit of the company was weaker in the research period of 2010–2012 compared to other research periods, which is also visible in the study of the potential of both shareholders and the company that was presented and described earlier in this chapter. In comparative terms, a high level of engagement (concentration) was noted over the entire period of analysis with respect to tasks related to continuous personal development (an average of 4.11 on a five-point Likert scale), building organisational culture (4.05), stimulation of an environment directly conducive to development (4.00), factors shaping the founder's mentality (frontline obsession, 3.94), and observation of the economic environment (3.94).

In turn, a growing trend in the level of engagement for factors such as searching for successors and the stimulation of an environment directly conducive to development was noted over a long-term time horizon. In the opinion of the authors, such an approach may follow from current challenges, while it is important to increase the level of engagement in such tasks in the context of building the company's potential (Table 4.5).

In accordance with the comparative approach, for the "catalogue of stances" identified and applied in the research tools (the results of which are presented in Table 4.5), a high level of the following stances (adopted with respect to

Table 4.4 Breakdown of the results of the empirical study of the level of shareholders' engagement in tasks (catalogue of tasks) performed for the company over an extended period of time: case study of net-o-logy

Research period/catalogue of tasks	*2004–06*	*2007–09*	*2010–12*	*2013–15*	*2016–18*	*2019+*
Building a network of relations (zd1)	4.00	4.34	2.67	3.92	3.84	4.00
Observing the economic environment and asking what should be changed in the company to improve competitiveness (zd2)	4.33	4.00	3.17	3.67	3.92	3.75
Supply of financial capital (zd3)	4.33	2.50	2.17	3.17	3.84	3.84
Taking interest in opinions about the company (zd4)	4.00	3.84	2.50	3.59	4.00	4.00
Noticing emerging opportunities and acting to take advantage of them (analysis of market trends and competitors' actions) (zd5)	4.00	4.17	2.67	4.09	4.25	4.09
Supervising the relationship between costs and revenue (zd6)	4.50	3.50	3.17	4.09	4.17	3.75
Recruiting talented managers and associates (zd7)	3.00	4.33	2.84	3.42	3.50	3.50
Searching for one's own successors (zd8)	1.50	2.50	3.84	3.92	3.59	3.84
Stimulating the immediate environment of associates to help them develop, maintaining their high level of engagement in accepting new challenges (zd9)	3.50	4.50	3.17	4.25	4.42	4.42
Building the recognisability of the company's brand by building a guarantee of trust in the company (zd10)	4.00	4.17	3.17	4.25	4.17	4.17
Ensuring diversity in management (zd11)	1.84	2.17	3.00	4.00	4.00	4.25
Acting as the negotiator (arbiter) in crisis situations (zd12)	3.67	3.34	2.33	4.25	3.59	3.59
Renewal of a rebellious stance (bold mission, insurgency) (zd13)	4.33	4.17	2.84	4.17	4.42	4.09
Owner's approach (focus on action, strong concentration, aversion to bureaucracy) (zd14)	4.00	3.67	3.17	3.42	3.42	3.42
Frontline obsession (support, experimentation) (zd15)	4.33	4.00	3.33	3.75	4.00	4.00
Ongoing development of the personal potential of a shareholder (to understand the surrounding world and the rules governing it better) (zd16)	4.17	4.00	3.50	3.84	4.42	4.59

(*Continued*)

Table 4.4 (Continued)

Research period/catalogue of tasks	*2004–06*	*2007–09*	*2010–12*	*2013–15*	*2016–18*	*2019+*
Developing leadership in the company (charismatic leadership in the context of the role of the management board and distributed as part of HR teams) (zd17)	3.33	4.00	3.50	4.50	4.33	4.16
Building a strong organisational culture based on healthy principles, allowing it to last and to grow (zd18)	3.67	4.00	3.67	4.00	4.25	4.25

Source: Own study based on the data collected in the case study.

Notes: In the table, the result of the estimation is the arithmetic mean of the value of the variable according to the opinions of shareholders and representatives of the shareholders' environment. The name of the research variable (zd) indicated in the research model and identifying the assessed factor was provided in brackets.

Table 4.5 Breakdown of the results of the empirical study of the level of stances adopted by the shareholders over an extended period of time: case study of net-o-logy

Research period/catalogue of tasks	*2004–06*	*2007–09*	*2010–12*	*2013–15*	*2016–18*	*2019+*
Loyalty through long-term engagement in the obligations accepted with respect to the company (ps1)	4.17	4.17	2.84	3.59	4.17	4.00
Readiness to put the company's goals above one's personal goals (shaped by the company's goals) (ps2)	4.33	3.50	2.67	4.09	4.09	3.84
Ability to rekindle one's own passion for new challenges (ps3)	4.17	3.84	2.50	3.84	4.25	4.00
Meeting obligations towards stakeholders (ps4)	4.00	4.00	2.00	3.25	3.84	3.84
Readiness to verify one's own views (logic of understanding the economic environment) and the capacity to adjust one's own views and actions (ps5)	2.50	2.84	2.00	4.09	4.00	4.00
High levels of mental and physical resistance (ps6)	2.33	2.67	3.00	3.83	4.00	4.33
Open manifestation of trust in associates which simultaneously serves as a model of stances in the organisation at every level (ps7)	3.34	3.50	2.84	4.59	4.25	4.00
Focus on the ongoing development of the enterprise (company) (ps8)	4.00	4.50	2.84	4.09	4.50	4.09
Patience in waiting for results combined with the consistency of tasks performed and obligations (ps9)	4.17	4.33	3.84	4.00	4.50	4.50

Source: Own study based on the data collected in the case study.

Notes: In the table, the result of the estimation is the arithmetic mean of the value of the variable according to the opinions of shareholders and representatives of the shareholders' environment. The name of the research variable (ps) indicated in the research model and identifying the assessed factor was provided in brackets.

the company) was noted throughout the entire period of analysis: “patience in waiting for results combined with the consistency of tasks performed” (4.22 on a five-point Likert scale), “open manifestation of trust in associates” (3.83), and “loyalty through long-term engagement in the obligations accepted with respect to the company” (3.83).

Simultaneously, the highest dynamics of changes in the level of strength of the above-listed stances were observed for the “readiness to verify one’s own views” (logic of understanding the economic environment) and the “capacity to adjust one’s own views and actions” (from 2.5 to 4.00 on a five-point Likert scale), as well as “high levels of mental and physical resistance” (from 2.33 to 4.33) and “open manifestation of trust in associates” (3.33 to 4.00).

A higher level of values for the assessed stances was also noted in the group of respondents comprising shareholders as compared to the assessment of stances made by the key employees (company management). The smallest difference – calculated for the average values of the variables (stances) analysed across the two groups – was 0.03 (on a five-point Likert scale), or less than 1% of the given values, while the highest was 0.67, which was 15% of the result of estimation. The method of averaging the results adopted by the researchers (calculated as the average of results scored by each group separately) smoothened the differences. Similar observations were also made for the “catalogue of tasks”.

CHOICES MADE WITH RESPECT TO THE STRATEGIC ORIENTATION OF THE COMPANY

The sources of inspiration for identifying strategic choices included the researchers’ views on the significance of cyclical strategic renewal in building elements of competitive advantage as a source (generator) of company value. Such a presentation of the research issue was also supported by the focus (and obligation) of the shareholders to prepare a strategy, as described in reference books and observed in economic practice. The directions expressed therein offer guidelines for daily tactical and operational activities. The shareholders provided answers to the question pertaining to two key decisional areas: actions taken and their efficiency in the area of strategic renewal and the search for and implementation of operational efficiency.

In the analysed period, the company determined strategic renewal and the search for operational efficiency as its key choices. As part of a concurrent analysis of financial results, strategic renewal was seen to be predominant in periods where higher profitability from operating activities prevailed (which were simultaneously the best periods for generation of MVA). In turn, during the period of 2010–2012, the search for operational efficiency was predominant, which was strongly related to internal factors in the company as well as market factors and the necessity of “protecting what the company owns”. In turn, a stronger focus on strategic renewal was again visible between 2013 and 2018.

STUDY OF SHAREHOLDERS' LEADERSHIP STANCES IN THE CONTEXT OF THE EFFICIENCY OF THE CHANGES INTRODUCED

In the view of the respondents, the company paid attention to the formation of leadership stances throughout its operation. Such a view is confirmed in the study of the company's potential – the "level of leadership" factor, which grew from 3.42 (on a five-point Likert scale) at the beginning of operations in 2004 to 3.92 in 2019. In order to examine and understand the significance of leadership stances in the context of their implementation by shareholders in the change management processes, key business scenarios were identified and assessed by measuring the efficiency of the accomplishment of goals by shareholders (provided such a scenario was relevant with respect to the company). The assessment was performed by means of a five-point Likert scale, where 1 means a very low level of impact on efficiency (as compared to other participants, i.e. individuals outside the shareholding structure) of the change introduction process, and conversely, 5 means a very high level (a decisive, unique impact of shareholders on the process of change implementation).

With respect to the proposed business scenarios, the highest level was recorded for the preparation, communication, and implementation of a new strategy (4.58 on a five-point Likert scale), financial crisis in the company (with a real risk of bankruptcy), and the necessity of making arrangements with the environment and guarantees of meeting obligations towards stakeholders (4.58), while the lowest was for cost restructuring in the company, which may lead to redundancies (2.42). Based on the observations compiled, the shareholders' level of engagement was noted in scenarios where strategic changes of importance were implemented (strategy, financial crisis), while in the "reforming" context, the strong significance of managers outside of the shareholding structure was noted, as their views, knowledge, and experience accumulated in other jobs were considered more important than the impact of shareholders.

DATA ANALYSIS AND STATISTICAL INFERENCE

To verify the existence of a potential and direct dependence between the managerial role performed by the shareholders in a joint stock company and efficient value creation, the authors performed statistical analysis using regression analysis for the analysed research period, i.e. 2004–2018. The independent variables were the managerial roles assessed with a measure determining the participation of shareholders in all areas and processes. The dependent variable was the MVA, estimated separately for the individual research periods. The MVA was estimated for increments of one accounting year. For such sources of data subjected to statistical analysis, a multiple regression equal to 0.57 (R-squared = 0.33) with an adjusted R-squared equal to 0.14 was obtained.

Simultaneously, with respect to the independent variables (decisional, interpersonal, and informational role), the levels of confidence of the "p" value were at 0.84, 0.64, and 0.86, respectively. The initial calculations offered a basis for the view that the direct relationship between the managerial role performed by a shareholder as the independent variable and efficient value creation as the dependent variable is an ostensible relationship, which forms an incentive to include the moderating variables in the research model (for the general approach), thus accounting for the factors related to the potential of shareholders, the company, and the market.

Based on the analysis, the approach to the relationship between the shareholder and the efficiency of company value creation, limited to the role expressed in managerial categories (decisional, interpersonal and informational), appears to be insufficiently precise, particularly when these roles are performed over an extended period of time. For this reason, in line with the research model and the case study, the analysis of the relationship requires the examination of factors (diagnostic variables) affecting the potential of shareholders, the company, and the market.

Following the research model and the dependences indicated therein along with the cause-and-effect relationship of the factors examined (diagnostic variables), the authors analysed the correlation between the variables (representing the factors related to shareholders, the company, the market, and the choices of strategic orientation) and the efficiency of company value creation (represented by market value added, or MVA). The Pearson correlation coefficient (Pearson's *r*) was used to describe the linear dependence between two variables as the measure of the linear relationship between them.[2]

When assessing the strength of correlation, the authors followed the suggestion of J. Cohen (Kozielski, 2007), who assumed the following values of Pearson's *r* to determine the strength of the relationship: r = |0.00| to |0.05| – no relationship; r = |0.06| to |0.09| – a very weak relationship; r = |0.10| to |0.29| – a weak relationship; r = |0.30| to |0.40| – an average relationship; r = |0.40| to |0.74| – a strong relationship; r = |0.75| to |1.00| – a very strong relationship.

The statistical analysis for the research model in accordance with the general approach (managerial role) of the dependence of independent variables related to the shareholders and the dependent variable (MVA) shows that there is a very strong positive correlation (r) for the personal potential of shareholders (0.97), business maturity (0.73), shareholders' capital (0.86), and personal brand (0.93). At the same time, no significant negative relationship of linear dependence was noted. The relationships of the aforementioned variables within the research problem may be interpreted as attributes of the shareholders contributing to the managerial role performed in the company. When the dependence is examined for factors attributed to the company, the highest level is noted for the company's potential to change, while the lowest is for the company's mentality. In the view of the authors, the results obtained should be treated only as informative, without the required reliability for formulating generalisations. Hence, they are valid for the case study and show potential dependences among individual diagnostic variables (factors of impact).

The complexity of the research model (according to the general approach), which, in the authors' opinion, holistically describes the research problem, encourages an attempt to build a prognostic model relying on structural equation modelling (SEM) as a full and complete approach to the proposed relationships among variables. As part of the research, these relationships were studied by the authors; however, on account of the insufficient number of sources of data, the results are not representative and were not included in this paper.

In the course of further verification, the search commenced for the potential interdependence of research variables in the narrow model (describing the level of the shareholders' engagement in the performance of tasks for the company and stances adopted with respect to the company) in line with the proposed research model. To this end, the Pearson correlation coefficient (r) was applied. It follows, from the analysis of dependence for the level of shareholders' engagement in the performance of tasks for the company's benefit (diagnostic variables marked "zd1" – "zd18" in the research model) and the efficient creation of MVA (diagnostic variable Y30), that a strong linear correlation (r) occurs for the following shareholders' tasks (from the catalogue of tasks): "building an organisational culture" (0.93), "stimulating the immediate environment of associates to help them develop, and maintaining their high level of engagement in terms of accepting new challenges" (0.71), "ongoing development of the personal potential of a shareholder" (0.72), "noticing emerging opportunities and acting to take advantage of them" (0.55), and "ensuring diversity in management" (0.59).

In turn, the analysis of dependence for stances presented by the shareholders towards the company (diagnostic variables marked "ps1" – "ps9" in the research model) indicates a strong linear correlation (r) for the following stances: "readiness to verify one's own views and the capacity to adjust one's own views and actions" (0.71), "patience in waiting for results combined with the consistency of tasks performed and obligations" (0.68), "high levels of mental and physical resistance" (0.70), and "focus on the ongoing development of the company" (0.64).

It is important to note that a low level of linear correlation of Pearson's r does not rule out a non-linear dependence. Acknowledging these limitations, the authors also pursued other methods of reasoning in the paper – e.g. intuitive inference – relying on the interpretation of the empirical data.

Taking into account the supplementary case studies that were performed in the course of empirical studies, as well as the defined purpose of the paper related to the proposal of a prototype of an instrument to support the decisions made by shareholders, the classification of the results of estimation of diagnostic

Table 4.6 Results of synthetic index estimation – company potential – applied in the concept of an instrument supporting the shareholders' decisions: net-o-logy case study

Research period	*Value of company potential and assigned class (of potential)**	*Assigned class of capacity to create company value***
2004–2006	2.58 (low)	Value creation
2007–2009	3.08 (average)	Value creation
2010–2012	2.47 (low)	Drift in value management
2013–2015	3.13 (average)	Value creation
2016–2018/2019	3.57 (average)	Value creation

Source: Own study based on the data collected in the case study.

Notes

* The value of the company's potential is a synthetic variable calculated as the arithmetic mean of the values shaping the "company's potential" group of factors (variables z20–z25 of the research model in the general approach); the class results from the ranges adopted by the authors (low from 1.00 to 2.99, average from 3.00 to 3.99, high above 4.00).

