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Integrating human capital into strategic performance management systems – why, what, how and who?

The role of leadership

Thesis proposal

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Budapest, 2017
“The value of many businesses depends on the performance of human resources.”

(Brealey – Myers)
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1. Introduction

1.1 Foundations of the research

It was more than 25 years ago when Fortune Magazine published Thomas Stewart’s ground-breaking cover story about the role of intangibles in value creation, in which the author called “brainpower” and intellectual capital one of the most valuable future assets (Stewart [1991]). Despite this knowledge, human resources, effective organizational structure and processes or sustainable market relations – i.e. the basic components of intellectual capital – had earlier been considered and discussed as key factors in value creation\(^1\), although the aforementioned article, and Stewart’s popular book six years later (Stewart [1997]), significantly stimulated the theoretical and practical discussion about knowledge capital.

In the meantime, well-recognized scholars – such as Lev, Davenport, Mouritsen and Paloma Sánchez –, and practitioners from different backgrounds – such as Edvinsson, Sveiby or Kaplan and Norton – have joined in this discussion about intellectual capital and its role in value creation, strategy and performance, as well as the ways of dealing with the significant management challenges regarding intangible strategic resources.

As a result of the work of these and other scholars, and perspectives ranging from strategy and performance management to financial valuation and accounting, the lifecycle and history of intellectual capital management and intangibles can safely be described as ‘very diverse’ in terms of terminology and definitions, as well as regarding as the effective tools and methods of capturing and managing intangible strategic resources in an organization\(^2\). This variety of appellations illustrates the lack of unity and standardization of intellectual capital management practice and research: besides intellectual capital, additional terms such as knowledge capital, intangible strategic resources, intangibles, and immaterial strategic resources also exist and are applied as synonyms for this group of strategic resources.

In alignment with the literature, this thesis also uses the above-mentioned terms as synonyms for intangible strategic resources, or intellectual capital (hereafter abbreviated as IC).

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\(^1\) For instance, Polanyi, Nonaka or Davenport about knowledge management, by pioneers of the resource-based view of the firm such as Prahalad and Hamel, Barney or Grant, as well as by such human resources management strategists as Beer and Ulrich.

\(^2\) See for more details, Chapter 4.
In addition, in the history of intellectual capital management (abbreviated in this thesis as ICM) research, an interesting cycle or pattern can be identified in terms of the focus of the different periods and scholars:

The first phase of ICM studies tried to create clear definitions and practical classifications of intellectual capital.

In the meantime, various measurement methods and management tools have been developed and appeared to capture intellectual capital in practice. Many organizations – independently of region or size – lacked proper managerial information about intangibles, with the result that the structures, processes and the content of classic performance measurement and reporting tools did not seem to be able to properly capture intangible strategic resources or intellectual capital. Because of regulatory, organizational, management or technology-related reasons and trends, the gap between the book and the market value of many companies increased significantly – especially in knowledge-intensive sectors such as consulting, ICT, and media.

Most recently, management studies and discussions have increasingly focused on the challenges of IC measurement and the implementation of the different management tools for the purpose of capturing the value and the contribution of intangibles to strategy execution and performance.

During the last three decades of this ICM lifecycle, many scholars and studies have discussed the ways of integrating and capturing the knowledge capital in the different management systems in an organization, using various perspectives - from finance and accounting, through marketing to strategy to performance management. Nevertheless, deep understanding of the phenomenon of intellectual capital and the practical methods for handling the significant management and measurement challenges around it have not yet been generated. This includes strategic performance measurement aspects as well.

The relevance of this challenging situation is even more pronounced if we acknowledge the fact that many organizations and managers highlight the fact that intangible strategic resources (such as proper customer relationships, a unique brand, or experienced and skilled human resources) are their most important strategic assets (see Chapter 4). Moreover, many organizations have formally introduced different management methods and tools – for instance: strategy mapping, BSC, KPIs, strategy reports and reviews, etc. – to capture intangible strategic resources and support strategy

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3 Here only a short introduction is provided. For more details, refer to Chapter 4.

4 For more details about the knowledge economy and knowledge-intensive sectors see for instance the categorization of OECD, as well as Drucker [1998], Keep [2000], Smith [2000], Powell – Snellman [2004], Hislop [2009], or Makó [2001], Tamás [2006].
execution. Nevertheless, the previously forecasted paradigm change towards intangible strategic resources (e.g. Stewart [1991], Brooking [1996] or Kaplan – Norton [2005]) has not yet fully occurred in corporate practice. As of today, the specific management tools designed for intangible strategic resources do not work optimally, while the related reports and analyses often end up in the drawers, not in the hands, of senior management – in my experience.

So, despite the fact that the several IC management tools have been developed and introduced in many organizations in different industries and regions, the strategic performance management approach and the utilization of related key performance indicators for intangibles or human capital has not matured or been perfectly aligned to needs. Even now, a typical strategy and performance report tends to be dominated by financial indicators and measures about the dimensions of performance which are easier to measure (see, for example, Lakatos [2003], or Kaplan and Norton [1996] & [2005])⁵.

Since the attributes, critical success factors and key performance dimensions of human capital do not fit into this ‘easy-to-measure’ category in most cases, there is a significant practical challenge – or contradiction – which is yet to be resolved by strategic performance management practice. Namely:

- Many managers claim that the role of human resources and knowledge is one of the most crucial value-adding factors in an organization, and emphasize the contribution of intangible strategic resources to value and strategy in many cases (see, in Chapter 4.1, and for example, Becker et al. [2001], Juhász [2004], Crook et al. [2011], Leitner [2011], or Martin [2013]).
- In addition, many organizations have invested immense financial resources into intangible assets during recent decades (see, for instance, Nakamura [2001], in Lev – Zambon [2003]).

  In contrast:

- Relatively few organizations have been able to implement any practical IC measurement and management tools for the evaluation and development of their intangible strategic resources which make an effective contribution to strategy and have real organizational impact.
- As a result of this inappropriate or ineffective monitoring of intellectual capital and the strategic contribution of human resources, a significant proportion of practical

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⁵ The Balanced Scorecard is a good example of this: in my experience, organizations tend to use more indicators and take more time to discuss their financial, customer or process KPIs during their performance reviews than the indicators that relate to learning & development. One of the results of this may be the greater importance awarded to, or elevated short-term impact of, these perspectives, despite the character of the intangible topics in the latter. For more detail about the typical challenges, see, for example, Baroudi [2011].
managers make their crucial strategy- and performance-related decisions lacking ongoing information about intangible strategic resources, and the return side of intangible investments.

Accordingly, this thesis analyzes this contradictory state of managerial information about intangibles, and the reasons for the level of integration of human capital-related issues into strategic performance management (see later defined as ‘SPM’). The main objective of the research is to understand one of the most important organizational factors for this challenging situation of human capital performance management, and derive implications that will enhance a more effective but practical way of integrating intellectual capital into performance management. As will be seen after a structured literature review, the question of leadership and its impact on performance management is of a significant relevance to local and international ICM practice.

It is for this reason that this thesis puts similar questions into the center of interest, with a special focus on understanding one of the most crucial knowledge-capital components, human capital, and the role of one of the most relevant actors: senior management and the related leadership style.

Based on the findings of research by well-recognized practitioners and scholars, as well as my practical experience as a researcher and management consultant, the engagement and supportive role, as well as the leadership style, of senior management are crucial factors in the success of any strategic performance management systems.

So, amongst other contextual factors, the key attributes of leadership and the way that senior management operate in an organization need to be considered critical factors in any performance management implementation change. This includes consideration of (1) why is human capital important in an organization, and why do senior leaders decide to capture human capital by the strategic performance management tools, (2) what kind of human capital information is captured and utilized in the SPM cycle, and (3) how human capital is integrated into the different processes and components of strategic performance management system. Overall, what is the role of senior management and its leadership on human capital performance measurement and management in practice, and what kind of leadership style supports the integration of human capital into strategic performance management? - these are the main focal areas of the thesis and related research.