** As part of the estimation of the class of capacity (level of efficiency) of value creation, the relationship of change in market value added (MVA) was applied as the form of measurement in the ensuing research periods. It was assumed that if the MVA relationship in the examined period as compared to a prior period was above 1.5, then the level of value creation was assigned; drift was below this level (to the level of 0), while a negative value was determined to be the degradation of company value.

variables (Chapter 3) became necessary. As a consequence, the authors decided that as part of data analysis for each of the case studies, it was necessary to estimate the synthetic index describing the company's potential – the results are presented in Table 4.6.

For these classes, the estimation of measures was made, i.e. the average value of tasks performed (variables "zd1"–"zd18") and stances (variables "ps1"–"ps9") assumed by the shareholders, divided according to company potential (classes: low, average, and high) and the efficiency of value creation. The results of this analysis are presented in Table 4.7.

The authors adopted three levels of significance of differences in the level of diagnostic variable between the comparable scenarios, i.e. a combination of the class of efficiency of value creation and the class of the company's potential: low (understood as an insignificant difference) for estimated mean values lower than 0.5; average for values of differences from 0.5 to 1.0; and high for values above 1.0. In the context of the assumptions above, a comparative analysis was performed, the results of which are presented in Table 4.8.

The results obtained support the conclusion that the level of shareholders' engagement in the performance of tasks (from the specified catalogue of tasks) for the company's benefit and the stances adopted with respect thereto (from the specified catalogue of stances) may significantly affect the efficient creation of company value.

Table 4.7 Analysis of the results of average levels of engagement in the tasks performed and stances adopted by the shareholders in terms of classes of the company's capacity for value creation, as well as the company's potential: case study of net-o-logy

Class of capacity for value creation	*Class of company potential*	*Arithmetic mean for performed tasks (zd1–zd18)*	*Arithmetic mean for adopted stances (ps1–ps9)*
Value creation	Low	3.69	3.61
	Average	3.88	3.93
	High	Not present in the case study.	Not present in the case study.
Drift in value management	Low	Not present in the case study.	Not present in the case study.
	Average	3.04	2.61
	High	Not present in the case study.	Not present in the case study.
Value degradation	Low/average/ high	Not present in the case study.	Not present in the case study.

Source: Authors' own studies based on the data collected in the case study.

EXTRA STUDIES ON THE FOUNDER'S MENTALITY IN COMPANY CHOICES

The systematic review of reference books, focused on the identification of the direct and indirect impact of founders, entrepreneurs, and shareholders (stockholders), inspired the authors to undertake supplementary empirical studies for the research model that pertain to the issue of the founder's mentality in the daily activities of the company. The supplementary research area, although it was identified in the course of the tasks performed (research variables zd13–zd15), may offer a valuable supplement for the scope of studies, especially in the context of understanding how the potential of a company is shaped. As noted by C. Zook and J. Allen, the longer an enterprise can retain an insurgent spirit, aversion to bureaucracy, and frontline obsession, the more efficiently it builds the elements of its competitive advantage (Zook & Allen, 2017). Such an approach was also noted by the authors during numerous in-depth interviews, in the course of which the aspect of retaining agility was frequently mentioned, along with the courage to accept new challenges and building a strong focus on the quality of client service as significant elements of building the company's capacity for long-term value creation. The view on the mentality of the founders, in the view of the authors, is a good match for the characteristics of the Polish IT sector, which is dominated by companies established by natural persons.

Following this theme and accounting for the presence of the founder's mentality in the research model as a factor related to the shareholders' potential (PA) and simultaneously shaping the company's potential (PS), it is possible to put

Table 4.8 Results of comparative analysis for the approach to the level of efficiency of value creation and the company's potential and the levels of diagnostic variables (separately for the catalogue of tasks and the catalogue of shareholder stances): case study of net-o-logy

*List of scenarios in the comparative analysis of combinations of classes of efficiency of value creation and classes of the company's potential**		*Measurement of the significance of differences for the scenarios analysed – catalogue of tasks (zd1–zd18)*	*Measure of the significance of differences – catalogue of stances (ps1–ps9)*
Analysis of the synthetic results (for the entire sample of variables), categorised by class (capacity for value creation, level of company potential)			
Level of efficiency of value creation: creation Level of company potential: low	Level of efficiency of value creation: creation Level of company potential: average	Low	Low
Level of efficiency of value creation: creation Level of company potential: average (and low)	Level of efficiency of value creation: drift Level of company potential: average	Average	High
Analysis of the results for individual research variables (individual tasks and stances), categorised by class (capacity for value creation, level of company's potential)*			
Level of efficiency of value creation: creation Level of company potential: average (and low)	Level of efficiency of value creation drift Level of company potential: average	High (higher for the value creation class) for: zd1, zd3, zd4, zd5, zd9, zd10, zd12, zd13 Highest level of differences: zd5, zd1, zd4 – above 1.30	High (higher for the value creation class) for: ps1, ps2, ps3, ps4, ps5, ps7, ps8, ps9 Highest level of differences: ps4, ps5, ps8 – above 1.50

Source: Own study based on the data collected in the case study.

Note

* Assignment of classes – efficiency of value creation and level of company potential – adopted on the basis of the results of analysis presented in the preceding tables.

forward an intriguing additional thesis, namely that *a strong founder's mentality positively affects the enterprise's capacity for long-term value creation.*

The authors verified this hypothesis among company employees, choosing a research sample according to a level of confidence of no lower than 95% and the value of statistical error not exceeding 5%. The research sample comprised 30 individuals who worked for the company for at least two years – this was the population sampling criterion. The research tool that was used was a questionnaire survey prepared by C. Zook and J. Allen containing 20 diagnostic questions organised into ten research issues, to which the respondents offered responses on a five-point Likert scale, where 1 means "strongly disagree" and 5 means "strongly agree". In line with the methodology of measuring the results proposed by Zook and Allen, the final result is the points total, where the impact of the founder's mentality in an enterprise is considered strong if it exceeds 75 points; it is weakening if it is within the range of 65 to 75; it is low if the result is between 45 and 60 points; and it is entirely absent if it is lower than 45 points (Zook & Allen, 2017). The results were analysed with the use of descriptive statistics, offering a basis for scientific reasoning. The analysis was performed in the areas of measures of location (mean, median) and measures of differentiation (standard deviation). The following results were received for net-o-logy: mean 76.68, median 77.00, and standard deviation 4.45.

Additionally, the measure of variation was performed (measure of dispersion) by measuring the variation coefficient of a quality (level of founder's mentality) as a criterion for drawing conclusions about the reliability of the applied results. In the process of verification, scaling of the variation coefficient was applied, as described by Z. Bobowski, who defined the levels of variation as follows: low (below 25%), average (25%–45%), strong (45%–100%), and very strong (above 100%). For this research sample (employees of net-o-logy), a result of 5.95% was obtained, which shows a very low level of variation, and taking the size of the research sample into account, it is a premise for deeming the results highly reliable and trustworthy.

At the same time, the authors analysed which of the factors affecting the founder's mentality, as indicated by C. Zook and J. Allen, achieve the highest result, understood to represent the strength of a given factor in the company, and which have the lowest one. In the assessment of the founders of net-o-logy, the results obtained are consistent with their observation and confirm an approach which is strongly embedded in the organisational culture and related to client servicing, the dominant role of clients in the company's choices and the weakening impact of insurgency, which is understood as a consequence of the company's improving economic standing and is often explained as the "comfort zone" phenomenon.

The company's founders highlight the significance of the study as inspiration for defining their role in the company, in particular in the context of long-term tasks, strongly related to the stances presented, the choices promoted, and the courage to implement them. According to the shareholders' declarations, the key area of broadly understood company assets that most frequently led to the impactful presence of the founder's mentality in the organisational culture of the company after 15 years of operation was the values contributed by the founders, the formation of the organisational culture with a reliance on such values together with the associates (shareholders' environment), and improving the quality of leadership at the company.

The overview of results shows that, in spite of 15 years of market operation, focus on entrepreneurship is still strong within the company (rule: *entrepreneurial thinking and acting is required from every employee*), as is flexibility (rule: *flexibility before procedure*). This produced a unique combination of rebellious spirit and vigour with a procedural approach characterised by great strength. The specified rules comprising the mode of conduct and choices of organisational culture indicate the strong presence of the founder's mentality in the company's choices.

Case study recapitulation

The company which was analysed as part of the case study above was active in the IT sector throughout the entire period of research: it started as a micro-enterprise and grew into a medium-sized enterprise (as of December 2020, when the results of the study were prepared and described). During this period, the company transformed its business model from that of a re-seller (seller of products made by third parties) to an integrator and finally to a service provider, both at the level of consulting (application of IT in enterprises), as well as the delivery of IT (IT as a Service) towards forming a strategic partnership (SSP). Throughout 15 years of operation, in each period of analysis, the company created MVA efficiently and retained a stable shareholding structure whereby financial capital was contributed by the shareholders (both via one's own contributions and building the share and reserve capital) and bank credit. The company formulated its goals through the cyclical renewals of development strategy with a higher level of concentration on strategic renewal rather than seeking operational efficiency (a summary which was valid for the majority of periods of operation).

The company's shareholders (founders) held managerial roles throughout the period of operation, simultaneously undergoing a marked transformation of their roles. In the initial periods of operation, managerial roles were limited to the shareholders based on a model where decisional roles were combined with interpersonal roles. It must be noted that the rule adopted for selecting managerial roles relied on individual knowledge and the skills of shareholders (personal potential of shareholders), in line with which they accepted liability for these areas in which they were the best among the individuals comprising the shareholding structure. At the same time, the guaranteed level of knowledge and skills was not considerably lower than in companies which were the immediate competitors of the company studied herein. In the subsequent periods of operation, by means of recruitment and a high level of engagement of the closest environment in the formation of potential, the areas of liability along with managerial roles were gradually handed over to the closest associates in order to eventually limit their activity to informational and interpersonal roles.

The statistical analysis provides the basis for the conclusion that there are strong relations among the factors listed above, in particular with respect to the shareholders and the company, and the factors shaping the shareholders' impact on the efficiency of long-term value creation. This may induce a view that the choices made by the shareholders and represented (and measured) as part of the variables described in the research model are the basis for conclusions about the strength of factors shaping the shareholders' potential and contributed as attributes of the managerial roles.

In the case study, a very high (as a measure of arithmetic mean for the entire period of operation) level of long-term engagement in tasks related to ongoing personal development is clearly visible (4.11 on a five-point Likert scale), along with the stimulation of an immediate environment in which to develop (4.00) and factors affecting the founder's mentality (frontline obsession (3.94) and observation of the economic environment (3.94)). At the same time, a high level of stances such as "patience in waiting for results combined with the consistency of tasks performed" (4.22 on a five-point Likert scale), "open manifestation of trust in associates" (3.83), and "loyalty through long-term engagement in the obligations accepted with respect to the company" (3.83) was observed.

Supplementary case studies of IT companies

The subchapter below presents a recapitulation of the authors' own empirical studies that were performed for four other companies using the case study method. The scope of the study, the mode of performance, the method, the research tools and the measurements and scales are compliant with the approach used for the case study of net-o-logy. As a consequence, the description was limited exclusively to the presentation of basic data about the analysed entity and the interpretation of the results of our own studies. Simultaneously, data anonymisation was used, whereby individual companies are labelled from "S1" to "S4".

Case study: S1

In this study, the analysed entity was labelled "S1". Basic information about "S1":

- business model of the company: IT integrator as the company's predominant mode of activity on the market;
- headquarters (current status): Warsaw, scale of operation – national;

- form of operation: limited liability company (spółka z ograniczoną odpowiedzialnością);
- year of foundation: 2011;
- founders: a natural (middle-aged) person acting together with an investment fund (special purpose fund);
- shareholding structure as of the date of incorporation: dominant shareholder, founder;
- shareholding structure as of the day of preparation of the publication (August 2019): no changes.

By means of in-depth interviews with the company's founders, the entire period of operation of the company was divided into shorter periods. As a consequence, the following periods were defined for "S1": 2011–2012, 2013–2014, 2015–2017, and 2018–2019. Based on the interviews carried out with company representatives, a review of the financial results and an assessment of the efficiency of the strategy pursued, the stages of development of the company were assigned to the periods of operation listed above (initial period of development, decline, revival, growth, and maturity). It was assumed that the years 2011–2012 were the initial period of development; the years 2013–2014 were a period of decline; and the years 2018–2019 were a period of revival.

Identification of managerial roles performed by shareholders and by the shareholders' environment (management) including an assessment of their personal potential

To better express the participation of shareholders in managerial roles in numerical values, the authors transformed the level of accountability (participation of shareholders) in individual managerial roles in the periods of business activity listed above (Table 4.9).

Based on the assessment of the potential of managerial roles represented by the shareholders and the shareholders' environment over a long-term horizon, a disrupted transformation of the managerial roles of shareholders was noted

Table 4.9 Results of the study of shareholders' participation in managerial roles from a long-term perspective: case study of "S1"

Research period	*2011–2012*	*2013–2014*	*2015–2017*	*2018–2019*
Decisional role	0.00%	25.00%	50.00%	0.00%
Interpersonal role	0.00%	0.00%	0.00%	0.00%
Informational role*	25.00%	25.00%	25.00%	25.00%

Source: Own study based on the data collected in the case study.

Note

* It was assumed that if the shareholder was not specified individually in a given period of the informational role, such a role was additionally performed jointly by all shareholders.

from the shareholders to the shareholders' environment (direct associates) with the simultaneous preservation of or a gradual increase in personal potential (expressed by a lower potential of shareholders than their environment with respect to the performance of decisional roles). The transformation took place in the subsequent periods with a handover of key managerial roles and subsequently the partial recovery thereof; at the end of the research period, the status from the time of the company's incorporation (initial period of development) was reinstated (following the deteriorating financial results). At the same time, it was noted that the level of assessment of the potential of the shareholders' environment grew in the ensuing periods, which may constitute the foundation for the company's development in the coming years.

DATA ANALYSIS, STATISTICAL AND INTUITIVE INFERENCE

The results of estimation of a synthetic index, the company's potential (PS), applied with the use of the instrument supporting the shareholders' decisions in the case study of "S1", are presented in Table 4.10.

For these classes (the company's potential and the efficiency of company value creation), an estimation of measures was made, i.e. the average value of tasks (variables "zd1"–"zd18") and stances (variables "ps1"–"ps9") performed or assumed by the shareholders, divided into classes defining the company's potential (low, average, and high) and the efficiency of value creation (Table 4.11).

The authors adopted three levels of significance of the differences in the level of diagnostic variables across the scenarios being compared, i.e. a combination

Table 4.10 Synthetic index – company's potential (PS) – case study of "S1"

Research period	*Value of company potential (PS) and assigned class (of potential)**	*Assigned class of capacity to create company value***
2011–2012	3.56 (average)	Value creation
2013–2014	3.43 (average)	Value creation
2015–2017	2.50 (low)	Value degradation
2018–2019	3.45 (average)	Drift in value management

Source: Own study based on the data collected in the case study.

Notes

* The value of company potential (PS) is a synthetic variable calculated as the arithmetic mean of the values shaping the group of factors constituting "company potential" (variables z20–z25 of the research model in the general approach); the class results from the ranges adopted by the authors (low from 1.00 to 2.99, average from 3.00 to 3.99, and high above 4.00).

** In turn, with regard to the estimation of the class of capacity (level of efficiency) of value creation, the relation of change in market value added (MVA) was applied as the measure in the ensuing research periods. If the relation of MVA in the examined period when compared to a prior period was above 1.5, the level of value creation was assigned; below (to the level of 0) there was drift, while negative value was deemed to constitute the degradation of company value.