In order to significantly contribute to the local scientific and practical discussions about the measurement and management of intangibles, but also with a view to

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6 See in more detail, Chapters 2.3. and 3.1.
integrating the most relevant international studies and literature, this thesis follows a dual approach: it reviews and incorporates the results of the relevant international and local literature and studies; however, the empirical research concentrates on a carefully selected sample of Hungarian organizations.

The structured literature review focuses on the most important regional hubs of intellectual capital management, such as the USA, European areas such as the UK, Scandinavia, Benelux countries, Germany, Spain and Austria, as well as material from global scholars such as Nonaka from Japan. In addition, it also incorporates the results of the relevant Hungarian scholars and studies, with a focus on the performance measurement and management aspects of the ICM perspective.

1.2 Focus and research questions

Over the last ten years as a lecturer, researcher and management consultant with a focus on strategy execution, performance measurement and management, as well as management control (controlling) in many various organizations from different sectors, I have seen or been part of discussions with a lot of managers regarding the importance of human capital, as well as knowledge and other kinds of intangible strategic resources. The following examples illustrate a few of the managerial opinions I have come across in different non-profit and business organizations, with a focus on the relevance of human capital (based on my own research, and local and international consulting projects):

- ‘Our wide and internationally recognized experts in education and research make our university a market-leading business school in the Central European region. Without a balance between research and practice, neither our Bachelor, Master nor Executive MBA programs would be successful and demanded by the labor market.’ – Student relationship manager from a university for economics and business with a focus on the CEE region;
- ‘Our human resources are the most important value in our organization - we have to keep and develop our talents, even if the financial crisis and the budget cuts have impacted us significantly.’ – CEO of a market-leading financial service provider in Hungary;
- ‘Our company cannot stay ahead of the competition without a proper mixture of young, talented and senior experienced consultants. I believe this statement is not a question for anybody in the group, neither here in Budapest nor in the Headquarters in Germany.’ – Managing partner of an international management consulting firm with an office in Hungary;
• ‘Our brand awareness and value has been enhanced in Far Eastern markets: we have to keep this up, and reach out to more profitable clients overseas. In the meantime, we have to stay the same flexible and innovative health equipment manufacturer that we have been over the last years. Without our key people, this is not possible.’ – Founder and managing director of an innovative health equipment manufacturer from Hungary, with a strategic focus on the local, but more on the global, market.

Despite these statements, the following types of conversations regarding the practicality and implementation of strategic performance management have also not been rare during these ten years:

• ‘I do not trust most of the information that I see about the performance of our human capital in this quarterly report. The KPIs you suggested are hardly measurable and hard to understand: either we do not have the proper data or colleagues have calculated the KPI values incorrectly.’ – Head of Office of Strategy Management in central – not-Hungarian – ministry with a focus on labor market and social services;

• ‘One of our key strategic objectives is to develop a professional fund management culture in the organization. How can we capture this using appropriate indicators? It does not seem to be easy, in my opinion.’ – Performance Manager/ Controller at the same financial service provider referred to above, during a conversation with the CEO.

• ‘At the last strategy meeting, top management emphasized during their presentations that skills and experience, professional knowledge, flexibility, motivation and loyalty mean everything to our company. I do not understand this, since they barely look at our human KPIs or at the regular HR reports before the strategy meetings, and in general. What they always ask for is details of the personnel costs and the average salary in the organization.’ – Local Head of HR in an international consulting firm.

• ‘Unfortunately, our profit has decreased in recent years, so we have to keep our costs at a manageable level, including our material costs, and unfortunately, personnel costs as well. Let us see how we can optimize the travel, conference and training budget for the next year. I do not see the added value of these items in many cases’. – Top manager in a market-leading Hungarian manufacturing and wholesale company.

Although similar additional experiences or relevant research studies could also be contributed at this point, the examples above are sufficient to illustrate one of the main
practical challenges and contradictions regarding the performance measurement and management of intangible strategic assets, including human capital as well (see more detail in Chapter 4):

- As the practical examples above and various research studies emphasize, intangible strategic resources and human capital play a crucial role in value creation and the performance of an organization (especially in the knowledge sector). In addition, in many cases human resources are captured and handled during the strategy development process as strategic assets, and the skills, capabilities or the satisfaction of key people appear in various forms in corporate strategy (e.g. as strategic objectives, strategic dimensions, or initiatives related to HR, or just learning and development objectives on the balanced scorecard).
- If intangibles and human capital are considered crucial strategic resources, there should be clear and practical demand for enhancing managerial transparency as regards the key performance dimensions of these intangibles. In other words, organizations need to implement and use effective performance measurement methods which capture the status of the critical success factors and the contribution of intangible strategic resources to value creation and strategy, as well as support managers in executing corporate strategy and professionally managing strategic performance.
- As a result, details about more than 40 methods of intellectual capital measurement had been published by the end of the first decade of the new Millennium. This fact shows clearly that organizations have required and developed such tools as a reaction to the intangible trends in corporate value creation, and have tried to find practical solutions to capture the value and performance generated by intellectual capital.
- However, since the practical implementation of these ICM methods faces many potential barriers and practical challenges and is not easy, the real utilization and impact of the ICM perspective on corporate performance management practices has been limited and is controversial in many cases⁷. Of course, different reasons can be identified for this, from the intangible character of intellectual capital to contextual, organizational, managerial and behavioral factors⁸.
- As a result of this situation, originally high expectations have been only partially fulfilled, and the intensity of both theoretical and practical discussions about

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⁷ Although it is easy to find one or two human capital indicators or initiatives in most corporate strategies and strategy reports, their availability does not mean that 'effective and professional' human capital measurement is occurring. For this, a more comprehensive method of appraisal is required, with the necessary background SPM and data processes. The present research focuses on this (and targets) so as to understand the current situation in a selected sample of Hungarian organizations, as mentioned above.
⁸ See later chapters, especially Chapter 2.3 and 4.3.
intangible strategic resources has decreased in recent times. In addition, the focus of research has changed from specific attempts at measuring IC and management tools towards analyzing the reasons for successful implementation, and the practical ways of integrating the most crucial performance-related dimensions and components into overall corporate performance management processes and systems.

The scope and focus of this research are aligned with these trends and changes, and is designed to help in the analysis of how selected organizations in Hungary measure their human capital, and what the maturity of the various strategic performance management systems in this regard is. As the sample managerial quotes (above) also illustrate, the status of intellectual capital performance measurement is related to international practice, and appears to be relevant in Hungary too. Accordingly, the empirical research this thesis is based on is implemented in a carefully selected group of organizations, with a special focus on knowledge intensive industries, although where possible, it also involves several samples from more traditional sectors as a control group\(^9\).

Potential reasons for failure or success in implementation and use of any ICM methods or tools are multidimensional, but are at least twofold in most organizations:

Challenges and limitations may arise regarding performance management as a result of the intangible – i.e. hard to capture – character of intellectual capital.

Amongst the key success factors, influences such as a clear sense of purpose of change, top management support and commitment, and a supporting role for the executive leadership are crucial – especially if we consider IC measurement to be part of strategic performance management (see more detail in Chapter 2.3, or empirical research in the Hungarian context; for instance, Bodnár et al. [2009b] and [2010]).

This thesis and research aims to handle these two aspects in an integrated manner.

First, it concentrates on the dimensions of information and measurement, and analyzes the content and processes of the SPM regarding human capital performance.

Second, it focuses on the role of leaders and leadership styles during implementation. According to longitudinal case study research, referred to above, besides the formal content and attributes of the implementation process, the leader plays a crucial role in IC measurement, and the leadership style thus appears to be one of the key influencing factors of intellectual capital management.

\(^9\) For more details on the empirical research plan, have a look at Chapter 6.
The main objective of this research is thus to analyze and understand the reasons for the practical contradictions bought up by intangibles and human capital more deeply than has been possible before during different case studies: Although human capital is considered and communicated as one of the most important strategic resources by most managers and leaders, organizations use very different individual solutions for measuring the strategic performance of human resources. I have not met any organizations during my research and consulting career in Hungary and internationally where any specifically designed IC measurement methods (excluding the Balanced Scorecard and HR controlling10) have been successfully used. In my experience, different organizations use different strategic performance management tools or approaches to capture the crucial performance dimensions of human resources and human capital, mostly depending on the strategy and leadership of the firm.

Accordingly, the main research question of this thesis is as follows:

What is the role and impact of leadership on the integration of human capital into corporate strategic performance measurement systems?

During this performance management research, I focus on why, what and how performance information about human capital is integrated into strategic performance management systems, and their key components, as well as who provides and utilizes this information during the SPM cycle.

The meaning of the four specific dimensions why, what, how and who are clarified in the figure below:

10 Neither of which were originally specially designed for use in IC measurement (see for more details, Chapter 4).
Figure 1 – Four dimensions of the research: division of main research goal into operational focal areas

As Figure 1 summarizes, this research focuses on analyzing the most relevant motives and trends regarding the role of senior management, as well as its leadership style regarding the reasons (why), content (what), method (how) as well as the key data recipients and contributors (who) regarding the level of integration of human capital information into strategic performance management systems. The main focus is on understanding the influence of the key leadership attributes on why and what kind of human capital information is available inside the different components and processes of a strategic performance management system, as well as how and by whom this information is generated and utilized in terms of corporate SPM functionality.

1.3 Theoretical and methodological background

As Kieser emphasizes in his classic organizational theory handbook, modern organizations, as social entities, are influenced by and influence closer and wider society around them (Kieser [1995]). Since societies – and organizations – are complex objects, according to this approach the following two main theoretical and methodological issues need to be consciously considered and managed:

- If the research goal is to discuss a complex organizational phenomenon such as an SPM system, the complexity and scope of research must be consciously limited to a set of key factors, all kept in focus at one time.
In addition, since the main research questions and methodology, as well as the nature of the expected findings, are based on the background, previous experience as well as the basic values, beliefs and attitude of the researcher, these factors will have a relevant impact on how the research is implemented. As a result, the author’s research attitude and paradigm regarding the object of this thesis need to be clarified and handled consciously during the whole research process. Different experiences, attitudes and paradigms normally lead to the construction of different research questions, methodology and results. As Bourdieu emphasizes, the “terminology of any science is an artificially construed system, and scientific data is no fact but only the results of various research studies” (Bourdieu [1974], in Kieser [1995], pp. 8).

In due consideration of this fact, this section summarizes the basic beliefs that underlie the research described in this thesis, as well as provides a brief overview of basic objectives and the way the overall complexity of the research question is handled.

### 1.3.1 Theoretical background and research approach

Beliefs, experiences, attitude and theoretical background – or paradigm – of the researcher have a significant impact on the way a research is built, developed and implemented in practice.

Kuhn defines the term ‘paradigm’ as a ‘scientific discipline’ at any particular period of time: it summarizes the main characteristics of research and the main criteria of universally recognized scientific achievements. A specific paradigm normally describes (or pre-scribes) what is to be observed (and how), what kind of questions may be asked, how these questions should be structured, what the main predictions are, how the findings may be arrived at and interpreted, and how the empirical research should be conducted and the findings interpreted (Kuhn [1962]).

To shed light on the underlying research paradigms, I also use the Burrell-Morgan Matrix (Figure 2.), a widely referred-to sociological paradigm framework that may be applied by management scientists in a structured and effective way. Although the matrix has been criticized, as the chart below illustrates it is still a useful tool for illustrating the two main dimensions of scientific discussions: (a) epistemology, and (b) the social function of research (see, e.g. Burrell – Morgan [1979], Hislop [2009], Glózer – Gelei [2011]).
Regarding the first dimension, there is general consensus that two main perspectives dominate epistemology: (1) Objectivist, and (2) Subjectivist (practice-based) epistemology. While scholars with objectivist perspectives assume that the object of research – in our case intangibles/human capital and leadership style – are separate entities which can be objectively codified, described and analyzed through their main attributes. In contrast, subjectivists challenge this position, and emphasize context-embeddedness and the construed character of any organizational phenomenon, including intellectual capital or leadership. In this perspective, organizational ‘reality’ is embedded in the context and people: accordingly, to describe and analyze an organization a researcher has to understand interpersonal interactions, communication and the meanings in the organization.

The second dimension of the matrix relates to the main goal and function of science and research: (1) Sociology of order scholars do not aim to criticize the status quo of social and organizational structures, but to analyze, describe, and, if possible, enhance present organizational reality and practices. Researchers from (2) Sociology of change focus on questioning and radically modifying recent social structures or interactions. These latter, so-called critical theories emphasize that recent organizational ideologies, practices and the status quo are repressive to the majority of society, and should be radically revolutionized.

The following table (Table 1) provides useful guidelines regarding the main differences between objectivist and subjectivist perspectives as the main alternatives that are applied in this thesis.

Regarding the radical-change-versus-consensus-oriented second dimension of the matrix above, the research this thesis is based on is clearly positioned on the side of a

![Figure 2 – Burrell-Morgan Matrix](based on Burrell-Morgan [1979])
society of order. Accordingly, the author’s goal is not to initiate radical change or any kind of revolution regarding how human capital is integrated into strategic performance management systems. Instead, the main goal is to describe and understand current SPM tools and practices regarding human capital and its integration into strategy execution, and to identify typical patterns and trends regarding the role of leadership in this process. Leadership means ‘leadership style’ from this perspective, since the focus is on analyzing the connection between leadership style and SPM maturity in terms of capturing human capital and its contribution to strategy execution and performance.

If we accept that a management study can be interpreted and assessed optimally when readers possess information about the author’s objectives and theoretical background\(^\text{11}\), the ‘choices’ illustrated in the table should significantly guide how this thesis should be read, and illustrate how the research model was developed and implemented.

**Table 1 – Functional versus interpretative: author’s beliefs and attitude regarding the object of the research**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Objectivism/Functional paradigm</th>
<th>Subjectivism/Interpretative paradigm</th>
<th>Approach applied in this thesis</th>
</tr>
</thead>
</table>
| Nature of organizational reality | .Objective, external and independent from actors  
. Possible to describe it using general structures and logics | .Subjective, embedded into local interactions, as well as wording and culture of actors  
. Hidden meanings and local understanding can only be described | .Intangibles & human capital is crucial in organizations (esp. knowledge sector)  
. Specific role of human capital depends on the corporate strategy and context  
. Human capital and its positive contribution to strategic performance is measurable |
| Nature of human behavior | .General trends & continuities significantly impact individual behavior  
. Structures determine behavior | .Human behavior and interactions create (local) org. reality  
. Jointly and voluntarily accepted local organizational ‘structures’ only | .Strategy as a generic but local ‘structure’ influences how leaders handle human capital measurement  
. Organizations with a similar strategy/leadership tend to behave similarly regarding ‘human capital to SPM integration’ |

\(^{11}\) Regarding the so-called paradigm dependency of research, see for instance Kuhn [1962], Burrell – Morgan [1979], Kieser [1995].
|| Dimension | Objectivism/ Functional paradigm | Subjectivism/ Interpretative paradigm | Approach applied in this thesis |
|---|---|---|---|
| Nature of research and its findings | .Goal is to describe and forecast generic structures / correlations .Local patterns to be described using overall terminology (top-down approach) .Researcher is an external actor, and research has no impact on organizational reality .Research is ‘free of politics’ and has no impact on power or values | .Goal is to understand local meanings, interactions and the process of how ‘local reality’ is created .Local (and general) patterns to be understood using local terminology (bottom-up approach) .Researcher is part of the organization itself, and their research impacts local reality and findings .Research has impact on organizational politics and power | .Goal is to describe how organizations capture human capital, independently from their specifically selected SPM tool .Focus is to identify typical patterns/ correlations between leadership style and human capital measurement .Findings may help organizations to develop their performance management practices of HC to support strategy execution .Research(er) may have an impact on internal politics, but with a proper research plan this can be consciously handled |
| Nature of research methodology | .Positivist methodology: e.g. scientific experiments, statistical analysis, surveys .Typical research methods: e.g. surveys with large sample, quantitative interviews, document analysis | .Understanding-oriented methodology: e.g. hermeneutics, qualitative case studies .Grounded theory .Typical research methods: e.g. in-depth interviews, participant observations, discourse analysis, cognitive mapping | As a result of practical challenges in ICM and the intangible character of human capital, the hypotheses cannot be fixed/ have to remain flexible and possibly refined before testing them on a larger sample of organizations As a result of properly selecting sample, limited level of generalization of results is possible – i.e. findings may be considered valid not only for one organization, but a set of organizations |
| Metaphors for an organization | .System, machine, organism | .Interpretative system, collective consciousness, drama, culture, language games | Human capital is an asset Intangibles as crucial strategic resources may need to be captured by SPM systems |