Table 4.11 Analysis of the results of average levels of engagement in the tasks performed and stances adopted by the shareholders in terms of classes of the company's capacity for value creation, as well as classes of the company's potential: case study of "S1"

Class of capacity for value creation	*Class of company potential*	*Arithmetic mean for performed tasks (zd1–zd18)*	*Arithmetic mean for adopted stances (ps1–ps9)*
Value creation	Low	Not present in the case study.	Not present in the case study.
	Average	2.96	3.00
	High	Not present in the case study.	Not present in the case study.
Drift in value management	Low	Not present in the case study.	Not present in the case study.
	Average	2.19	2.56
	High	Not present in the case study.	Not present in the case study.
Value degradation	Low	2.47	2.17

Source: Own study based on the data collected in the case study.

of the class of efficiency of value creation and the class of the company's potential: low (understood as constituting an insignificant difference) for the estimated mean values lower than 0.5; average for values from 0.5 to 1.0; and high for values above 1.0. In the context of the assumptions above, a comparative analysis was performed, the results of which are presented in Table 4.12.

The results obtained may constitute the basis of the view that the level of shareholder engagement in the performance of tasks for the company and the stances adopted with respect thereto may considerably affect the efficiency of company value creation. At the same time, with respect to the tasks performed, it was possible to list the tasks for which there were significant differences in the level of engagement (for the adopted criteria of significance). This is a particularly valid observation in the context of a division of managerial roles among shareholders (strongly limited in the first two periods of analysis) and their direct environment since the very beginning of the company's operation. In the periods of value degradation, there was an increase in the number of managerial roles performed by the shareholders with a simultaneous reduction in the average level of engagement in tasks performed for the company's sake. As a consequence, this could have led to the company's loss of capacity to create its value.

During the entire period of the company's operation, which was the subject of the study, the shareholders manifested a moderate level of engagement in the tasks that they performed – an average of 2.65 on a five-point Likert scale, with the highest level (above 4.0) for tasks related to the observation of the economic environment in order to improve competitiveness (zd2) and looking for opportunities (zd5). Such an approach, in the opinion of the company's representatives, allowed it to survive the period of degradation of company value with low

Table 4.12 Results of the comparative analysis for the approach to the level of efficiency of value creation and the company's potential and the levels of diagnostic variables (separately for the catalogue of tasks and the catalogue of shareholder stances): case study of "S1"

List of scenarios in the comparative analysis of combinations of classes of the efficiency of value creation and classes of the company's potential*		**Measurement of the significance of differences for the scenarios analysed – catalogue of tasks (zd1-zd18)**	**Measure of the significance of differences – catalogue of stances (ps1-ps9)**
Analysis of the synthetic results (for the entire sample of variables), categorised by class (capacity for value creation, level of company's potential)			
Level of efficiency of value creation: creation Level of company potential: average	Level of efficiency of value creation: drift Level of company potential: average	Average Highest level of differences: zd3, zd4, zd7, zd9, zd11, zd17, zd18 – above 1.25	Low Highest level of differences: ps9 – above 1.00

Source: Authors' own studies based on the data collected in the case study.

Note

* Assignment of classes – efficiency of value creation and level of company potential – adopted on the basis of the results of the analysis presented in the preceding tables.

engagement in other tasks (listed in the catalogue of tasks). At the same time, it was noted that patience in waiting for results dwindled (from a level of 4.0 in the initial period to a level close to 2.0 and 3.0 in the subsequent periods), which was the reason behind abandoning the path of role transformation. From the point of view of the authors, the shareholders' choices with respect to the tasks performed and stances adopted were overly selective, which may have been one of the causes of the negative MVA calculated in the period of analysis.

Case study: S2

In this study, the analysed entity was labelled "S2". Basic information about "S2":

- company's business model: IT distributor (also an IT producer at a later stage of development) as the company's predominant mode of operation on the market;
- headquarters (current status): Kraków, national scale of operation (EU area at a later stage of development);
- form of operation: limited liability company (spółka z ograniczoną odpowiedzialnością);
- year of foundation: 2006;
- shareholding structure as of the date of company incorporation: dominant majority shareholder, founder;

- shareholding structure as of the day of preparation of the publication (August 2019): extension of the shareholding structure to include new shareholders.

Before the commencement of the study, the entire period of the company's operation was divided into shorter periods using in-depth interviews with the company's founders. As a consequence, the following periods were distinguished for "S2": 2006–2008, 2009–2012, 2013–2014, 2015–2016, 2017–2018, and 2019. Based on the interviews carried out with company representatives, a review of the financial results and an assessment of the efficiency of the strategy pursued, the stages of development of the company were assigned to the periods of operation listed above (initial period of development, decline, revival, growth, and maturity). It was assumed that the years 2006–2008 were the period of initial development; the years 2009–2012 were a period of growth; the years 2013–2014 marked a decline and revival; the years 2015–2018 were a period of growth, while 2019 was the beginning of maturity.

Identification of managerial roles performed by shareholders and by the shareholders' environment (management) including an assessment of their personal potential

To better express the participation of shareholders in managerial roles in numerical categories, the authors transformed the level of accountability (participation of shareholders) in individual managerial roles in the periods of business activity listed above (Table 4.13).

Based on the assessment of the potential of managerial roles represented by the shareholders and the shareholders' environment (direct associates) from a long-term perspective, a transformation of the managerial roles of

Table 4.13 Results of the study of shareholders' participation in managerial roles from a long-term perspective: case study of "S2"

Research period	*2006–2008*	*2009–2012*	*2013–2014*	*2015–2016*	*2017–2018*	*2019+*
Decisional role	100.00%	75.00%	65.00%	50.00%	50.00%	50.00%
Interpersonal role	100.00%	75.00%	50.00%	50.00%	33.00%	33.00%
Informational role*	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own study based on the data collected in the case study.

Note

* It was assumed that if the shareholder was not specified individually in a given period of the informational role, such a role was additionally performed jointly by all shareholders.

Table 4.14 Results of the estimation of the synthetic index – the company's potential (PS) – applied with the use of an instrument supporting the shareholders' decisions in the case study of "S2"

Research period	*Value of company potential (PS) and assigned class (of potential)**	*Assigned class of capacity to create company value***
2006–2008	2.74 (low)	Value creation
2009–2012	3.24 (average)	Value creation
2013–2014	3.49 (average)	Drift in value management
2015–2016	3.50 (average)	Value creation
2017–2018	3.75 (average)	Drift in value management
2019	3.85 (average)	Value creation

Source: Own study based on the data collected in the case study.

Notes

* The value of company potential (PS) is a synthetic variable calculated as an arithmetic mean of the values shaping the group of factors constituting "company potential" (variables z20–z25 from the research model in the general approach); in turn, the class results from the ranges adopted by the authors (low from 1.00 to 2.99, average from 3.00 to 3.99, and high above 4.00).

** In turn, with regard to the estimation of the class of capacity (level of efficiency) of value creation, the relation of change in the market value added (MVA) was applied as the measure in the ensuing research periods. If the relation of MVA in the analysed period when compared to a prior period was above 1.5, the level of value creation was assigned; drift was below this value (down to the level of 0), while the negative value was deemed to constitute the degradation of company value.

shareholders (to the shareholder's environment) was noted, with the simultaneous preservation of or gradual increase in their personal potential. The transformation took place in the subsequent periods with the handover of key managerial roles.

DATA ANALYSIS, STATISTICAL AND INTUITIVE INFERENCE

For the period 2006–2019 the value of company potential (PS) for 'S2' case was measured and the class of capacity to create company value was estimated (Table 4.14).

For these classes (company potential and efficiency of company value creation), the estimation of measures was made, i.e. the average value of tasks (variables "zd1"–"zd18") and stances (variables "ps1"–"ps9") performed or assumed by the shareholders, divided into classes defining the company's potential (low, average, and high) and the efficiency of value creation (Table 4.15).

The authors adopted three levels of significance of the differences in the level of diagnostic variables across the scenarios being compared, i.e. a combination of the class of efficiency of value creation and the class of the company's potential: low (understood as constituting an insignificant

Table 4.15 The results of average levels of engagement in the tasks performed and stances adopted by the shareholders in terms of classes of the company's capacity for value creation and classes of the company's potential: case study of "S2"

Class of capacity for value creation	*Class of company potential*	*Arithmetic mean for performed tasks (zd1–zd18)*	*Arithmetic mean for adopted stances (ps1–ps9)*
Value creation	Low	3.58	4.22
	Average	3.78	3.94
	High	Not present in the case study.	Not present in the case study.
Drift in value management	Low	Not present in the case study.	Not present in the case study.
	Average	3.17	3.42
	High	Not present in the case study.	Not present in the case study.
Value degradation	Low/average/high	Not present in the case study.	Not present in the case study.

Source: Own study based on the data collected in the case study.

difference) for the estimated mean values lower than 0.5; average for values from 0.5 to 1.0; and high for values above 1.0. In the context of the assumptions above, a comparative analysis was performed, the results of which are presented in Table 4.16.

The results obtained, in the opinion of the authors, may constitute the basis of the view that the level of shareholder engagement in the performance of tasks for the company and the stances adopted with respect thereto may considerably affect the efficiency of company value creation. At the same time, as far as the tasks performed are concerned, it was possible to indicate these tasks (from the analysed catalogue of tasks) for which there were significant differences in the level of engagement (for the adopted criteria of significance). Similar conclusions follow from the analysis of the significance of stances (for the catalogue of stances that were analysed) with respect to the stances adopted by the shareholders towards the company.

Reviewing the average levels of diagnostic variables (tasks and stances), it was noted that there was a high level of stances presented towards the company – an average of 3.81 on a five-point Likert scale, whereas for the tasks it amounted to 3.54. A particularly high level was noted for tasks related to the renewal of a rebellious stance (zd13), the owner's approach (zd14), frontline obsession (zd15), continuous personal development (zd16), and strong loyalty to the company (ps1) along with patience in waiting for results (ps9), where the values in the entire period were close to 4.0 or higher.

Table 4.16 Results of the comparative analysis for the approach to the level of efficiency of value creation and the company's potential and the levels of diagnostic variables (separately for the catalogue of tasks and the catalogue of shareholder stances): case study of "S2"

*List of scenarios in the comparative analysis of combinations of classes of the efficiency of value creation and classes of the company's potential**		*The significance of differences for the scenarios analysed – catalogue of tasks (zd1–1d18)*	*The significance of differences – catalogue of stances (ps1–ps9)*
Analysis of the synthetic results (for the entire sample of variables), categorised by class (capacity for value creation, level of company's potential)			
Level of efficiency of value creation: creation Level of company potential: low	Level of efficiency of value creation: creation Level of company potential: average	Low	Low
Level of efficiency of value creation: creation Level of company potential: average (low)	Level of efficiency of value creation: drift Level of company potential: average	Average	Average
Analysis of the results for individual research variables (individual tasks and stances), categorised by class (capacity for value creation, level of company's potential)			
Level of efficiency of value creation: creation Level of company potential: average (low)	Level of efficiency of value creation: drift Level of company potential: average	High (higher for the value creation class) for: zd2, zd3, zd4, zd5, zd10 Highest level of differences: zd3, zd4, zd10 – above 1.17	High (higher for the value creation class) for: ps1, ps2, ps3, ps4, ps5, ps7, ps8, ps9 Highest level of differences: ps2, ps4, ps9 – above 0.75

Source: Own study based on the data collected in the case study.

Note

* Assignment of classes – efficiency of value creation and level of company potential – adopted on the basis of the results of the analysis presented in the preceding tables.

Case study: S3

In this study, the analysed entity was labelled “S3”. Basic information about “S3”:

- company’s business model: IT service provider, IT integrator;
- headquarters (current status): Wrocław, national scale of operation (EU area at a later stage of development);
- form of operation: limited liability company;
- year of foundation: 2005;
- shareholding structure as of the date of incorporation: dominant (not majority) founder;
- shareholding structure as of the day of preparation of the publication (August 2019): changes in personal composition of the shareholding structure (extension).

By means of in-depth interviews with the company’s founders, the entire period of the company’s operation was divided into shorter periods. As a consequence, the following periods were defined for “S3”: 2005–2008, 2009–2012, 2013, 2014–2017, 2018 ,and 2019. Based on the interviews carried out with company representatives, a review of the financial results and an assessment of the efficiency of the strategy pursued, the stages of development of the company were assigned to the periods of operation listed above (initial period of development, decline, revival, growth, and maturity). It was assumed that the years 2005–2008 were the period of initial development; the years 2009–2012 were a period of growth, as was the year 2013; the years 2014–2017 were a period of maturity; the year 2018 was a time of decline and revival; and 2019 saw a return to maturity.

Identification of Managerial Roles Performed by Shareholders and by the Shareholders’ Environment (Management) Including an Assessment of Their Personal Potential

Based on the interviews carried out with company representatives, it was assumed that participation of shareholders in individual managerial roles (decisional, interpersonal, and informational) was performed jointly by all shareholders in the whole periods of business activity (2006–2019+).

DATA ANALYSIS, STATISTICAL AND INTUITIVE INFERENCE

For the period 2006–2019 the value of company potential (PS) for ‘S3’ case was measured and the class of capacity to create company value was estimated (Table 4.17).

Table 4.17 Results of estimation of a synthetic index – the company's potential (PS) – applied with the use of an instrument supporting shareholders' decisions in the case study of "S3"

Research period	*Value of company potential (PS) and assigned class (of potential)**	*Assigned class of capacity to create company value***
2006–2008	2.88 (low)	Value creation
2009–2012	3.42 (average)	Value creation
2013	3.75 (average)	Value creation
2014–2017	3.52 (average)	Value creation
2018	3.16 (average)	Value degradation
2019	3.52 (average)	Drift in value management

Source: Own study based on the data collected in the case study.

Notes

* The value of company potential (PS) is a synthetic variable calculated as an arithmetic mean of the values shaping the group of factors constituting "company potential" (variables z20–z25 from the research model in the general approach); in turn, the class results from the ranges adopted by the authors (low from 1.00 to 2.99, average from 3.00 to 3.99, and high above 4.00).

** In turn, with regard to the estimation of the class of capacity (level of efficiency) of value creation, the relation of change in market value added (MVA) was applied as the measure in the ensuing research periods. If the relation of MVA in the examined period when compared to a prior period was above 1.5, the level of value creation was assigned; drift was below this value (down to the level of 0), while negative value was deemed to constitute the degradation of company value.

For these classes (the company's potential and the efficiency of company value creation), an estimation of measures was made, i.e. the average value of tasks (variables "zd1"–"zd18") and stances (variables "ps1"–"ps9") performed or assumed by the shareholders, divided into classes defining the company's potential (low, average, and high) and the efficiency of value creation. The results are presented in Table 4.18.

The authors adopted three levels of significance of the differences in the level of diagnostic variables across the scenarios being compared, i.e. a combination of the class of efficiency of value creation and the class of the company's potential: low (understood as constituting an insignificant difference) for the estimated mean values lower than 0.5; average for values from 0.5 to 1.0; and high for values above 1.0. In the context of the assumptions above, a comparative analysis was performed, the results of which are presented in Table 4.19.

The results obtained, in the opinion of the authors, may constitute the basis of the view that the level of shareholder engagement in the performance of tasks for the company and the stances adopted with respect thereto may considerably affect the efficiency of company value creation. At the same time, with respect

Table 4.18 The results of average levels of engagement in the tasks performed and stances adopted by the shareholders in terms of classes of the company's capacity for value creation and classes of the company's potential: case study of "S3"

Class of capacity for value creation	*Class of company potential*	*Arithmetic mean for performed tasks (zd1–zd18)*	*Arithmetic mean for adopted stances (ps1–ps9)*
Value creation	Low	4.06	4.11
	Average	3.69	4.07
	High	Not present in the case study.	Not present in the case study.
Drift in value management	Low	Not present in the case study.	Not present in the case study.
	Average	3.06	3.50
	High	Not present in the case study.	Not present in the case study.
Value degradation	Low	Not present in the case study.	Not present in the case study.
	Average	2.67	3.33
	High	Not present in the case study.	Not present in the case study.

Source: Own study based on the data collected in the case study.

to the tasks performed, it was possible to indicate these tasks (from the analysed catalogue of tasks) for which there were significant differences in the level of engagement (for the adopted criteria of significance). Similar conclusions follow from the analysis of the significance of stances (for the catalogue of stances that was analysed) with respect to the stances adopted by the shareholders towards the company.

In the opinion of shareholders, the relational and product capital (with elements of intellectual capital) is growing, which contributes to retaining the capacity for value creation in the future. Reviewing the average levels of diagnostic variables (tasks and stances), it was noted that a particularly high level was noted for tasks related to the supply of financial capital (zd3), the recruitment of talented managers (zd7), and stimulating them to develop (zd9), ensuring brand recognisability by building a guarantee of trust (zd10), the renewal of a rebellious stance (zd13) and strong loyalty towards the company (ps1), the readiness to put the company's goals above one's personal goals (ps2), the ability to rekindle passion (ps3) and meeting obligations (ps4), where the values throughout the period were close to 4.00 or above.

Table 4.19 Results of the comparative analysis for the approach to the level of efficiency of value creation and the company's potential and the levels of diagnostic variables (separately for the catalogue of tasks and the catalogue of shareholder stances): case study of "S3"

*List of scenarios in the comparative analysis of combinations of classes of the efficiency of value creation and classes of the company's potential**		*The significance of differences for the scenarios analysed – catalogue of tasks (zd1–zd18)*	*The significance of differences – catalogue of stances (ps1–ps9)*
Analysis of the synthetic results (for the entire sample of variables), categorised by class (capacity for value creation, level of the company's potential)			
Level of efficiency of value creation: creation Level of company potential: low	Level of efficiency of value creation: creation Level of company potential: average	Low	Low
Level of efficiency of value creation: creation Level of company potential: average	Level of efficiency of value creation: drift Level of company potential: average	Average	Average
Level of efficiency of value creation: drift Level of company potential: average	Level of efficiency of value creation: degradation Level of company potential: average	Low	Low
Analysis of the results for individual research variables (individual tasks and stances), categorised by class (capacity for value creation, level of the company's potential)			
Level of efficiency of value creation: creation Level of company potential: low	Level of efficiency of value creation: creation Level of company potential: average	High (higher for the value creation class for the low level of company potential) for: zd1, zd2, zd5, zd5, zd10	Low, except for ps7 (average)
Level of efficiency of value creation: creation Level of company potential: average	Level of efficiency of value creation: drift Level of company potential: average	High (higher for value creation) for: zd3, zd4, zd5, zd7, zd9, zd11, zd14	High (higher for value creation) for: ps1, 2, ps3, ps4
Level of efficiency of value creation: drift Level of company potential: average	Level of efficiency of value creation: degradation Level of company potential: average	High (higher for value creation) for: zd7, zd15, zd16	Low

Source: Own study based on the data collected in the case study.

Note

* Assignment of classes – efficiency of value creation and level of company potential – adopted on the basis of the results of the analysis presented in the preceding tables.

Case study: S4

In this study, the analysed entity was labelled “S4”. Basic information about “S3”:

- company’s business model: IT service provider, software house;
- headquarters (current status): Katowice, national scale of operation (EU area at a later stage of development);
- form of operation: limited liability company (spółka z ograniczoną odpowiedzialnością), joint stock company (spółka akcyjna);
- year of foundation: 2004;
- shareholding structure as of the date of company incorporation: three founders with an equal 1/3 share;
- shareholding structure as of the day of preparation of the publication (August 2019): Two founders and two (new) individuals from management (shareholders from 2014) and two passive investors.

By means of in-depth interviews with the company’s founders, the entire period of operation of the company was divided into shorter periods. As a consequence, the following periods were distinguished for “S4”: 2004–2007, 2008–2011, 2012–2014, 2015–2017, and 2018–2019. Based on the interviews carried out with company representatives, a review of the financial results and an assessment of the efficiency of the strategy pursued, the stages of development of the company were assigned to the periods of operation listed above (initial period of development, decline, revival, growth, and maturity). It was assumed that the years 2004–2007 were the period of initial development, which continued in the years 2008–2011; the years 2012–2014 saw a period of decline and subsequent revival; the years 2013–2015 were a period of growth; and the years 2018–2019 were a period of continued growth.

Identification of managerial roles performed by shareholders and by the shareholders’ environment (management) including an assessment of their personal potential

Based on the interviews carried out with company representatives, it was assumed that participation of shareholders in individual managerial roles (decisional, interpersonal, and informational) was performed jointly by all shareholders in the whole periods of business activity (2005–2019).

DATA ANALYSIS, STATISTICAL AND INTUITIVE INFERENCE

For the period 2005–2019 the value of company potential (PS) for ‘S4’ case was measured and the class of capacity to create company value was estimated (Table 4.20).

Table 4.20 Results of the estimation of a synthetic index – the company's potential (PS) – applied with the use of an instrument supporting the shareholders' decisions in the case study of "S4"

Research period	*Value of company potential (PS) and assigned class (of potential)**	*Assigned class of capacity to create company value***
2005–2007	2.41 (low)	Value creation
2008–2011	2.81 (low)	Value degradation
2012–2014	3.05 (average)	Value degradation
2015–2017	3.55 (average)	Value creation
2018–2019	3.65 (average)	Value creation

Source: Own study based on the data collected in the case study.

Notes

* The value of the company's potential is a synthetic variable calculated as an arithmetic mean of the values shaping the group of factors constituting a "company's potential" (variables z20–z25 of the research model in the general approach); the class results from the ranges adopted by the authors (low from 1.00 to 2.99, average from 3.00 to 3.99, and high above 4.00).

** In turn, with regard to the estimation of the class of capacity (level of efficiency) of value creation, the relation of change in market value added (MVA) was applied as the measure in the ensuing research periods. If the relation of MVA in the examined period when compared to a prior period was above 1.5, the level of value creation was assigned; drift was below this value (down to the level of 0), while negative value was deemed to constitute the degradation of company value.

For these classes (the company's potential and the efficiency of company value creation), an estimation of measures was made, i.e. the average value of tasks (variables "zd1"–"zd18") and stances (variables "ps1"–"ps9") performed or assumed by the shareholders, divided into classes defining the company's potential (low, average, and high) and the efficiency of value creation. The results of the analysis are presented in Table 4.21.

It was adopted three levels of significance of the differences in the level of diagnostic variables across the scenarios being compared, i.e. a combination of the class of efficiency of value creation and the class of the company's potential: low (understood as constituting an insignificant difference) for the estimated mean values lower than 0.5; average for values from 0.5 to 1.0; and high for values above 1.0. In the context of the assumptions above, a comparative analysis was performed, the results of which are presented in Table 4.22.

The results obtained, in the opinion of the authors, may constitute the basis of the view that the level of shareholder engagement in the performance of tasks for the company and the stances adopted with respect thereto may considerably affect the efficiency of company value creation. At the same time, with respect to the tasks performed, it was possible to indicate these tasks (from the analysed catalogue of tasks) for which there were significant differences in the level of engagement (for the adopted criteria of significance). Similar conclusions follow from the analysis of the significance of stances (for the catalogue of stances that

Table 4.21 Results of average levels of engagement in the tasks performed and stances adopted by the shareholders in terms of classes of the company's capacity for value creation and classes of the company's potential: case study of "S4"

Class of capacity for value creation	*Class of company potential*	*Arithmetic mean for performed tasks (zd1–zd18)*	*Arithmetic mean for adopted stances (ps1–ps9)*
Value creation	Low	2.41	3.56
	Average	3.78	3.81
	High	Not present in the case study.	Not present in the case study.
Drift in value management	Low	As above	As above
	Average	As above	As above
	High	As above	As above
Value degradation	Low	As above	As above
	Average	3.19	3.06
	High	Not present in the case study.	Not present in the case study.

Source: Own study based on the data collected in the case study.

was analysed) with respect to the stances adopted by the shareholders towards the company.

It should be noted that the analysed company created strong positive dynamics of value growth in the recent period and a forecast of its continuation in the years to come. This leads to the conclusion that the decisions and choices made are correct and in the future they will result in the capacity for the long-term creation of company value. At the same time, in the shareholders' opinion, the relational and product capital (with elements of intellectual capital) is growing, which contributes to retaining the capacity for value creation in the future.

From the perspective of an overview of the average levels of diagnostic variables (tasks and stances), it was noted that there was a moderately high level of stances presented towards the company – an average of 3.12 on a five-point Likert scale, whereas for tasks it amounted to 3.54. A particularly high level was noted for tasks related to noticing emerging opportunities (zd5), supervision over the cost-revenue relationship (zd6), ensuring diversity in management (zd11) or groups of variables related to the founder's mentality in the choices made by the company (zd13–zd15), supply of financial capital (zd3), recruiting talented managers (zd7) and stimulating them to develop (zd9), ensuring brand recognisability by building a guarantee of trust (zd10), Frontline obsession (support, experimentation) (zd15), personal development (zd16), and organisational culture (zd18). In turn, the stances featuring the highest levels of loyalty were observed with respect to the company (ps1), a readiness to put the company's goals above one's personal goals (ps2), the ability to rekindle one's own passion (ps3) and focus on the development of the company (ps8), patience

Table 4.22 Results of the comparative analysis for the approach to the level of efficiency of value creation and the company's potential and the levels of diagnostic variables (separately for the catalogue of tasks and the catalogue of shareholder stances): case study of "S4"

*List of scenarios in the comparative analysis of combinations of classes of the efficiency of value creation and classes of the company's potential**		*Measurement of the significance of differences for the scenarios analysed – catalogue of tasks (zd1–zd18)*	*Measure of the significance of differences – catalogue of stances (ps1–ps9)*
Analysis of the synthetic results (for the entire sample of variables), categorised by class (capacity for value creation, level of the company's potential)			
Level of efficiency of value creation: creation Level of company potential: low	Level of efficiency of value creation: creation Level of company potential: average	High (albeit, from the point of view of the authors, unreliable on account of the period of initial development of the company)	Low
Level of efficiency of value creation: creation Level of company potential: average	Level of efficiency of value creation: degradation Level of company potential: average	Average	Average
Analysis of the results for individual research variables (individual tasks and stances), categorised by class (capacity for value creation, level of the company's potential)*			
Value creation/average company potential	Degradation in value management/average potential of company	High (higher for value creation) for: zd1, zd3, zd11, zd13, zd17	High (higher for value creation) for: ps6, ps8, ps9

Source: Own study based on the data collected in the case study.

Note

* Assignment of classes – efficiency of value creation and level of company potential – adopted on the basis of the results of the analysis presented in the preceding tables.

in waiting for results (ps9), and meeting obligations (ps4), where the values throughout the period were close to 4.0.

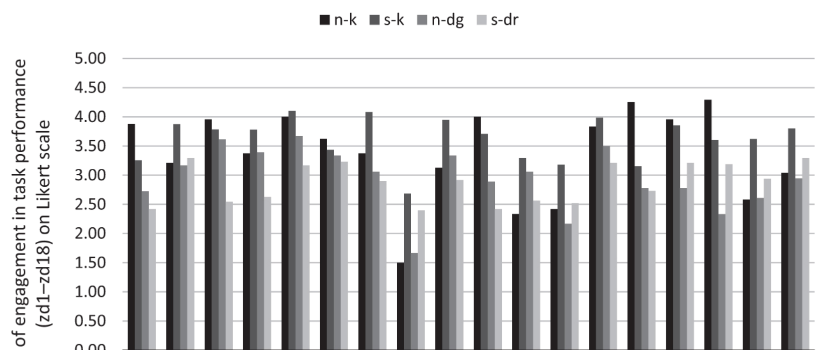
SUMMARY OF CASE STUDIES: KEY CONCLUSIONS AND ATTEMPTS TO FORMULATE GENERALISATIONS

At this stage of the research process, five IT companies were studied in total (net-o-logy and four companies labelled “S1”, “S2”, “S3”, and “S4”). In each of the case studies, an attempt was made to interpret the empirical data in the context of the shareholders’ impact by means of the diagnostic variables indicated in the research models on efficient company value creation. As shown in the section of the chapter titled “Data Analysis and Statistical and Interpretive Inference”, the authors investigated the significance of the strength of engagement in the identified and analysed tasks that were performed by the shareholders and the stances on efficient value creation which they adopted, separately for every case. The data analysis performed in this manner, with the application of the statistical and interpretive approach, where every case study was treated as a limited research sample, does not allow one to make generalisations, although it delivers new observations and conclusions.

As a consequence, with a view to making generalisations (with respect to the small sample sizes in all case studies), an aggregate analysis of the results was made, where each observation, i.e. the measured level of diagnostic variables, contributes to the research sample. In such an approach, the independent variables were the diagnostic variables describing the tasks performed (variables “zd1”–“zd18”) and the stances adopted (variables “ps1”–“ps9”), while the dependent variable was the efficiency of value creation (creation, drift, and degradation), with the application of moderating variables for the company’s potential (low or average). The rules of class assignment (company potential, creation efficiency) and the criterion of levels of significance compliant with the ones described in the individual analysis of every case study were applied during the analysis. Furthermore, an analysis of source data was conducted using a comparative approach, as well as the results of statistical analysis with the application of measures of location (the arithmetic mean).

Figure 4.1 presents a comparative analysis of the levels of diagnostic variables describing the level of shareholders’ engagement in the tasks performed, separately for class scenarios (the efficient creation of company value and potential) such as the creation of value for a company with low potential, the creation of value for a company with average potential, the degradation of value for a company with average (or low) potential, and value drift for a company with average potential.

The results were interpreted in two key dimensions. The first referred to the concentration of the shareholders’ activities on tasks from the listed set of



	zd1	zd2	zd3	zd4	zd5	zd6	zd7	zd8	zd9	zd 10	zd 11	zd 12	zd 13	zd 14	zd 15	zd 16	zd 17	zd 18
n-k	3.88	3.21	3.96	3.38	4.00	3.63	3.38	1.50	3.13	4.00	2.34	2.42	3.83	4.25	3.96	4.29	2.58	3.04
s-k	3.26	3.87	3.78	3.78	4.10	3.43	4.08	2.68	3.94	3.71	3.29	3.18	3.98	3.15	3.85	3.60	3.62	3.80
n-dg	2.72	3.17	3.61	3.39	3.67	3.33	3.06	1.67	3.33	2.89	3.06	2.17	3.50	2.78	2.78	2.33	2.61	2.94
s-dr	2.42	3.29	2.54	2.63	3.17	3.23	2.90	2.40	2.92	2.42	2.56	2.52	3.21	2.73	3.21	3.19	2.94	3.29

Figure 4.1 Comparative analysis of levels of engagement of shareholders in the performance of tasks for the company's benefit – recapitulation.

Notes: The numbers of stances (from "zd1" to "zd18") are marked on the x-axis, in line with the catalogue of stances, while the series of data are the scenarios of class occurrence, such as: "n-k" (low company potential and company value creation), "s-k" (average company potential and company value creation), "n-dg" (low company potential and degradation of company value), "s-dr" (average company potential and drift of company value).

Source: Own study based on the data collected in the case study.

activities (the "catalogue of tasks" specified in the research model of the narrow approach). The second was the significance of differences in levels of engagement for the indicated scenarios of efficient value creation classes. In the dimension of a shareholder's focus on tasks, the authors enumerate the following observations:

- when analysing the average level of engagement in the tasks performed (the approach to the entire "catalogue of tasks"), average levels of difference are noted (i.e. between 0.5 and 1.00) for these scenarios where the company created value (an average of 3.49 on a five-point Likert scale) and those where it did not (average: 2.90).