*(based on Glózer – Gelei [2011], applied to this research)*

Besides the main points described in the table above, regarding the author’s overall paradigm the following aspects should be briefly added and highlighted:

In my understanding, management studies – including this research into SPM systems and human capital – must be practical and aim to generate findings with practical implications for both scholars and corporate managers regarding the object of the research.
From this perspective, an important goal of this research is to describe how the selected set of organizations integrate human capital into SPM, and analyze the possible reasons for the different levels of maturity, with a main focus on understanding the role of leadership in this. Ultimately, results do not only focus on local interpretations, communication schemes and reality; they are designed to be functional for different organizations in relation to the development, implementation and operation of performance management practices regarding human capital, in alignment with strategies and the needs of their leaders.

From this perspective, the research described in this thesis follows a classic functional approach and seeks typical patterns and motives for the integration of human capital into SPM. In an optimal case it is designed to generate practical knowledge about typical challenges organizations face during the implementation of strategic performance measurement systems which also contain different and useful indicators for measuring the performance contribution of human capital.

According to scientific research, ‘measurement’ means observation and the description of the main attributes of an object in a quantitative manner. During ‘measurement’ numeric values are assigned to the objective characteristics of a research object, which are then used for benchmarking or analytical purposes (see for example, Kloidt [1964], Bródy [1990]) and Hüttl [2003]).

From this perspective, both strategic performance, the contribution of human capital to strategy execution and the attributes of leadership are both measurable, at least on an ordinal scale, which allows the focal goals of this thesis and research to be met\(^\text{12}\).

In addition, the research described herein does not focus on descriptive analysis only, but aims to derive practical implications for strategic performance managers and leaders regarding the integration of human capital into SPM systems. One of the main goals regarding this point is to identify those ‘strategy and leadership style’ combinations where measuring human capital, and integrating this information into strategic performance management systems, is more relevant and the probability of successful implementation is higher.

\(^{12}\) Normally, an economic measurement assumes a proper scales of measurement (cf. Kloidt [1964], Bródy [1990], Hüttl [2003] or Babbie [2011]). However, in my understanding, and from a strategic performance management perspective, human capital can be measured using an ordinal scale as well. If a manager knows whether target achievement is ‘better or worse’, or a gap is relatively ‘smaller or bigger’ this may be enough for them to make proper decisions about human capital.
As Glózer – Gelei [2011] emphasize, offering normative suggestions is not far from functional research, even if many researchers tend to misunderstand this point, and limit their functional research to descriptive analysis only.

Finally, as a result of the intangible character of human capital and the practical challenges of its performance measurement and management, besides a clearly functional perspective this research may need to consider several theoretical aspects that have a potential impact on the approach and findings of this research:

- Although this research focuses on the leadership style of senior management as the key influencing factor of the integration of human capital into SPM systems, other contingencies – such as market conditions, strategy, size, organizational structure and processes, as well as the other key stakeholders – may also have a crucial impact on the perceived relevance of human capital information as a part of the strategic performance management cycle. These additional dynamic contextual factors\(^\text{13}\) should be analyzed or kept ceteris paribus during the research.

- Moreover, since the role of leaders and leadership are analyzed in this research, we implicitly assume that their impact on the interpretation and relevance of human capital is significant. Accordingly, in order to understand the role of leadership in terms of how human capital is integrated into SPM, and to derive valid hypotheses, it seems useful to understand the importance and meaning of human capital and the role of leadership in a properly selected organization first, before testing hypotheses on a broader sample. Through this first ‘implicitly interpretative’ and mostly qualitative phase of research, the main influencing factors can be tested on a sample to determine if they are relevant and practical.

- Last but not least, since integrating human capital information into strategic performance management systems probably makes demands on time and effort in terms of data-gathering, analysis and managerial reviews, the transactional costs of human capital measurement may be impactful in terms of whether findings are integrated into strategic performance management systems, even if the leadership is supportive in general.

As mentioned and illustrated above, this thesis and research model have been developed on the basis of a functional paradigmical position. The thesis and research focus on the level of human capital information that is integrated into strategic performance management systems, with a focus on leadership style as the most crucial

\(^{13}\) See for instance Ginzberg [1980].
contextual factor of SPM implementation and change. From this perspective, contingency theory seems to be the most similar organizational theory, although the incorporation of perspectives such as the role of transactional costs may provide us with interesting information and results.

The next chapter provides an overview of the approach and methodology that was applied in the research.

Before doing this, I would like to raise the following points regarding the theoretical background and the method of implementation of the research:

- This thesis is mainly built on a functional research approach and paradigm, and mainly focuses on the role of leadership and leadership style as the key contingency factors behind the integration of human capital to SPM.
- The research concentrates on the corporate level only in terms of strategy execution and the SPM tools, processes and methods that support senior management in implementing corporate strategy. The definition, functions, components and processes of a corporate strategic performance management (SPM) system are introduced and described in Chapter 2.
- As a result of this corporate-level focus, the research thus analyzes the role and impact of leadership and leadership style at a corporate level. The author concentrates on examining the impact of senior management, but also takes into account the most important additional key management stakeholders such as managers of HR, controlling and IT. The overall terminology of leadership and the selected leadership models applied in this thesis are described in Chapter 3.
- This research concentrates on human capital as a key component of intangible strategic resources or intellectual capital. The role of human capital and intangibles in corporate value creation and strategic performance has been discussed intensively over the last three decades. Chapter 4 contains a structured literature review of the intellectual capital management approach, with a focus on human capital and its relevance in terms of strategic performance management.
- The research employs a maturity-based research model based on the level of integration of human capital information into specific strategic performance management components and processes. The specific research model and the most significant results from directly relevant research studies are described in Chapter 5.
- The empirical research is implemented in a two-step process which ensures its validity, reliability and timeliness. The empirical research plan is summarized in Chapter 6.
This thesis and research model build on a comprehensive and structured literature review. The list of references closes this thesis proposal, as the requirements of such a document require.

Figure 3 illustrates the overall structure of this document, with a focus on the main content, function and connectivity of the different chapters:

1.3.2 Research approach and methodology

The research approach used in this thesis was developed based on integrated research methodology in alignment with the basic theoretical position and paradigm of the author, as well as alignment with the traditions followed at the Budapest Research Centre for Performance Management, and Institute of Management, both operating under the umbrella of Corvinus University of Budapest. The thesis builds on methodological triangulation to create better understanding and analysis of the research questions, and to provide comprehensive results with potentially relevant practical implications (see for example Babbie [2001]).

The following chart (Figure 4) illustrates the overall research approach and methodologies used in this thesis. At this point, the main goal is to clarify the function of each pillar by illustrating why the specific methodology was selected, and to describe its main function in terms of the research objectives and research model.
The detailed research model and empirical research plan are described in later chapters: first, the overall research model is detailed on the basis of a structured literature review (Chapter 5), then the operative plan for the empirical research follows (Chapter 6).