With respect to the significance of differences in the levels of shareholders' engagement in tasks for the specified value creation scenarios, the authors made the following observations:

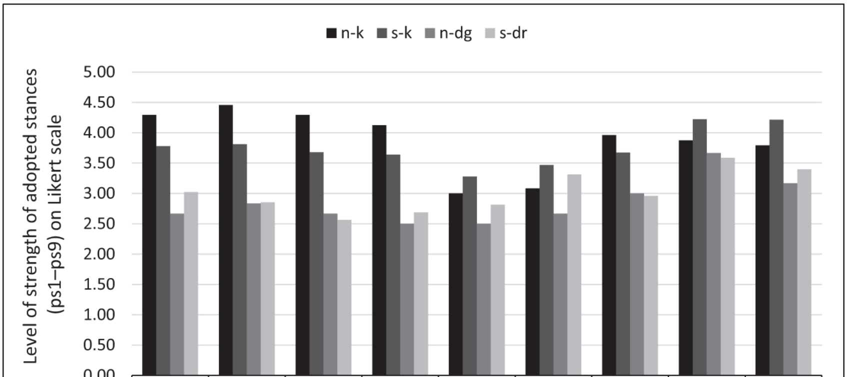
- in the scenarios where the company created its value (treating the results for a company classed as having either "low" and "average" potential as one set), the levels of differences between the indicated tasks were insignificant (in line with the adopted criterion, i.e. <0.5) with respect to the average level of engagement (for the entire "catalogue of tasks"), excluding tasks such as "searching for one's own successors" (zd8), "ensuring diversity in management" (zd11), and "acting as the negotiator (arbiter) in crisis situations" (zd12), where a lower level of engagement was indicated;
- it is possible to indicate the tasks for which there was an average (>0.5) or high (>1.0) difference in level of the shareholders' engagement in the context of capacity for value creation (creation vs. drift or degradation), i.e. "building a network of relations" (zd1), "supply of financial capital" (zd3), "taking interest in opinions about the company" (zd4), "noticing emerging opportunities and acting to take advantage of them" (zd5), "recruiting talented managers and associates" (zd7), "building the recognisability of the company's brand by building a guarantee of trust in the company" (zd10), and a group of tasks related to the formation of the founder's mentality in company's choices (zd13, zd14, zd15) and the "ongoing development of the personal potential of a shareholder" (zd16).

Figure 4.2 presents a comparative analysis of the levels of diagnostic variables describing the strength of stances adopted by the shareholders with respect to the company separately for class scenarios (efficient creation of company value and company potential) such as the creation of value for a company with low potential, the creation of value for a company with average potential, degradation of value for a company with average or low potential, and value drift for a company with average potential.

When analysing the results, with respect to the concentration of the shareholders' strength on stances adopted with respect to the company, the authors draw attention to the following observations:

- for the average level of strength of the stances adopted (approach to the entire "catalogue of stances"), a somewhat high level of difference was noted (i.e. between 0.5 and 1.00) for these scenarios where the company created value (an average of 3.81 on a five-point Likert scale) and those where the value was not created (average: 2.93).

In turn, with respect to the significance of differences in the strength of stances adopted for the scenarios of value creation listed above, the authors make the following observations:



	ps1	ps2	ps3	ps4	ps5	ps6	ps7	ps8	ps9
■ n-k	4.29	4.46	4.29	4.12	3.00	3.08	3.96	3.88	3.79
■ s-k	3.78	3.81	3.68	3.64	3.28	3.47	3.67	4.22	4.21
■ n-dg	2.67	2.83	2.67	2.50	2.50	2.67	3.00	3.67	3.17
■ s-dr	3.02	2.86	2.56	2.69	2.81	3.31	2.96	3.59	3.40

Figure 4.2 Comparative analysis of levels of strength of stances adopted by the shareholders with respect to the company – recapitulation.

Notes: The numbers of stances (from "ps1" to "ps9") are marked on the x-axis, in line with the catalogue of stances, while the series of data are the scenarios of class occurrence, such as: "n-k" (low company potential and company value creation), "s-k" (average company potential and company value creation), "n-dg" (low company potential and degradation of company value), and "s-dr" (average company potential and drift of company value).

Source: Own study based on the data collected in the case study.

- in the scenarios where the company created its value (treating the results for a company classed as having either low or average potential as one set), the levels of differences between the indicated tasks were insignificant (in line with the adopted criterion, i.e. <0.5) with respect to the average level of strength (for the entire "catalogue of stances"), excluding stances such as "loyalty through long-term engagement in the obligations accepted with respect to the company" (ps1), "readiness to put the company's goals above one's personal goals" (ps2), the "ability to rekindle one's own passion for new challenges" (ps3), and "meeting obligations towards stakeholders" (ps4), with respect to which a higher level was noted (for companies classed as having low potential rather than average potential);
- the stances may be listed for which there was an average (>0.5) or high (>1.0) level of difference in the strength of stances adopted by the shareholders with respect to the company in the context of the capacity to create company value (creation vs. drift or degradation), i.e. "loyalty through long-term

engagement in the obligations accepted with respect to the company" (ps1), "readiness to put the company goals above personal goals" (ps2), "ability to rekindle one's own passion for new challenges" (ps3), "meeting obligations towards stakeholders" (ps4), "open manifestation of trust in associates" (ps7), and "patience in waiting for results combined with consistency of tasks performed and obligations" (ps9).

In light of the analysis, it is possible to adopt the view that there are potential dependencies (limited to the research sample) between the level of the shareholders' engagement in the tasks performed for the company's benefit and stances adopted with respect thereto and the efficient creation of company value. Simultaneously, there was a higher level of differences for stances ("catalogue of stances") than for tasks ("catalogue of tasks"), which may offer a premise for the shareholders' choices made in the realm of their priorities as far as the performance of tasks for the company's sake or the formation of habits and skills for the adopted stances is concerned, which may therefore affect the efficiency of value creation in an IT company in the long term.

Notes

1 The classification of periods relies on a review of reference books (N.C. Churchill along with V.L. Lewis, C. Zook and J. Allen, L.L. Steinmetz); the authors propose a catalogue of levels of company maturity: initial period of development, growth, maturity, decline, and revival.

2 It assumes values from −1 to +1, where the −/+ determines the direction of the dependence and the absolute value specifies its strength. The value of the coefficient may be interpreted as follows: when $r = 0$, there is no linear correlation (which does not preclude the existence of non-linear relationships); when $r = 1$, there is a direct positive relationship between the variables, i.e. when one variable has a higher value, the other also has a proportionately higher value, and when the value of one variable drops, the value of the other also drops; when $r = -1$, there is a direct negative relationship between the variables, i.e. when one variable has a higher value, the other has a proportionately lower value, and when one has a lower value, the other has a proportionately higher value.

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5 Supporting shareholder decisions

Final remarks

5.1 Model assumptions of the instrument supporting shareholder decisions

The growing complexity of management processes prompts company managers and shareholders to apply a broader view of the problems faced by researchers. The use of one-dimensional analyses and statistics is becoming highly insufficient. The use of statistical multidimensional analysis (SAW) is justified. According to G. Trzpiot and Ganczarek-Gamrot, by applying the possibility of generalising the classical methods of statistics of one variable into multidimensional cases, as well as the advancement of computational techniques, the methods of multidimensional statistics develop both in terms of theory and application (Trzpiot & Ganczarek-Gamrot, 2012). At the same time, the development of technologies and computing power over the last 20 years (including their high availability at a moderate cost) allows for the use of the achievements of mathematicians, statisticians, and computer scientists in the field of algorithms and data processing methods to solve advanced research problems.

In order to select and apply an appropriate approach to the transformation of research models (and the results of their operationalisation) into computational models (training, forecasting), a supervised learning approach was chosen (Flach, 2019). Going further in these choices, mathematical algorithms were reviewed in terms of their adaptability to the type of diagnostic variables and their interrelations, and the characteristics of algorithms were reproduced as accurately as possible, according to the nature of the research problem. The classification algorithm was adopted as leading in the process of developing a computational model (Krzyśko, Wołyński, Górecki, & Skorzybut, 2008).

Two stages can be distinguished in the process of constructing a classification model. At the first stage, the researcher's task is to build a classifier which describes a predefined set of data classes or a set of concepts. At the second stage, the developed model is used to classify new data, which is part of the validation of the model and its further adjustment with the completion of data from new observations. A test procedure is used for this purpose, which includes

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training and testing phases. For this purpose, the available data sets are divided into two sets: training (participating in the learning process, thus shaping the classifier) and testing (participating in the qualitative assessment of the shaped classifier). In the opinion of practitioners, the training set usually covers between 65% and 85% of the number of observations (a data set), and the test set covers the remainder. From the researcher's perspective, the phase requiring in-depth analysis is the division of objects by the values of attributes, which can have quantitative (which represent a characteristic in numerical form) and qualitative features (which represent a characteristic in the form of a category). Each attribute divides objects into groups, which are identical in number to the identified (and determined) values of the attribute that is analysed. Consequently, in a group for a given value there are only objects described by this attribute value. Depending on the behaviour of a given feature, it is possible to obtain binary trees with a clear division into two possible divisions or non-binary (regressive) trees, where the division into more than two subsequent divisions is possible.

Division algorithms are used in the construction of the tree. Taking into account the characteristics of the research problem, it is worth mentioning the Id3 (developed by Quinlan, 1986), C4.5 (developed by Quinlan, 1993), and CART (developed by Breiman, 1984) algorithms. Taking into account the high potential for applying decision trees in machine learning issues, researchers are searching for techniques to minimise errors in forecasting and classification processes. As J. Koronacki describes, one of the methods is the use of the so-called classifier family (Koronacki & Ćwik, 2015).

This approach creates opportunities to use statistical issues in the field of application of artificial intelligence in shareholder decision-making processes. This can be evidenced by the growing use of machine learning in advanced data analysis, as well as in decision-making in enterprise management (e.g. SAS Institute, IBM Watson, Microsoft Power BI Microsoft solutions).

It is also valuable to indicate another approach, which includes the use of regression algorithms, thus leading to the estimation of the value of the numerical variable. As a consequence, it becomes possible to use intermediate variables (moderators, mediators) indicated in the research model (a holistic approach, using managerial roles). According to M. Pichlak, the identification of these (intermediate) variables makes it possible to determine conditions under which this relationship occurs or disappears, is strengthened or weakened (Pichlak, 2010). The authors believe that moderation occurs when the influence of an independent variable ("x" as explanatory) on a dependent variable ("y" as explained) differs depending on the level of the third variable ("z" as regulating as mediator, moderator) that interacts with the independent variable (Baron & Kenny, 1986). The innovativeness of the proposed research approach is supported by the view expressed by J.E. Edward and L.S. Lambert that the use of moderation or mediation effects in management sciences is a new direction of research (Edwards & Lambert, 2007). The importance of the moderation effect, based on research into the relationship between organisational innovativeness and selected determinants, is highlighted by the authors of numerous empirical studies (Gao, Gao, Shu, & Wang, 2010; Li, Laura, & Kelvin, 2008; Liu, 2010; Mihalache, 2010). The effect of mediation has also been widely recognised in empirical research into the relationship between organisational innovativeness and its selected determinants (Qu, Janssen, & Shi, 2010; Xu, Sirmon, & Gao, 2010).

A narrow research model approach was used in the further research process (described in Chapter 3). The results of the estimation of the level of shareholder long-term engagement in tasks identified in the "task directory" (variables marked as "d1"–"d18") and attitudes within the "directory of attitudes" (variables marked as "ps1"–"ps9") as explanatory variables were used as source data. In turn, the explained variable is market value added (MVA) (variable marked as "Y30"), represented as a categorical type variable and the class of effectiveness of company value creation assigned thereto, namely the creation, drift, and degradation of company value.

In order to maintain the highest possible reliability of empirical research, such a selection of companies was carried out in a case study for which there were low or moderate (the level of difference does not exceed 1.0 on the Likert scale) differences in the shareholder potential (PA) and the market potential (PR) and represented by an aggregated variable (a synthetic indicator). Thus, it became possible to apply a limited approach to the company potential (PS) as a moderating variable. This approach allows for the use of collected empirical data and their application in examining the quality of the model of the instrument for supporting decisions. At the same time, the adopted concept of the instrument prototype uses the assignment of companies to classes (levels) representing the strength of their potential, i.e.: low, medium, and high. The research assumes that the "low" class is the level of the diagnostic variable measured by the Likert scale for the range <1.0–2.99>, the "medium" class occurs for the range of values <3.00–3.99>, and the "high" class for the range above 4.0. In the design of the instrument prototype (implemented as a tool software), two approaches in the field of the programming approach were used.

The first approach uses cloud computing and available Microsoft Azure Machine Learning services and available programming frameworks to build models. The second approach uses dedicated programming languages (Python) for the implementation of forecasting models with the elements of artificial intelligence (the machine learning range). Both approaches are widely applied.

Overview of key features of the prototypes of the instrument for supporting decisions

The Microsoft Azure Machine Learning Studio programming approach used graphical interfaces to build a training and forecasting model. According to the adopted operationalisation of the research model (the narrow approach),

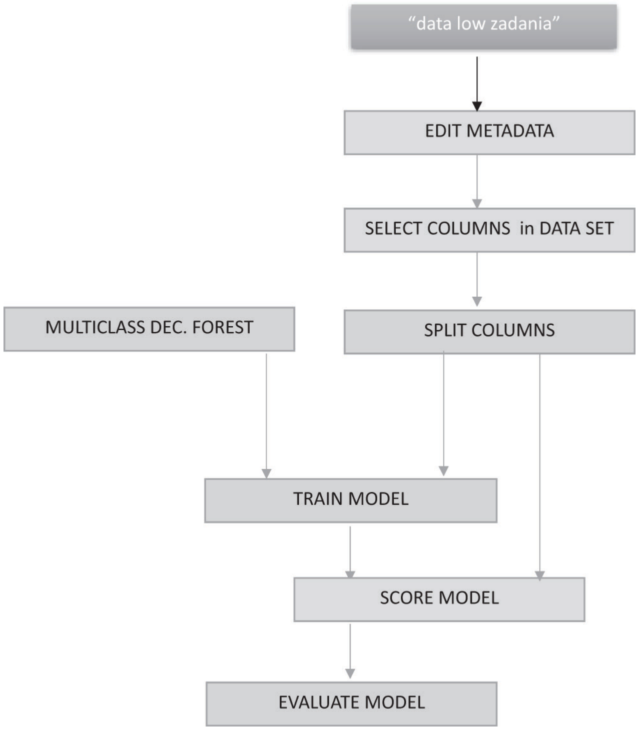


Figure 5.1 Pipeline diagram using classification algorithms.

Source: Own study using Microsoft Azure Machine Learning Studio as a way to implement the logic of an instrument supporting shareholder decisions.

the classification approach and random forest algorithm were used. Figure 5.1 shows the pipeline diagram of the implementation of the training model.

Three independent (in the context of differentiation of the classes of company potential) paths were used to design the forecasting model, taking into account the variable moderating the "company potential" (PS, the synthetic indicator for research variables related to the company potential). In the developed models, computational models were used for source data covering both the diagnostic variables described in the "task directory" and the "directory of attitudes" (separately for each directory). In the process of software development, the transformation of source data (the "Edit Metadata" method) was applied, in which the source data describing the "MVA" influence of the creation of company value (class: degradation, drift, value creation) on categorical variables according to their intended purpose, and at the same time the requirement of mathematical algorithm rules adopted in next steps. In the subsequent step, by dividing the source data set into training and test sets, data sources were trained (the Train Model method) by means of the decision tree forest algorithm (the Multiclass Decision Forest method) and the explained variable, which represents the effectiveness of value creation ("MVA" variable).