Regarding the overall research methodology and approach, the following main points should be highlighted:

**Structured literature review.** In alignment with the main research question of this thesis, the structured literature review focuses on mainstream scholars, management studies and research findings which are relevant to the three main components of the research model:

1. First, the main terminological reference will be clarified: ‘Strategic Performance Management (SPM).’ Since one of the pillars of the research was to analyze how organizations integrate human capital into SPM practices, this section provides us with a brief but structured overview of the main definitions, functions, components and processes of a corporate strategic performance measurement and management system, including details about key stakeholders and typical challenges of SPM implementation. This section is based on the English- and German-language literature, as well as the most relevant Hungarian work in this area. Since the scope of the thesis is corporate-level strategy execution, Chapter 2 also focuses on the tools and terminology used most often in a corporate-level SPM system.

2. Second, I briefly review the most significant models from the leadership literature. The presented models are selected based on their practical relevance and

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**Figure 4 – Overall research approach and methodology**

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timelines in terms of the practical research model on intangible strategic resources and human capital, and their integration into strategic performance management systems.

3. Finally, the last chapter of the literature review focuses on the core of the research: it first comprehensively explains why the performance measurement of human capital is relevant, and how the role of intangibles has intensified in strategic performance and value creation. Chapter 4 describes the main classifications, objectives, measurement and management tools, and practical challenges regarding intellectual capital measurement, and human capital. The chapter also clarifies the specific definitions used in this thesis. The English and German sources described in this chapter are derived from all over the globe, while the findings of Hungarian scholars most commonly referred to are presented as well.

**Qualitative analysis.** The main role of the phase of qualitative analysis in this thesis is to test and refine the research model and hypotheses derived from the literature review, and from the structured analysis of previous research results related to the main research question.

During the longitudinal analysis of a selected knowledge-intensive case study organization, the key stakeholders and managers of the firm, and focus group sessions will be held to properly incorporate the feedback, perceptions and interpretations of all (mostly internal) stakeholders, or affected employees of the organization.

The case study analysis at the organizations started in 2008, and two main rounds of analysis are already complete. The results of those previous cycles are utilized during the development of this thesis proposal and the research model described in Chapter 5. The third round of analysis during the empirical research period of this thesis will be utilized to double-check if the previous motivations and patterns still hold valid, or whether any kind of update or change is necessary in the research model or hypotheses. As a result that the senior management of the case study organization has changed since the last round of analysis, this research round to be implemented in the frame of this thesis may provide us with additional and relevant insights regarding the role of leadership in human capital measurement, from the perspective of a different leadership style as well.

As a result of the qualitative analysis, the research model and hypotheses may be tested and refined, as needed.
Quantitative analysis. The main function of this methodological pillar is to test which of the refined hypotheses is valid for a broader sample, but with a focus on knowledge intensive organizations.

Since one of the main objectives is to generate relevant and practical findings with implications for scholars, consultants and leaders, this survey-based phase is useful for increasing the likelihood of obtaining generalizable results which may be applied to a sample of organizations.

According to the research plan, the target group of the survey is the member organizations of the Hungarian Association of People Management (OHE)\(^{14}\), a professional organization established to initiate and coordinate experience and knowledge sharing regarding human resources management practices in Hungary. As a part of this, the OHE publishes a variety of studies regarding the best practices in personnel and human resource management. In addition, the association regularly organizes professional conferences and knowledge-sharing workshops for its more than 100 members and networks with around 1500 organizations from many different industries and sectors. The OHE also conducts various research projects with a focus on the key HR trends and practices in Hungary, and introduces new trends from around the world as well as providing expert support in almost all areas of HR management – including HR controlling, knowledge management, and HR project management.

As a result of the human capital orientation and broad membership of OHE, its members represent a good sample for the quantitative phase of research. During this phase, a homogenous sample will be created inside the OHE group of organizations with a focus on the knowledge-intensive sector. However, as a control group findings from organizations from more so-called traditional sectors will provide interesting and useful feedback about the research question and hypotheses.

The target group of the quantitative research is top managers and additional key stakeholders the sample organizations, as described in the detailed research model and empirical research plan in Chapters 5 and 6.

The three main methodological pillars were selected in alignment with the functional paradigm and the main objectives and questions earlier described in this thesis. During the development of the specific research model and empirical research plan, the results of a structured literature review are built on and the basic principles of social research are applied (see, for instance, Babbie [2011]).

\(^{14}\) OHE, [http://www.ohe.hu/](http://www.ohe.hu/)
As mentioned at the beginning of this chapter, for more detail about the specific research model, please refer to Chapter 5. The empirical research plan is described in Chapter 6.

Before going on to the detail of the thesis, I would hereby like to thank my colleagues for their support during my thesis research and writing journey.

Primarily, I would like to acknowledge and state my appreciation for the many deep discussions with colleagues at the Institute of Management at Corvinus University of Budapest:

Special thanks go to Dr. Viktória Bodnár, Dr. Dávid Dankó, and Dr. László Lázár for stimulating my original interest in the role of intangibles in performance measurement and management, and mentoring me during the whole process from my first days at the Budapest Performance Management Research Center. Without our joint research projects and conference papers, this thesis would not have been developed and prepared in the form it is now in.

In addition, the contribution of the following colleagues should also be emphasized: Dr. Miklós Dobák, Dr. György Drótos, Dr. Tamás Tirnitz and Dr. Norbert Kiss from the Institute of Management, as well as my best friend and Ph.D. candidate from Vienna University of Economics and Business, Nóra Szűcs. Your professional but challenging working attitude, as well as our conversations and various projects together, accelerated my learning curve so much during the last few years. Thank you for challenging and supporting me at the same time.

Finally, from a practical perspective, István Radó, Izabella Zábrák, Tobias Kern, Frank Weise and Dr. Tim Wolf – I hereby thank you for your valuable contributions. Without the still ongoing 10-year collaboration with you at one most well-acknowledged international consulting firms in management control, as well as strategy and performance management, the practical aspects of this thesis would be much less well-grounded and reasonable.
2. Strategic performance management system – A managerial toolset for supporting strategy execution

Since the scope of this research concerns the integration of human capital information into corporate strategic performance management (SPM), this chapter aims to introduce the basic terminology applied for strategic performance measurement and management in this thesis. During this, it concentrates on the main functions and components of a SPM system as a managerial toolset to support senior management in executing the corporate strategy. As recognized scholars emphasize, performance measurement and management is a topic that is often discussed but rarely defined (Neely et al. [2002]). During this brief overview of the relevant terminology of strategic performance measurement and management then, I do not aim to comprehensively introduce the extensive literature on the topic. However, I focus and select the most recognized SPM definitions to be applied as a research framework in this thesis when analyzing the presence and method of the utilization of human capital information – and key performance indicators – in strategic performance measurement and management.

Before going into the details, as a researcher who is focusing on management control (controlling) and performance management practices, I should highlight that this thesis concentrates now on strategic-level performance management (or strategic control): specifically, on those performance measurement tools, processes and system components which are designed to support senior managers to execute corporate strategy. Additional elements of a corporate performance measurement system, such as tools in management (mid-term, tactical) control or the processes that focus on operational (short-term, task) control15 are outside the scope of this thesis. The focus is then on the SPM components at a corporate level, and topics relating to the tactical or operational level – such as how strategic human capital information and measurement tools are connected to the more operational levels and how human capital is captured during strategy cascading processes, or how it is integrated into operational performance measurement tools and methods – could be a following phase of research but are outside the scope of this one.

This section has been designed and developed through referring to the author’s practical experience and a literature review of recognized international and local

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15 For the differentiation between strategic, management and operational planning and control, see the next chapter, and in more detail (amongst others) Anthony et al. [1992], Bodnár [1999], Horváth & Partners [2008] or Anthony – Govindarajan [2009].
scholars, with an older or more recent focus on performance measurement and management practices.