Taking into account the size of the data set (limited to 11 case studies), a maximum number of trees (less than nine) and a maximum tree depth (less than 17) were adopted. For such steps, the quality verification of the model (the "Score Model" method) and the visualisation of the results of the model quality study (the "Evaluate Model" method) were carried out.

In the process of building the instrument, programming approaches, computational methods, and mathematical algorithms were sought in order to obtain results via testing (at the same time matching the hyper-parameters of the model), which can be considered an indication that the training model produces reliable forecast results. The results of the operation of the model are presented further in the chapter. Following the results of the training model, the authors used the available methods for entering new research data (as a key function of the decision support instrument) by means of the programming interface available in the ML Azure Studio (Web Service). As a consequence, the pipeline which describes the research model in the programming approach was modified by elements of the entering of new data (the "Web Service Input method") and the publication of the results/forecast (the "Web Service Output method"), as shown in Figure 5.2.

In turn, when using a programming approach (Python programming language), the designed instrument prototype was extended to include additional functionalities related to data analysis. The proposed scope of data analysis takes into account the results of the comparison of the impact strength of the test diagnostic variables in the context of the moderating variable (company potential, PS) using the Student's t-test. As a result, the developed programming code has over 800 lines. The key features of the instrument are summarised in Table 5.1.

It is worth pointing out that the programming approach by means of Microsoft Azure Machine Learning Studio is a simpler approach that does not require advanced programming knowledge. At the same time, it leads to results in accordance with the available ready functional blocks. On the other hand, the programming approach using Python, although much more difficult, provides higher implementation, analytical and development capabilities in the context of building a complete tool. An important advantage of selected approaches is the ability to connect both environments (approaches) in one tool (Microsoft Azure), where individual complex analyses will be conducted by calling programming code (in Python). And such an approach, in the authors' opinion, is recommended in the context of the continuation of the development of the instrument (including its commercialisation).

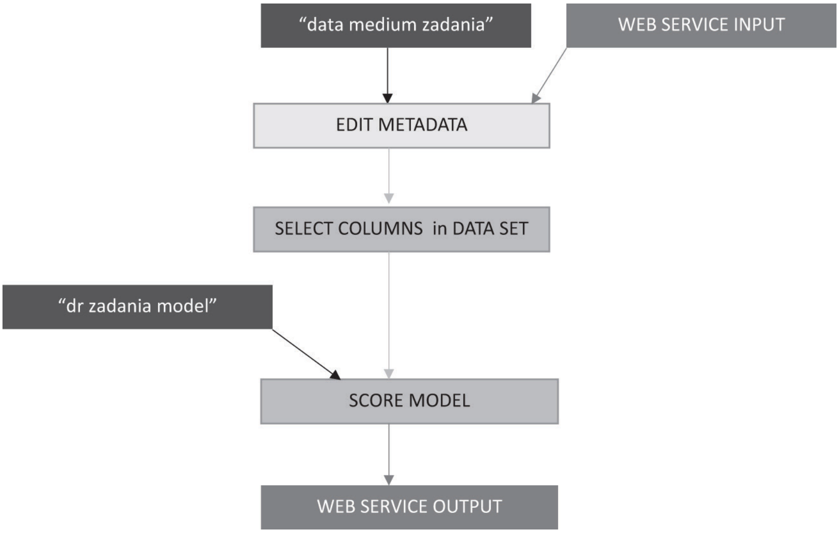


Figure 5.2 Diagram of the forecasting model enhanced with Web Service (new observations).

Source: Own study using Microsoft Azure Machine Learning Studio as a way to implement the logic of an instrument supporting shareholder decisions.

Overview of the results of the prototypes of the decision-support instrument

Empirical data collected as part of the case studies conducted (11 data sources in total) were used as data sources for each approach. However, taking into account the additional division of sets by the moderating variable, i.e. the company potential (classes: low, medium, and high) and the construction of independent models for each of them and the use of an additional division of the set into training (for the division ratio of 0.65–0.75) and testing (0.25–0.35) variables, it became necessary to multiply (double) the collected results in order to broaden the amount of data for the design of the training model. This simple approach, in the opinion of the authors, makes it possible to maintain the reliability of the research process. At the same time, the model was verified for new data sources. In the course of the process of constructing the forecasting model, the results and effects of the instrument operation were obtained, as presented in Tables 5.2 and 5.3.

In order to prove the pragmatic objectives of the monograph in the field of the potential for the application of research results (a decision-supporting tool), the authors conducted the simplified verification of the user experience. To this end, ten respondents participated in the testing of the IT tool (the instrument

Table 5.1 Description of the instrument supporting shareholder decisions using the Python programming approach

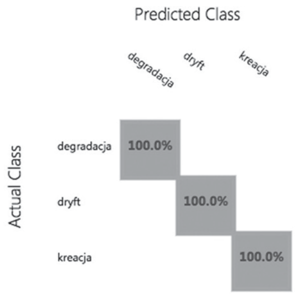
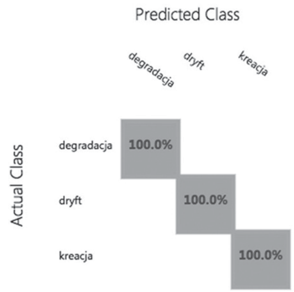
Instrument feature category	*Description of the features of the instrument and list of parameters used*
How the instrument is implemented	Python framework (as part of the Anaconda-Navigator data science platform)
Programming approach	Machine learning supervised
Key programming libraries used	NumPy, Pandas, Sklearn, Seaborn, Matplot
Methods used to prepare data for the model	Extraction of features: for intermediate (moderating) variable, i.e. company potential, the *cut* method *(pd. cut)* was applied and the categorical variable was assigned (class: low, medium, and high). The division of the set into training and test data: applied for explanatory variables by means of the *train_test_split* method separately for each of the split set by intermediate variable; optimisation (by explained variable)
Machine learning algorithms used (model building)	Classification by the random forest method (RandomForestClassifier fit method) for the number of eight trees (n_estimator)
Methods used to measure the quality of the model	Accuracy_score mechanism
Forecasting methods used	Classification by the random forest method (RandomForestClassifier method predict)
Data analysis methods used	Descriptive statistics (the *describe* method) and correlation of data (the *corr* method) to estimate the level of dependency between explanatory variables, comparative analysis of the level of explanatory variables between the analysed categories of companies (moderating variable)

Source: Own study based on the literature review and decisions taken on the features of the instrument supporting shareholder decisions.

prototype). With the participation of the authors, they entered actual cases in their assessment and made a subjective assessment of the forecast obtained on the basis of their own long-standing business experience (Table 5.4).

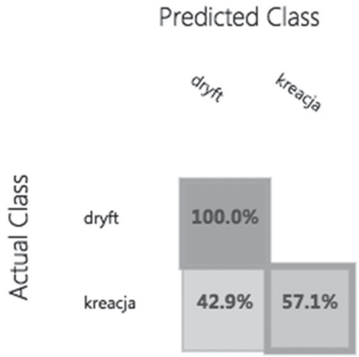
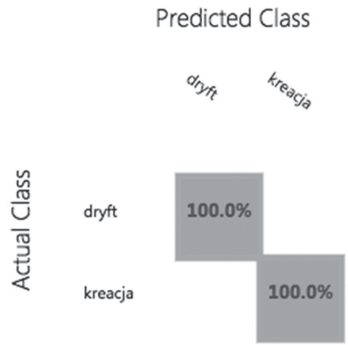
As Table 5.4 shows, the adopted concept was positively evaluated by an expert group, economic practitioners, which is also an incentive to continue research into the concept of the instrument and its development, thus combining the results of researchers' work on the role of shareholders in value creation, the achievements of the relevant literature in this area, and the obtained results of empirical research.

Table 5.2 Overview of the results of the instrument which supports shareholder decisions based on a constructed forecasting model by means of Microsoft Azure Machine Learning Studio

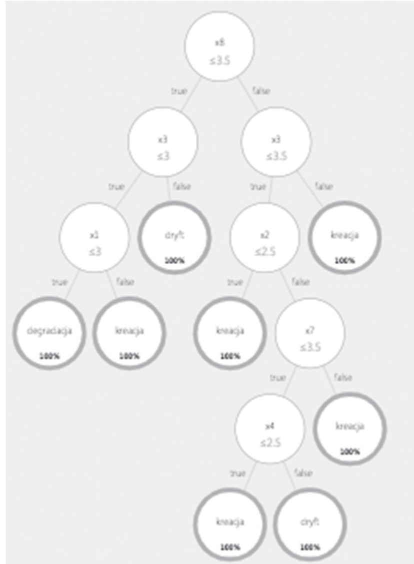
Assessment area	*Training and forecasting models for the range of diagnostic variables indicated in the "task directory"*	*Training and forecasting models for the range of diagnostic variables indicated in the "directory of attitudes"*
1 Examination of the quality of the model for the company potential: "low" and "medium" class (the model and independent study for both indicated classes)	Fig. Matrix of Confusion Degradation, drift, creation  Legend: "actual class" is a class derived from real data, while predicted class is an estimated class (predicted by the model). The quality of the model indicates 100% matching certainty for the three decision classes indicated. Such a result can be assessed as idealistic, which results from a limited research sample and the adopted method of reproduction of data (it leads to model learning), which, however, gives a positive assessment of the results of the instrument operation.	Fig. Matrix of Confusion  Legend: "actual class" is a class derived from real data, while predicted class is an estimated class (predicted by the model). The quality of the model indicates 100% matching certainty for the three decision classes indicated. Such a result can be assessed as idealistic, which results from a limited research sample and the adopted method of reproduction of data (it leads to model learning), which, however, gives a positive assessment of the results of the instrument operation.

(*Continued*)

Table 5.2 (Continued)

Assessment area	*Training and forecasting models for the range of diagnostic variables indicated in the "task directory"*	*Training and forecasting models for the range of diagnostic variables indicated in the "directory of attitudes"*
2 Examination of the quality of the model for the company potential: "high" class	Fig. Matrix of Confusion  Legend: see above The quality of the model indicates 100% certainty of matching for the indicated "drift" decision class and nearly 60% for the "creation" class. Such a result can be assessed as moderately good and gives grounds for the positive assessment of the results of the instrument operation.	Fig. Matrix of Confusion  Legend: see above The quality of the model indicates 100% certainty of matching for the two decision classes indicated. Such a result can be assessed as idealistic, which results from a limited research sample and a method of reproduction of data, which, however, gives grounds for the positive assessment of the results of the instrument operation.

3 Visualisation of the decision tree



As can be seen, the tree division mechanism used leads to leaves (classes) based on the research variables included in the forest decision trees.

(*Continued*)

Table 5.2 (Continued)

Assessment area	*Training and forecasting models for the range of diagnostic variables indicated in the "task directory"*	*Training and forecasting models for the range of diagnostic variables indicated in the "directory of attitudes"*
4 Forecasts verification for new data sources	Note: the data input mechanism was used by means of the interface implemented through the construction of the forecasting model (Web Services). Data are entered by entering variable values (for each variable in the task directory) in the lines of the browser rows. The result, in turn, is estimated on the basis of the forecasting model developed based on the training data and for the examined example the following was obtained: Scored probabilities for class "degradation" = 0 Scored probabilities for class "drift" = 0.375 Scored probabilities for class "creation" = 0.625 Scored labels: "creation" As can be seen, for the data entered, the probability of belonging to the class ("degradation" 0%, "drift" 37.5%, and "creation" 62.5%) was estimated and it was deemed to belong to the "creation" class.	Note: as in the column the result is estimated on the basis of the forecasting model developed based on the training data. For the examined example, the following was obtained: Scored probabilities for class "degradation" = 0.125 Scored probabilities for class "drift" = 0.25 Scored probabilities for class "creation" = 0.25 Scored labels: "creation" As can be seen, the probability of belonging to the class ("degradation" 12.5%, "drift" 25.0%, and "creation" 62.5%) was estimated for the entered data and the decision was made to select the "creation" class.

Summary	It is noted that in observations where a forecast error occurred, the model usually points to adjacent classes in probability terms for values from ranges (0.125 to 0.375) to (0.625 to 0,875). In those cases where an incorrect class estimate was indicated, there was a probability of 0.5 for each of the two classes.	It is noted that in observations where a forecast error occurred, the model usually points to adjacent classes in probability terms for values from ranges (0.125 to 0.375) to (0.625 to 0,875). Only in 4% of cases, lower values were seen, where the selected class (and it was the correct class, corresponding to the actual state) was estimated with a probability of 0.5, while the remaining classes were estimated at (0.2–0.3).

Source: Own study based on the instrument testing procedure.

Notes: In the verification of the quality of the instrument in the research sample: 55% of all observations belonged to the "creation" class of value creation effectiveness, 27.5% of the observations to the "drift" class, and 17.5% to the "degradation" class. In terms of the assessment of the company potential, 25% of the observations met the criteria of the "low" class, 67.5% of the "medium" class, and 12.5% of the "high" class. For such prepared source data, the process of building the model (training model) and its application in the forecasting process (a forecasting model) was conducted.

Table 5.3 Overview of the results and effects of the operation of the instrument supporting shareholder decision based on a constructed forecasting model by means of a Python programming approach

Assessment area	*Training and forecasting models for the range of diagnostic variables indicated in the "task directory"*	*Training and forecasting models for the range of diagnostic variables indicated in the "directory of attitudes"*
1 Examination of the quality of the model	Model effectiveness (accuracy score): — 1.0 for the "low" class of companies — 1.0 for the "medium" class of companies — 0.86 for the "high" class of companies Note: The study was conducted for the division of the set into training (approx. 75% of data) and testing (approx. 25% of data)	Model effectiveness (accuracy score): — 0.83 for the "low" class of companies — 0.66 for the "medium" class of companies — 1.0 for the "high" class of companies Note: The study was conducted for the division of the set into training (approx. 75% of data) and testing (approx. 25% of data)
2 Examination of the strength of impact of diagnostic variables	For models constructed for the company potential "low" (class): impact strength >15%: Zd1, Zd15 impact strength >10%: Zd11, Zd14, Zd17 For models constructed for the company potential "medium" (class): impact strength >15%: Zd15 impact strength >10%: Zd2, zd4, zd5, dd10, zd17 No detailed test of the impact strength of variables for the company potential "high" (class) was conducted due to the low amount of empirical data	For models constructed for the company potential "low" (class): impact strength >15%: ps4, ps8 impact strength >10%: ps3, ps5 For models constructed for the company potential "medium" (class): impact strength >15%: ps3, ps8 impact strength >10%: ps2, ps4, ps7

3 Analysis of key correlations between diagnostic variables (model characteristics)

Fig. Heatmap visualisation for correlation strength between explanatory variables (the model for company potential (class) – "low")

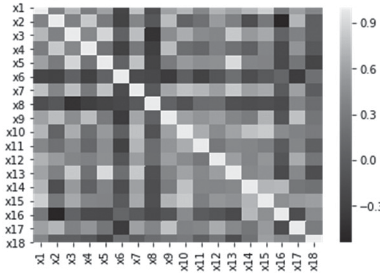
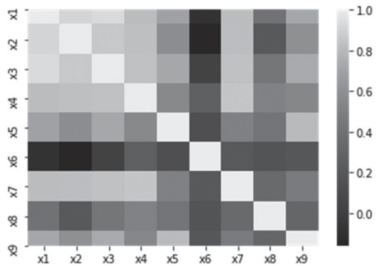


Fig. Heatmap visualisation for correlation strength between explanatory variables (the model for company potential (class) – "medium")



Note: On the map, the task directory (zd) is marked with the variable x (meaning that zd1 is represented as x1 and consistently for each subsequent variable)

Fig. Heatmap visualisation for correlation strength between explanatory variables (the model for company potential (class) – "low")