2.1 Strategic control and strategic performance management – Main functions and definition

Strategic performance management systems play an important role in 21st century organizations, since they are designed and implemented in order to provide the necessary information about the status of strategy execution to senior managers. Their *measurement* dimension illustrates the process of quantifying the efficiency and effectiveness impact of past actions, while the *management* part captures those activities which focus on defining and recommending activities that will bridge the gaps between the planned and actual performance of the firm. As a part of performance measurement, organizations normally define and implement a tailor-made set of performance measures (other words, key performance indicators, or KPIs), which are analyzed through a structured and regular reporting and review process to support managerial decisions (based on, for instance, Kaplan – Norton [1992], Bodnár [2005], Anthony – Govindarajan [2009]). Which specific indicators are designed, implemented and utilized, as well as the choice of governance model behind SPM systems and their processes, depends on the context, strategy and structure of the organization, as well as on the leadership style and strategic performance information needs defined by the senior managers and leaders.

Besides being implemented for the purposes of performance measurement, strategic control and a practically implemented SPM system are to be considered as a specific management function in an organization. As a management function, strategic performance management is to enable the corporate management to make informed decisions and define actions that the organization should take based on a quantification process of performance dimensions and a set of criteria for effective and efficient strategy execution. This quantification process consists both acquisition, collation, sorting, analysis and interpretation of appropriate data (Neely [2002]).

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16 According to the Oxford Dictionary [2017], performance is ‘how a task or operation seen in terms of how successfully it is performed’; i.e. implemented or done. From the perspective of this thesis, performance refers to the how successfully strategic objectives are executed in terms of targets achievement (in terms of KPIs in most cases).

17 An SPM system is considered in this thesis as the set of practical management tools and processes for implementing strategic control in an organization.

18 For the terminology regarding effectiveness and efficiency, see, for example, Dobák – Antal [2011].
The main characteristics of such managerial tools and processes (or what is called strategic performance measurement and management system in this thesis), are very similar to what Bodnár [1999] describes as 'strategic control' according to the classic control model of Robert Anthony and his colleagues from Harvard Business School. Strategic control as a managerial function includes both the planning and reporting activities that support senior management in strategy execution. The following table (Table 2) summarizes the main dimensions of strategic control as a basis for this strategic performance measurement terminology, and by comparing strategic performance management to management and operational control, provides us with useful additional information about the scope of this thesis.

As mentioned before, the research described in this thesis focuses only on the SPM tools that are used to measure and manage strategic performance at a corporate level, and which support leadership to implement corporate strategy effectively and efficiently through the provision of appropriate information.

**Table 2 – Main characteristics of strategic control contrasted with management and operational control cycles**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Strategic control</th>
<th>Management control</th>
<th>Operational (or task) control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical decision-making situation</td>
<td>Non-structured problems</td>
<td>Semi-structured and repeating problems, with previous examples</td>
<td>Prescribed rules, and criteria</td>
</tr>
<tr>
<td></td>
<td>Many different options</td>
<td>Limited number of options</td>
<td></td>
</tr>
<tr>
<td>Time horizon</td>
<td>Long term</td>
<td>Medium</td>
<td>Short term</td>
</tr>
<tr>
<td>Nature of performance</td>
<td>Indirect, through cause-and-effect relationships</td>
<td>Partly programmable</td>
<td>Mathematical models</td>
</tr>
<tr>
<td>Measuring-ability</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td>Control/Performance measurement</td>
<td>Less formal analysis – Role of managerial interpretation is greater</td>
<td>More formal analysis</td>
<td>Following preset rules and regulations, no room for variability</td>
</tr>
<tr>
<td>process</td>
<td>Less regulated</td>
<td>Few iterations, rhythmical</td>
<td>Repeating process</td>
</tr>
<tr>
<td>Performance review and evaluation</td>
<td>Subjective and complex</td>
<td>Less complex/complicated</td>
<td>Based on clear, preset criteria</td>
</tr>
<tr>
<td></td>
<td>Impacts can sometimes be evaluated in long term</td>
<td>Minimum annual evaluation</td>
<td>Immediate evaluation</td>
</tr>
<tr>
<td>Focus</td>
<td>Long-term plans, strategy</td>
<td>Programs, projects and responsibility centers</td>
<td>Transactions</td>
</tr>
<tr>
<td>Deadlines</td>
<td>Less important, Less time pressure</td>
<td>Set deadlines</td>
<td>Strict and operative timeline</td>
</tr>
<tr>
<td>Reporting frequency</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
</tbody>
</table>

*(based on Anthony and Govindarajan, in Bodnár [1999], pp. 11. - modified)*
As defined in this thesis, strategic performance measurement and management system\textsuperscript{19} refers to a set of different measurement and management tools and processes that support senior management in executing corporate strategy and implementing strategic control in an organization. This is similar to the classic understanding of management control (Anthony – Govindarajan [2009]) or controlling (Horváth & Partners [2008]), but has some significant differences. Management control focuses on those functions and dimensions which are described in the second and third columns of Table 2 above. Since this thesis and the research place however corporate strategy, and its execution as well as strategic performance measurement at the center, the definition and the main functions of an SPM system are specified using the left-hand side of the same table: specification of corporate strategies (like a strategy map, or target setting), making these measurable (using KPIs and KPI targets) and monitoring achievements (through proper performance reporting and review processes), as well as making them important to the organization (as a result of signaling\textsuperscript{20} and/or connecting strategic performance to incentives). Accordingly, in this research these latter items are considered the main functions of a strategic performance measurement system.

From this perspective, the definition of SPM used in this thesis is similar, but has some differences to classic controlling definitions. This latter refer more to overall transparency of an organization (or a business unit), including not only strategy, but also operative business processes, as well as financial results. This financial focus may be stronger and more significant within a controlling system than with strategic performance measurement and management. In other words, the probability of use and ratio of financial and very operational indicators tends to be less in an SPM than in a management control system\textsuperscript{21}. In addition, although performance measurement and management control systems are both designed to support management in guiding and implementing corporate strategy, the toolsets and processes which are applied are also different. SPM terminology and the related managerial toolset and processes are similar

\textsuperscript{19} The term ‘system’ in management studies usually refers to a ‘management framework’ or a ‘management tool’; however, it can be also interpreted as a ‘set of processes and procedures’, or a ‘set of institutionalized rules and policies’. In addition, ‘organizational structure’, the ‘responsibilities’, or the ‘main characteristics of corporate culture’ are often components of an organizational system as well (see, for example, Bodnár [1999] or Lázár [2002]). When this thesis describes SPM systems, it refers to the key processes and components of strategic performance management. Neither the cultural or structural background of such systems, nor the specific performance management frameworks and tools implemented in an organization are the focus. From this perspective, this thesis follow a ‘tool- or framework-free’ approach: the empirical research analyzes the integration of human capital into SPM independently of the specific performance measurement and management tools implemented in the organization, but with a focus on the core processes of the SPM system. The overall structure of an SPM system is summarized in Figure 6.

\textsuperscript{20} According to behavioral scholars of management control, a performance management system sends signals only by measuring something: the related KPIs do not need to be connected to incentives (Macintosh [1994]). From this perspective, if a leader defines KPIs that measure and monitor human capital, it will be important to the actors as a result of the measurements only. Accordingly, what is measured is important in an organization, per se.

\textsuperscript{21} This is again clearer from Table 2: since strategies are less concrete things and not always focusing on financial objectives on the top (see e.g. non-profit organizations). As a result of possibly awarding non-financial objectives and KPIs the same relevance as financial indicators in a corporate strategy (or even greater from the perspective of this thesis), intangible strategic assets and human capital may be integrated into strategic performance measurement.
to the functions described in the ‘Strategic Planning’ process in IGC’s\(^\text{22}\) controlling definitions. During the research described herein, such processes of a controlling system such as classic cost accounting, risk management, project and investment controlling, as well as functional controlling and partly the operational planning functions of a controlling process model, are considered as data sources or elements of the related management information system, but not as core functions of a strategic performance measurement and management system (based on Heimel et al. [2012]).

Despite the fact that the general introduction to strategic performance measurement and strategic control could be extended\(^\text{23}\), as a result of the present focus on strategy execution, this chapter closes by offering a selection of the main functions and purposes of a strategic performance management system (based on De Waal [2013]):

- To support strategy development and execution.
- To help achieve sustainable improvements in organizational performance.
- To act as lever for change towards a more performance-oriented culture.
- To increase the motivation and commitment of employees.
- To support the development of better team cohesion and performance.
- To develop a constructive, open and transparent relationship between individual and managers.
- To enhance internal dialogue about strategic performance, and about how possible performance gaps can be diminished.
- To support planning and organization, as well as reporting and control activities.
- To reinforce management communication and rhetoric.
- To introduce performance-based remuneration schemes.
- To influence employees’ attitudes and behavior.
- To provide benchmarks and a basis for individual or organizational learning.
- To justify various investment decisions.

The author defines performance as ‘the achievement of goals and targets set by the organization’ (De Waal [2013], pp. 5.). If we apply this at a strategic level, performance is basically the level of strategy implementation (Merchant – Otley [2007]).

\(^{22}\)International Group of Controlling, [https://www.igc-controlling.org](https://www.igc-controlling.org)

\(^{23}\)For instance, strategic control is also part of the strategy management cycle, as various Hungarian scholars – such as Antal-Mokos, Barakonyi, Balaton, Bögel, Czakó, Hortoványi, Tari and Salamonné Huszti, etc. – emphasize. Since this research does not focus on strategy development but strategy execution and performance measurement, at this point more detailed discussion of these would not add real value to the thesis.
It is also worth mentioning the main functions of strategic performance management systems as defined by Robert Simons, a widely acknowledged scholar from Harvard Business School. The authors specifies *decision making, motivation, early warning, evaluation* and *external communication* as the main purposes of performance information (Simons [2002], pp. 74.).

Finally, regarding overall functions and the relationship between management control and performance management, the following chart (Figure 5) provides us with a useful summary and additional information.

![Diagram](image)

**Figure 5** – Main functions of management control / performance management systems *(based on Dankó [2008])*

The above-mentioned four functions of a management control system are clearly applicable to both strategic performance management in general, and human capital integration more specifically: an SPM system that seeks to measure human capital needs to (1) measure and monitor the performance of human capital, in order (2) to support leadership with information for their strategic decisions, as well as (3) influence the behavior of organizational members, while with its standard processes, signaling function and guidelines, it may also (4) be considered an (emotional and psychological) indication to key stakeholders that the organization is handling its strategic human resources properly and professionally.
2.2 Components and processes of corporate strategic performance management systems

De Waal [2013] defines strategic performance management as “the process in which steering of the organization takes place through the systematic definition of mission, strategy, and objectives of the organization, making these measurable through critical success factors and key performance indicators in order to be able to take corrective and preventive actions to keep the organization on track to great performance” (De Waal [2013], pp. 5). According to this approach, a strategic performance management system has six key components – or, as the author calls them, sub-processes –, as follows:

1. Strategy development – i.e. formulating strategies based on a deep understanding of vision, mission, strategy and business model, as well as the value drivers of the firm. The result is a strategic plan that incorporates the main dimensions of performance and directions of corporate strategy.
2. Budgeting and target setting – i.e. the process of specifying strategies and breaking them down to measurable key performance indicators and targets.
3. Execution and forecasting – i.e. a regular forecasting process that makes transparent whether the organization is on track during the execution of strategic objectives and actions.
4. Performance measurement – i.e. collecting, processing and distributing data and information to allow the effective execution of other sub-processes. In other words, this process refers to the activities practice calls the ‘performance reporting’ of critical success factors and key performance indicators.24
5. Performance review – i.e. a periodical managerial process of reviewing the actual situation, targets and forecasts in order to ensure that the necessary corrective or preventive decisions and actions are taken in time.
6. Incentive compensation – this process is linked to the strategic and operational activities that connect key value drivers with compensation and benefits policies in a balanced way.

In his proposed framework for performance management research, Otley [1999] describes (strategic) performance measurement and management using the following five main process components (based on Otley [1999] pp. 365-366):

1. Identification and selection of key organizational objectives and strategies,

24 Remark by the author.
2. Formulating and implementing strategies and plans, including the method of performance measurement and evaluation (incl. KPIs),
3. Setting performance targets and levels (incl. KPTs),
4. Designing the related rewards systems, and defining the implications of achieving or failing to achieve performance targets,
5. Developing and implementing the necessary information flows (feedback and feed-forward loops) to enable organizational learning and behavioral adaptation.

In a later work, Otley [2001] emphasizes three main components of a performance management system which may be framed as questions (pp. 249):

1. Decision making: what should I do?
2. Attention-directing: what should I pay attention to?
3. Scorecard: how well I am doing?

From the perspective of a practical decision-maker (or management team), these are the most important elements of any SPM system, and are even more important than the specific tools the organization provides its senior managers with to supply the necessary information to help them answer these questions properly, and to manage key success factors and performance dimensions effectively, efficiently, and within budget.

In addition to the two main classifications, Simons [2002] describes a performance management framework with reference to the following four main levers of control, according to the focus of the specific components: interactive control systems (to control strategic uncertainty), diagnostic control systems (to monitor critical strategic performance variables), a belief system (to explore new strategic ideas and opportunities), as well as a boundary system (to control or avoid risks). This model is useful for illustrating the four main dimensions of strategic control, although as a result of its generic character, it is difficult to apply it to this research directly. It may also be used when the focus is the human capital information or intangible strategic assets in SPM systems, since the four dimensions, which are important parameters, may also help define and monitor this component – i.e. uncertainty, critical factors, risks and opportunities.

Another contribution of Simon is the general input-process-output control model mentioned in his book (Simons [2002], pp. 59.). According to this, when strategic performance managers integrate human capital into an SPM system, both input, activity and output/ result-oriented indicators should be considered (this also applies to research with a focus on the measurement of human capital).
From the perspective of the research described herein, and the different components of a strategic performance management and control system, the following main systems of classification may be highlighted:

- Anthony – Govindarajan [2009] emphasize the (1) detector, (2) assessor, and (3) effector components of the performance measurement and control process. The first is to monitor performance and collect data and information, the second is to focus on making a comparison with standards (i.e. actual situation vs. plan), while the third component relates to behavioral use and communication (reporting and decisions).

- Kaplan – Norton [1996] and [2005] describes a strategic performance management system using the following components: (1) strategic objectives structured into a strategy map, (2) key performance indicators (KPIs) to specify objectives, (3) KPI targets, as well as (4) strategic actions (or initiatives). Regular reporting and review activities are also crucial parts of an SPM process, and provide management with the necessary information on all these four elements in order to support effective and efficient strategy execution.

- Neely et al. [2002] emphasize five data-related sub-processes of a performance measurement system: (1) data acquisition (i.e. gathering raw data), (2) data collation (i.e. compiling facts into integrated data sets), (3) data sorting (i.e. assigning data to performance dimensions and calculating KPIs), (4) data analysis (i.e. searching for patterns and reasons for plan vs. actual indicator values), and (5) data interpretation (i.e. explaining and communicating implications).

- Bodnár [1999] and [2005], as well as Lázár [2002] – and their colleagues – highlight (1) strategic planning, (2) mid-term planning and (3) operative planning (budgeting), as well as (4) responsibility centers, (5) management accounting and (6) reporting (including information management systems such as BI or MIS25) as the most important components of a strategic and management control system.

- Horváth & Partners [2008] define the components of a controlling system as follows: (1) strategic management and planning, (2) tactical planning, (3) operative planning or budgeting, (4) management accounting (cost and profit calculations), (5) reporting, as well as the supporting (6) management information systems, and (7) controlling organization(s).