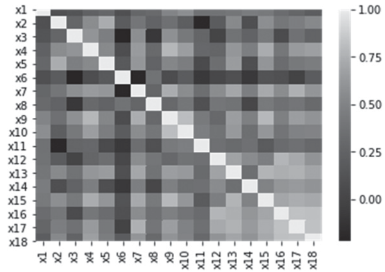
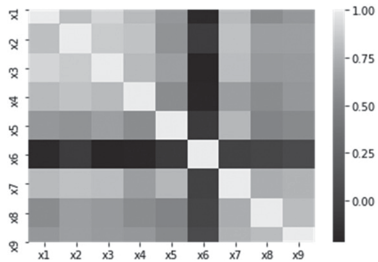


Fig. Heatmap visualisation for correlation strength between explanatory variables (the model for company potential (class) – "medium")



Note: On the map, the directory of attitudes (ps) is marked with the variable x (meaning that ps1 is represented as x1 and consistently for each subsequent variable)

(Continued)

Table 5.3 (Continued)

Assessment area	*Training and forecasting models for the range of diagnostic variables indicated in the "task directory"*	*Training and forecasting models for the range of diagnostic variables indicated in the "directory of attitudes"*
4 Verification of forecasts for new data sources	Note: A data input mechanism was applied by means of the interface implemented as part of the instrument (data input line). Data are input by entering variable values (for each of the variables of the task directory) in the lines of the instrument operation. The result, in turn, is estimated on the basis of the forecasting model developed based on the training data and the results of the estimation (mva variables were obtained for the new data (observations) giving an indication, in the authors' opinion, for the reliability of the action. Examples are given below: Input data (according to the list of variables zd1–zd18) = [3.5; 4.0; 3,0; 3.5; 4.0; 3.5; 3.0; 2.5; 3.5; 3.5; 4.0; 3.0.; 3.5; 3.5; 3.5; 3.0; 4.5; 4.0], ps = [3.5] Result obtained (mva) = ["creation"] Input data (according to the list of variables zd1–zd18) = [3.5; 4.0; 3.0; 3.5; 4.0; 3.5; 3.0; 2.5; 3.5; 3.5; 4.0; 3.0; 3.5; 3.5; 3.5; 3.0; 4.5; 4.0], ps = [2.5] Result obtained (mva) = ["drift"] Commentary: The above forecast applies to input data (the task directory) as in the previous example, but for the lower class of the company potential. As can be seen, the change in the company potential at the same levels of research variables (the strength of engagement in tasks from the task directory) reduced the company's ability to create its value. At the same time, checks were undertaken to ascertain whether reducing the level of engagement in tasks by 0.5 for a company with the medium potential affects the ability to create value. As a result, for such input data, the model set a prediction of the effectiveness of the creation defined as "drift" (reduction from "creation").	Note: like for the range of "task directory" variables Input data (by list of variables ps1–ps9) = [3.5; 4.0; 3.5; 3.0; 4.0; 3.5; 4.0; 3.5; 4.0], ps = [3.5] Result obtained (mva) = ["drift"] Input data (by list of variables ps1–ps9) = [3.5; 4.0; 3.5; 3.0; 4.0; 3.5; 4.0; 3.5; 4.0], ps = [2.5] Result obtained (mva) = ["degradation"] Commentary: The above forecast applies to input data (the directory of attitudes) as in the previous example, but for the lower class of the company potential. As can be seen, the change in the company potential with the same levels of research variables (the strength of engagement in the attitudes adopted from the directory of attitudes) reduced the company's ability to create its value. At the same time, checks were undertaken to ascertain how the increased level of engagement in attitudes by 0.5 for a company with the medium potential affects the ability to create value. As a result, for such input data, the model set a prediction of the effectiveness of the creation defined as "creation" (increase from "drift").

Source: Own study based on the instrument testing procedure.

Note: Diagnostic variables "d1–zd18" and "ps1–ps9" represent the diagnostic variable ("zd" – from the task directory, "ps" from the directory of attitudes) and are described in detail in Chapter 3.

Table 5.4 The results of the study on the quality of the instrument prototype developed by means of the Microsoft Azure Machine Learning approach

Diagnostic question	*Mean average of responses*	*Standard deviation*
Has the way of entering input data which describe the explanatory variables of the research model and the presentation of the result been comprehensible and readable? *Please respond based on a five-step Likert scale, where: 1 – highly incomprehensible (complicated), 5 – easily understandable, unambiguous*	3.80	0.60
How many trials (of model companies and estimating the measures of the engagement of shareholder in the task directory) have you performed as part of the instrument testing? Please indicate the number of attempts.	3.90	1.14
Do the results obtained (forecast) for selected companies known to you indicate that the instrument returned a moderate (medium) result or with a high probability of effectiveness? *Please respond based on a five-step Likert scale, where: 1 – a very unlikely result, 2 – an unlikely result, 3 – one of the possible results, 4 – a probable result, 5 – a highly probable result*	3.60	0.49

Source: Own study based on the results of the survey conducted on a sample of ten respondents.

5.2 Theoretical and practical implications

Using the managerial role of shareholders as a tool for strategic and operational management and creating the value of an IT company

The primary goal of shareholders is to make the business idea a reality, which only happens when the entrepreneur implements it. This involves the adoption of specific managerial roles by founders and shareholders, through which the idea is implemented and decisions are made on a daily basis. Following this view, the fundamental influence of shareholders on the company can be observed. At the same time, as the company grows, shareholders have to make decisions about changing their managerial roles, giving them new priorities or responsibilities (organisational competences) to increase the chances of achieving their goals. Therefore, another question arises about the path (place) of the shareholder's influence on the creation of the value of an IT company by adopting certain managerial roles in the company.

The views presented in previous chapters of the monograph indicate the potential relationship between managers who perform managerial roles in the company and the effectiveness of building the company's ability to create its value in the long term. Going further, it is possible to notice that a manager in the IT sector is usually its shareholder. This leads to the assumption that in the IT sector the shareholder is also a manager in a specific, managerial role, and the subject of analysis is the relevance (to the personal potential and challenges of the company) of the selection thereof and the dynamics of change. Thus, it becomes important to verify whether the adoption of certain managerial roles by shareholders, the management of their change (transformation of the managerial role of a shareholder) significantly affects the company's ability to create its value in the long term. It is also important to recognise significant moments in the context of the company's development potential, when a change in the managerial role can significantly contribute to the creation of company value.

In the course of the research, it was confirmed that:

- the approach proposed by H. Mintzberg, which identifies the role of managers, is present in the categories of managerial roles used at the high level (the large companies sector is the level 4.46 counted on the five-point Likert scale) and the moderate level (the small- and medium-sized enterprises [SMEs] sector is 3.58) in the Polish IT sector (the Delphi method);
- the relationship between the development phase or the size of the company and managerial roles (the scope of managerial competencies implemented) of the company shareholder in the context of the impact on the company's ability to create its value in the long term – the results obtained (level 3.58 for SMEs and 3.88 for large companies by means of the five-point Likert scale) indicate the company's pursuit of professionalisation in managerial roles with a slightly higher level of maturity in large companies. Follow-up interviews with shareholders (as part of a case study) and experts within the Delphi group indicate the importance of flexibility in the assumed managerial roles. They show the value of taking up managerial roles in the short term to pursue specific and demanding challenges (business scenarios), describing this ability as conducive to building the agility of the company necessary to survive in a dynamic business environment;
- an examination (by means of the Delphi method) of the business scenarios in which the managerial role of a shareholder does not need to be clearly defined without a significant adverse impact on the creation of value was also undertaken. In large companies, the level of compliance with the thesis (*The lack of a clear definition of the managerial role does not adversely affect the ability to create value)* is assessed at a low or very low level. In the case of SMEs, if the enterprise has positive experience with regard to the effectiveness of decisions they take (level 4.08 on the five-point Likert scale) and the high level of unanimity of shareholding objectives (3.46), the flexibility of managerial roles can be a specific dynamising value for companies in decision-making;

- the process of the transformation of the managerial role entails the risk of short-term loss of business continuity and the achievement of the intended effect of change. The research shows that the change entails a lower risk, in particular in SMEs, if it occurs in terms of co-workers (level 3.22 on a five-point Likert scale) rather than the search for them on the market and the appointment of new people (2.36);
- it is possible to identify such conditions of the company's functioning, in which the lack of the transformation of the role does not have to hinder the company's ability to effectively create its value in the long term. The respondents indicated the skilful sharing of decision-making with co-workers by the leader and the strong visionary competence of the shareholder combined with confidence in fulfilling the obligations. The respondents also emphasised that in the case of the identified lack of transformation at the level of the managerial role, and at the same time the division of responsibilities, and thus sharing responsibility for the company's performance, the transformation occurs (although to a limited extent) and can be the stage of the full transformation of managerial roles in the future. The results of the research indicate that the phenomenon of transformation is necessary in companies, and if carried out efficiently (it is well prepared and communicated), it will significantly affect the long-term ability of the company to create its value.

  It is worth noting that the companies that have carried out the transformation of managerial roles performed by shareholders over the long term have effectively created their value. As regards the case studies, it can be stated that the transformation of managerial roles along with the development of the company is conducive to developing (and retaining, at a later stage of development) the company's ability to create its value. At the same time, it is worth noting that companies that underwent transformation in terms of co-workers, who understood the company's organisational culture, its values or challenges, and at the same time identified with the company (as a being defined by the characteristics of the company), retain the ability of companies to create long-term value more effectively.

While maintaining the due reliability of the inference process, it should be stated that it is not possible to determine whether the lack of the transformation of managerial roles would ensure significantly lower effectiveness of value creation. The collected expert opinions (the Delphi method) may constitute the premise for the conclusion that a reasonable and efficient process of the role transformation (the actual division of managerial competencies) significantly increases the company's chances of creating its value in the long term. The results indicate that strong commitment to the development of the potential of their co-workers and to the shareholders' search for their successors (as part of the identified directory of tasks) contributes to the effectiveness of the transformation of managerial roles. The reasons for this view are found in the views of researchers such as P. Drucker, C. Zook, R. Carlsson, and J. Schumpeter.

An attempt was also made to answer the question of whether it is possible to indicate business scenarios (described by shareholder attributes) and their importance in the context of value-based management, such that when a shareholder remains on the company's management board (performing one of the managerial roles at the same time), the chances of retaining the company's ability to create its value increase. The positive approach (a shareholder remains in a managerial role and simultaneously, the company retains its ability to create value) for the scenarios proposed and applied in the research is clearly the strongest when the shareholder is a "visionary founder" and often the company's name is associated with his or her name (e.g. Michael Dell). The research results (the Delphi method) show that this is particularly evident in the context of personal brand (level 4.17 on the five-point Likert scale) as a kind of guarantee of trust in challenges such as the acquisitions of other entities (level 4.22), while achieving a higher level (of significance) for large companies than SMEs. According to the authors and the experts involved in the research, this is strongly linked to the level of capital employed, the scale of challenges and liabilities, which is often higher in large companies than in SMEs. A high level of unique change management skills (leadership competencies) for both categories of companies was also observed.

An attempt was also made to answer the question of whether it is possible to identify such business scenarios (described by shareholder attributes) and their importance in the context of value-based management, for which the shareholder's occupation of managerial roles may impair the company's ability to create its value. The analysis of the results leads to the conclusion that large companies are more resilient to such a scenario than SMEs. It is worth noting that the strongest degrading impact on a company is when a shareholder with low knowledge of the IT sector undertakes to fulfil managerial or interpersonal roles (level 3.83 on the five-point Likert scale). Such results are confirmed by numerous examples of the collapse of companies in which this scenario had been allowed to continue for too long. The research results gain particular importance in the context of the observed tendency of shareholders to fulfil managerial roles without much reflection on exploring their personal potential. This, in turn, may, in light of the research, result in the companies' weakened ability to create their value.

Examination was also undertaken to check (the Delphi method) whether it is important in the context of value creation to identify managerial roles performed by shareholders in companies on a short-term basis, resulting from actions related to new challenges, business scenarios (related to disturbances with sources from within the company or the business environment and the conditions of doing business). The results obtained (level 3.08 for large companies on the five-point Likert scale and 4.21 for SMEs) indicate that management practice based on medium- and long-term management roles prevails in large companies, while SMEs are significantly more likely to apply a dynamic approach to role changes in the short term. The moderate flexibility of changes in managerial roles can, in certain cases (the high personal potential of a passive shareholder, who is valuable in the context of short-term actions), constitute limitations for the monetisation of new opportunities and effectiveness of actions. This approach may lead to a conclusion that the approach of SME shareholders who fulfil short-term managerial roles is important in terms of their impact on building and retaining the company's ability to create its value. This is often due to the limited possibilities of acquiring new managers, and the high shareholder potential, combined with the personal benefits of the invested financial capital in the company, can often support the effectiveness of the actions taken.

Change in managerial roles creates barriers to both its implementation and stimulating factors. The research in the SME sector shows strong or very strong importance of barriers related to fears and personal beliefs that *no one else will do better* (level 4.41 on the five-point Likert scale) or lack of trust in others (3.50). Another clear barrier is a strong position of the leader with a strong personal brand (4.41) and treating them as the "founding father" (4.59).

The respondents also pointed out that the most important reason for the high level of concerns (the strength of barriers) of SME shareholders before the transformation of managerial roles is the low level of their engagement in tasks (activities) related to the development of the personal potential of one's closest co-workers (level 4.18 on the five-point Likert scale). At the same time, the strong need for power as a core source of motivation to perform managerial roles (4.59) was indicated as a specific threat to the effectiveness of the creation of company value (in particular for SMEs). The respondents indicated the following core triggers for changing the role, in the context of preserving the company's chances of creating value, which shareholders should take into account: loss of health (4.91), lack of understanding of current and applicable rules of competition in the sector (4.45), the exhaustion of management methods known to shareholders (in particular for the decision-making role), and the decreased value of personal brand (in particular for the interpersonal role).

Choices made by shareholders related to the tasks performed for the company and attitudes towards it versus the company's ability to create its long-term value

The research sought an answer to the question of whether it is possible to indicate such tasks or activities (from the catalogue of tasks proposed as part of the conceptualisation and operationalisation of the research model) performed by shareholders for the company and attitudes towards it (from the proposed catalogue of attitudes), which more effectively than others affect the company's ability to create its value in the long term. It was assumed that the shareholder's sole managerial role in value creation did not sufficiently exhaust the issue of the implications of the relationship examined, in particular in SMEs, which dominate in the IT sector.

The results lead to the conclusion that shareholders in SMEs must demonstrate a higher level of engagement in the activities (tasks) related to enterprise management and be more vigilant for changes in their environment, so as not to lose important decision-making moments, as well as to constantly add value to cooperation with the collaborators' environment and development of the company's potential.

In the directory of tasks, the most significant actions (in the context of the relationship studied) undertaken by the shareholder in SMEs include: building the strong organisational culture (level 4.09 on the five-point Likert scale), observing the economic environment and asking the questions about what we should change in the company to improve competitiveness while understanding the conditions of competition (4.09), the perception of emerging opportunities (4.14) and factors related to the founder's mentality (from 4.05 to 4.14) in making choices by the company (obsession on customer service, renewing the rebellious attitude, the ownership approach) or recruiting managers (4.23), and taking care of diversity in management (3.95).

In comparative terms (for the category of company size), it is possible to see that a level of impact of the scenarios on decreased company value is higher for SMEs than for large companies. This leads to the conclusion that SMEs see a faster and stronger impact of omissions (indicated in the catalogue of scenarios) on the effectiveness of the creation of company value, which may result from a higher level of resilience of large companies. In the opinion of the experts, the lack of consistency between the objectives of the management board and shareholders (level 4.00 on the five-point Likert scale), the shareholding (4.25), the short-sighted approach (4.13), the lack of understanding of the role of organisational culture (4.17), or the low level of ethical attitudes most strongly affect the reduction (or even loss) of the company's ability to create long-term value.

While seeking an answer to the question of whether it is possible to indicate such attitudes (from the proposed list of attitudes) adopted towards the company that affect the company's ability to create its value in the long term more effectively than others, results were obtained that indicate that the average level (as an arithmetic mean for each of the attitudes) of significance of attitudes adopted in SMEs is moderately higher (for most of the indicated attitudes from the catalogue) than in large companies, which leads to the view that shareholders in SMEs must be more involved in the company's affairs, thus adopting attitudes which support their development, and not necessarily lead to personal gains.

The following are significant (in the context of the relationship studied) to compare the examined attitudes (the catalogue of attitudes): patience in anticipation of results combined with the consequence of tasks and commitments (level 4.58 on the five-point Likert scale), willingness to set higher company goals than personal goals (4.54), to fulfil obligations towards stakeholders (4.29), and focus on the continuous development of the enterprise (4.13).

The research has shown that strong shareholder focus on activities (tasks), such as building the strong organisational culture, observing the economic environment and asking a question about what should be changed in the company to improve competitiveness (understand the business), noticing emerging opportunities and maintaining the founder's mentality in the company's choices or recruitment of managers, and taking care of diversity in management, helps significantly to increase the company's chances of creating its value in the long term. In turn, in terms of the attitudes adopted by shareholders towards the company, the following were indicated as most conducive to effective value creation: patience in anticipation of results combined with the consequence of tasks and obligations, willingness to set higher company goals than personal goals, fulfilling obligations towards stakeholders, and focus on the continuous development of the enterprise.

Manager type – a shareholder – entrepreneur or an intrapreneur versus the effectiveness of value creation in the IT sector

In the course of the research, an attempt was made to find an answer to the question of whether it is possible to identify such tasks for the company and attitudes adopted towards the company, in which the shareholder-entrepreneur in a managerial role achieves goals related to value-based management (retains the ability to create value, contributes to reducing the strength of degradation of this value, or enables the company to return to the creation path) more effectively than the intrapreneur.

In light of research results, it is possible to see areas of activity with significant differences in the effectiveness of the creation of company value if this activity is carried out (or supervised) by shareholders-entrepreneurs rather than intrapreneurs. As regards the tasks listed in the catalogue, the greatest differences (with a higher level in the case of shareholders-entrepreneurs) occur for areas related to the long-term relationship with the company and maintaining the sustainability of obligations towards it. In particular, this refers to tasks such as building the network of relationships (level 2.41 measured on the bipolar seven-point scale, where 4 is the level of equilibrium of the strength of influence of the manager type; the level closer to 1 indicates the shareholder-entrepreneur more strongly and closer to 7 points more strongly to the intrapreneur; the search for his or her successors (2.32) or organisational culture (2.27). Differences also occur in shaping the founder's mentality in choices made by the company (2.77), willingness to shape charismatic leadership (2.77), and the recognition of opportunities (2.82). Intrapreneurs, on the other hand, are significantly more effective in recognising negative prospects for the company (5.18).

In the context of the search for the significance of differences in the adopted attitudes towards the company (from the catalogue of attitudes), an examination of which of them may have a stronger influence on the effectiveness of value creation in terms of a comparative analysis of managers-shareholders-entrepreneurs or managers-intrapreneurs was undertaken. Significant levels of differences can be observed, indicating a higher strength of shareholders, for attitudes related to the high level of mental toughness (level 2.91 measured on the bipolar seven-point scale, where 4 is the level of equilibrium of the strength of managers' influence; the level closer to 1 indicates the shareholder-entrepreneur more strongly; and closer to 7 indicates an intrapreneur, patience in anticipation of results (2.61) or focus on the continuous development of the company (2.36).

There are reasons for the view that the fulfilment of managerial roles by shareholders-entrepreneurs will better contribute to the effective creation of company value in areas related to fulfilling long-term obligations towards the company, building the network of relationships, shaping organisational culture and charismatic leadership, and recognising emerging opportunities.

Leadership skills of shareholders-entrepreneurs versus the effectiveness of value creation of an IT company

In the course of the research, it was assumed that the leadership attitude adopted by the shareholder-entrepreneur positively influences the effectiveness of the changes aimed at building the company's ability to create its value.

The issue of leadership is often addressed in the relevant literature and is the subject of interest of economic practitioners. The results of research into the importance of leadership in companies indicate that the quality of leadership can positively shape companies' ability to implement new ventures or carry out difficult changes. In the monograph, the influence of leadership, presented by the shareholder-entrepreneur as a leader, on building the long-term ability of companies to create their value is the area of particular interest.

Researchers point to the aspect of the relationship between the personality of the leader and the personality of the company. Examples of IT leaders can be found like Steve Jobs (Apple), Jeff Bezos (Amazon), and Mark Zuckerberg (Facebook), claiming that each founder's personality was expressed in these companies. At the beginning, it is relatively easy to maintain consistency between goals, vision, and leader's and organisational values. As long as the company is small, the founder and leader can directly control all important areas of the company's functioning. As the organisation grows, the challenge of maintaining the most important features of the organisation arises, especially those that underlie its original success. Some founders take actions from the very beginning that are supposed to preserve what are, in their opinion, the unique values of the company. Bill Hewlett and Dave Packard, who founded Hewlett-Packard (HP, HPE), did so as well and formulated a set of principles and guidelines for doing business, known as the HP Way. From the very beginning, HP's founders have had a vision of creating a company with a strong organisational culture, based on healthy principles of sustainability and growth.

At the same time, a researcher Manfred Kets de Vries, who deals with leadership and change in organisations, points out that leaders do not always influence their organisations in such an unequivocally positive way. He points out that organisations can exhibit neurotic personality traits and that in many cases the cause of trouble is the personality of the leader, whose adverse impact can spread to the lower levels of the organisation. In other cases, the cause of the disorder may be the irrational, toxic organisational culture, established over the years. The key to success – the effectiveness of leadership – is a high level of awareness. He goes on to say that a leader who wants to be successful must know himself and be aware of the impact he has on the environment, as well as see his weaker sides. This will enable him to use his best qualities and minimise the pernicious impact on the organisation of his faults. The conscious leader will, on the one hand, work on himself and, on the other hand, rely on his co-workers, whose character traits will complement his potential deficits.

In-depth studies on leadership issues also demonstrate the coexistence of characteristics such as determination to achieve goals and humility in choices made, which brings leaders closer to effective change (Kaźmierski, 2017). In the views of researchers, justification can be found that it is shareholders-entrepreneurs that show higher determination (firmness, persistence) and patience as leaders than intrapreneurs (Zakrzewska-Bielawska, 2009). The sources of differences between the types of managers (leaders) is the long-term approach presented by shareholders-entrepreneurs in comparison with the medium- and, often, short-term approaches of intrapreneurs.

Therefore, the question arises whether it is also possible to identify such business scenarios (challenges with sources from within the company or the business environment) in the Polish IT sector, in which leadership demonstrated by the shareholder-entrepreneur is more effective than that of the intrapreneur in the context of introducing changes leading to building (retaining) the company's ability to create its value.

The assessment of the quality of leadership in IT companies followed the approach proposed by J. Collins, which defines five levels of maturity. The study also examined the potential differences in the quality levels of leadership demonstrated by leaders-shareholders-entrepreneurs and leaders-intrapreneurs.

The results show that in SMEs, the level of leadership is slightly lower (2.67 on the five-point Likert scale) than in large companies (level 3.39). Such conclusions, in the opinion of experts, result from a higher level of professionalisation in large companies. At the same time, leaders-shareholders-entrepreneurs support leadership development slightly more effectively (2.77 on the bipolar seven-point scale, where level 1 indicates a shareholder-entrepreneur, 4 is equilibrium, and 7 is an intrapreneur) compared to intrapreneurs. The level of leadership among leaders-shareholders-entrepreneurs is at a slightly higher level (3.08 according to J. Collins' methodology) than in the case of intrapreneurs (2.78). It is worth noting that the dominant level of leadership in companies in the Polish IT sector is at a medium level (3.0 according to J. Collins' methodology), where the level of leadership reaches level 4 or 5 (very high).

By comparing the leader-shareholder-entrepreneur and the leader-intrapreneur in the context of the effectiveness of making changes leading to building the company's long-term ability to create its value, it was checked whether it is possible to identify scenarios in which a strong, mature attitude of the leader-shareholder-entrepreneur in implementing the change more effectively than the leader-intrapreneur (with the same competencies) will contribute to building the company's ability to create its value in the long term.

The research shows that the leader-shareholder-entrepreneur is more effective (from 0.5 to 1.0 as the value of deviation from the level of equilibrium, i.e. 4.0 on the bipolar seven-step scale) than the leader-intrapreneur in the business scenarios (change scenarios) where the personal guarantee of due performance is required. This view is particularly observed in crisis plans (financial crisis in the company), during entries on new markets or responsibility for the development, communication, and supervision of the strategy. The respondents also clearly indicated founders and shareholders involved in the company's activities and in tasks related to building a strong organisational culture (compared to intrapreneurs). The significantly higher effectiveness of the leader-shareholder-entrepreneur is also strongly recognised in crisis (loss of the main source of income, financial crisis), the guarantee of performance of a key contract or during the introduction of a strategy.

However, it is important to note that the influence of the leader-shareholder-entrepreneur is higher in SMEs than in large companies, and this difference reaches even one level (+1.00 on the five-point Likert scale). The exception is the image risk management scenario, where, in large companies, in the opinion of experts, the shareholder's effectiveness was higher than in SMEs.

Complementary conclusions

The most important activities of shareholders (the Delphi method) in SMEs were the following: recruitment of talented managers (level 4.23 on the five-point Likert scale), search for their successors (3.95) and encouraging the immediate environment of co-workers to develop, and maintaining their high level of commitment to taking on new challenges (3.59). In the opinion of the respondents, the indicated activities should be given high priority on the shareholder activity map to effectively build the ability of IT companies to create their value in the long term. In the case studies, the activities related to the recruitment of talented managers were at a high level (in the range of 3.92 to 4.23 for the examined cases, measured on the five-point Likert scale), as well as encouraging the immediate environment of shareholders' co-workers to develop, maintaining their high level of commitment to taking on new challenges (from 3.08 to 4.40 for the examined cases). As a consequence, the assessment of the potential of the shareholder's environment in the companies studied (with the exception of the "S1" study) increases in the long term and positively (at a level no lower than average in terms of its strength or strong according to the Pearson correlation coefficient) correlates with the company's ability to create its MVA (research variable Y30 in the research model).

As regards the effectiveness of the creation of company value, gradual improvement in the effectiveness of value creation in subsequent research periods was observed in companies that included their immediate environment in the management process (persons previously working for the company). At the same time, company value decreased in the "S1" company when the potential of the environment was not shaped, which may be another reason for indicating the influence of the factor related to the potential of the shareholder's environment on the company's ability to create its value. Hence the conclusion that shaping the potential of the shareholder's environment (as the development of managerial staff), also through activities related to the recruitment of talented managers, inspiring and motivating them to take on new challenges, can support the building of the company's capacity to create its value in the long term.

In light of the results obtained (the Delphi method), it is possible to indicate which of the characteristics of shareholders (represented by diagnostic variables in the research model) have a high level of influence on shaping the company's potential. Assuming that the high level is 4.0 (calculated on the five-point Likert scale), the highest impact strength for SMEs (and the decision-making roles fulfilled by their shareholders) can be observed for factors (shareholder characteristics) such as business experience, openness to risk, compliance of objectives in the shareholding, visionary competencies, and personal brand. In large companies this level is visible only as regards investor relations. The strength of impact (calculated as the mean of all variables on the shareholder side as explanatory variables) on the development of the company's potential is lower by 0.76 (calculated on the five-point Likert scale) compared to SMEs. The research also shows that the "shareholder potential" (PA) has a stronger influence on factors which shape the "company's potential" (PS), if the shareholder fulfils decision-making and interpersonal managerial roles, compared to the informational role. This observation applies to both large companies and SMEs.

It is also observed that there is the relationship between the age of the company (it refers to young companies in particular) and the size of the company (SMEs), where the importance of the strength of factors on the part of the shareholder bears a significantly higher weight, adopting the minimum level of half (50%) of the estimated subjective strength of the factor as the significance criterion. Such a conclusion may inspire shareholders in terms of the importance (in the context of companies' ability to create value) of their characteristics such as knowledge, skills, personality traits, experience, an approach to risk, the way of thinking, personal brand or visionary attitudes and skills, relationships in the shareholding, and consistency of goals. It is also observed that a higher level of the company's potential is conducive to value creation, eliminating lower shareholder involvement in performing tasks from the list of tasks. In order to achieve this, however, it is necessary for shareholders to take long-term, continuous, patient, and effective actions related to the development of the company's potential, which, as a consequence, can ensure the company's increased ability to create its value with a lower level of shareholder involvement in the development activities of the company.

The transformation of the importance of the shareholder. Based on the empirical data obtained, the key capital contributed by shareholders today is relational capital (level 3.72 on the five-point Likert scale) and innovative ideas (3.83) understood as product capital. In the near future (3–5 years), the areas identified will remain dominant, but the area of shareholder activity related to leadership will have the highest potential for the increased strength of influence (the current level is 3.06, and in the future it will be 3.83) to provide the company with development opportunities (and thus to create the capacity for value creation). Such observation can be an inspiration for shareholders, in which areas they should particularly focus their personal activity (and directions of their own improvement) and which they should delegate to others (also including raising financial capital).

Openness to risk. The importance of openness to risk is often raised in the relevant literature by researchers such as R. Carlsson and A. Zakrzewska-Bielawska as an important element of building companies' capacity for development, strategic renewal, and, consequently, value creation. The results of the empirical research by means of the case study method were used as the source of verifying the conclusion. In the course of the verification process, the level of openness to risk presented by company shareholders was examined. It is worth noting that in companies which strongly (value above 4.0 on the five-point Likert scale) focused on strategic renewal, this level of openness was higher than in the others. It was also noted that for each company studied, the level of openness to risk (calculated as the average value of the diagnostic variable representing the level of openness) was medium and high (not less than 3.5 on the five-point Likert scale). Hence the conclusion that in the IT sector one of the conditions for building the company's capacity to create its value in the long term is the level of openness to risk, which must be no lower than moderate (tending towards high).

Limitations of the inference process – a critical view

Although the scientific inference process carried out provides evidence for generalisations on the paths of the impact of shareholders on the creation of the value of an IT company, it contains significant limitations. The scope of case studies, which were part of the research, is limited to several companies, and although it was supplemented with additional companies, where the collected data were used as sources for the construction of forecasting models, making generalisations for the whole sector can lead to cognitive bias. Therefore, the triangulation of data sources was used to minimise it. The sources of the potential bias, on the one hand, lie in research problem presented in the holistic way. On the other hand, an important aspect conducive to the creation of company value was omitted despite the research process, submitting proposals and examining the shareholder's influence on the effectiveness of value creation by means of the longitudinal analysis of changes in factors shaping the studied relationships. This is the aspect of the level of happiness indicated by K. Obłoj (1993) as an important aspect of company survival and at a later stage – their success. This, in turn, may lead to the illusion of validity described by D. Kahneman P. Szymczak and A. Tversky (2019). At the same time, in the opinion of the authors, the approach adopted in the research process to measure the identified factors in the long-time terms minimises the cognitive bias, which is in line with the views of F. Galton, who raises the issue of regression toward the mean. Taking into account the above limitations, the conclusions encourage the authors to continue research into the research problem, which may also inspire other researchers. This, in turn, can help understand even better the impact of shareholders on IT companies, as well as minimise the potential cognitive bias.

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Note: Figures are indicated by *italics* and tables by **bold type**.