- Heimel et al. [2012] also focus on the components of a performance measurement (or using their term, ‘controlling’) system. As a part of it supports strategy implementation and performance management, the authors emphasize the

25 BI = Business Intelligence; MIS = Management Information Systems
strategic planning process, with the following main sub-processes: (1) design of strategic planning, (2) conducting strategic analyses, (3) checking if vision and mission should be updated, (4) checking if business model should be updated, (5) deriving and updating strategies (in terms of strategic objectives), (6) defining key performance indicators and targets, (6) evaluating strategy financially (financial planning), (7) communicating and coordinating strategy to stakeholders, (8) communicating strategy to the organization, and (9) monitoring strategy implementation.

- Baroudi [2011] describes the main SPM components in his practical handbook as (1) strategic planning, (2) strategy management and monitoring, (3) strategy plan implementation and (4) strategy management automation. In his opinion, an SPM is designed to support strategy planning and execution.

- Finally, Wolf and Muratcehajic [2016] emphasize the role of an Office of Strategy Management (OSM) as an effective and efficient managerial framework for supporting managers with strategy execution. The OSM Target Operating Model describes the components of an SPM as it follows:
  - Core processes: (1) strategy development (incl. update and refresh), (2) strategy operationalization (using KPIs and KPTs), and (3) strategic initiative management,
  - Derived processes: (4) strategic planning, (5) performance reporting and review, and (6) strategic resource management, and
  - Coordinated processes: (7) mid-term planning and budgeting, (8) strategy communication and (9) project management.

Despite the fact that several additional but similar classifications of strategic performance measurement and management processes could be added to the list above (see, for instance, Bouckaert – Halligan [2008], Wimmer [2000], Csillag [2014], or Reszegi – Juhász [2014]), the overall system framework applied in this thesis for strategic performance management analysis\(^\text{26}\) has been developed based on consolidation of the above-mentioned classifications. Before going into details about the corporate SPM model used in my empirical research, the following remarks should be highlighted (see below):

- First, as Bodnár [2005] also highlights, like performance management and management control, strategic management and strategic control are connected, but are not the same concepts. In the author’s understanding, SPM is a specific

\(^{26}\) See Figure 6
set of management processes with a focus on strategy implementation, while management control is an important source of information for this. In this research, management accounting and cost and profit calculations, as key components of a management control system, are assumed to provide useful inputs for SPM systems, but are not considered core components of the SPM function. In other words, these controlling functions and activities, as well as the key stakeholders performing them are relevant information sources for an SPM system, although their roles are not counted as a core component or process of the SPM system itself (see Figure 6).

- Second, this thesis focuses on corporate strategy and strategy execution. Accordingly, systems such as strategic initiative management, strategy communication (inside or outside the organization), and project management, as well as mid-term planning and budgeting, are not considered direct processes or core components of an SPM system.

- Third, for effective and efficient human capital performance management, it is necessary that different internal functions (such as HR, controlling or IT) cooperate, although these are also not defined as core but as supporting processes of a strategic performance management system.

- Finally, and in a similar vein, the management information system (see above: MIS, BI, IT, automation) component of a performance management system (including its attributes such as IT processes, applied technology, related data, and the people who operate it) is crucial from the perspective of data availability and quality (two of the key elements of the successful integration of information into an SPM system; see, for example, Wolf – Muratcehajic [2016]). However, an MIS is only considered to be a supporting component and process in terms of strategic performance management.

Based on a structured but strongly focused review of the strategic performance management literature described above, as well as based on the remarks in the last section, the following overall framework (Figure 6) has been developed and will be used in this research to analyze strategic performance measurement, management processes, and system components regarding the level of integration of human capital performance information. Figure 6 provides further information about how strategic performance management systems, and its key processes or components are defined in the research.
As Figure 6 illustrates, a strategic performance measurement and management (SPM) system consists of six core processes, as follows:

1. **Strategy formulation** concerns describing and translating the content of the corporate vision, mission and strategy into proper strategic objectives. According to the definitions of management control and performance management (see earlier), development of the vision, mission and strategy are input factors for an SPM cycle: the main goal of SPM is to make strategic objectives specific and measurable, to support strategy execution. Of course, an SPM system serves as an important information source for refreshing or updating strategy development; however, developing, refreshing or updating a strategy is the task and function of senior management and leadership. Management develops strategy, while SPM is a tool that supports managerial achievement of targets and execution of strategy.

2. **Strategy operationalization** is the process of making strategy measurable and specific by breaking it down to specific KPIs selected for each strategic objective.

3. **Target setting and budgeting** focus on defining target value for the key performance indicators.

4. **Performance measurement** is practically a periodic monitoring and reporting process by which the necessary data is collected and processed. In an optimal case, KPIs, strategic initiatives or activities and strategic projects are covered by this component. Both quantitative and qualitative measurement is typical, based on the character of the specific measures.

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27 Of course, an SPM system serves as an important information source for refreshing or updating strategy development; however, developing, refreshing or updating a strategy is the task and function of senior management and leadership. Management develops strategy, while SPM is a tool that supports managerial achievement of targets and execution of strategy.
5. Performance review refers to how senior management discuss performance reports and decide on any necessary action. This should be a periodic activity, aligned with performance measurement.

6. Incentive compensation describes the responsibilities and the linkage between strategic performance and the corporate incentive policies and reward system. In many organizations, managers’ bonuses are partly or fully connected to strategic KPI values and target achievement in order to increase the stress that is placed on effective strategy execution.28

In addition to the core processes of a corporate SPM (described above), two supporting components that significantly impact the research should also be mentioned: the integration of human capital information into strategic performance management – besides the role of the leader – also depends on a variety of other factors, including data availability and the level of cooperation inside the organization. These two supporting components – information flows and MIS29, and collaboration with the most relevant supporting functions (such as HR, Controlling and IT) should be emphasized from the chart, as well as the key supporting processes of an SPM system.

2.3 Factors that typically influence SPM implementation and change

As Chapter 2.1 and 2.2 briefly summarized, a strategic performance measurement and management system is defined and will be analyzed according to six core and two supporting processes (see Figure 6). Before introducing however the terminology used for leadership and human capital, as the other key components of the research model applied in this thesis, it is important to highlight that – based on the author’s own experience and the findings of various studies – implementing and operating an SPM system is not easy, as a result of different organizational and behavioral influencing factors. Even if we exclude the fact that measuring human capital is challenging as a result of its intangible character (see Chapters 4.3 and 4.4.), more generic trends and impulses should be taken into account which may have a significant hindering or blocking impact on the successful implementation of an SPM.

28 There is ongoing discussion amongst scholars and practical managers about whether it is functional to link strategic performance to incentive compensation, or if the behavioral risks and negative impacts exceed the benefits. Pros and cons can be defined depending on the nature of SPM implementation and various additional organizational and behavioral factors (see, for instance, Govindarajan – Gupta [1985], Kelly – Pratt [1992], Macintosh [1994], Riahi-Belkaoui [2002], or Harangozó [2007]).

29 Management Information System.
This chapter describes a few of the related studies and pieces of research: as may be admitted, the role of the leader and leadership is one of the most crucial influencing factors of successful performance management implementation and change\(^30\) (see in addition to the models below, Ginzberg [1980], Kaplan – Norton [1998] or Bodnár et al. [2009a]).

As the selected research studies already highlight, even a professionally designed SPM system and a perfectly managed introductory process cannot always guarantee success. If the change is not sponsored by senior leadership, or organizational and behavioral factors are not aligned (such as corporate culture, internal capabilities and resources or technologies), as well as when the credibility of the experts or management team who are involved, or the overall motivation for the performance management change is low, the risk of creating an ineffective, inefficient or unsuccessful strategic performance management system is significant (see Gabris [1986] or Kennerley – Neely [2002]). In other words, although the positive drivers of SPM system change (e.g. the desire to integrate human capital information) may emerge from different external or internal sources, if many of the above-mentioned behavioral factors are indicated, the probability of SPM failure is significant.

According to Pandey, for example, the success or failure of strategic performance measurement implementation depends on the following organizational prerequisites (Pandey [2005]):

- Top management commitment and support;
- Ability to determine critical success factors (objectives);
- Translation of critical factors into measurable objectives and measures (metrics);
- Linking of performance measures to rewards;
- Installation of a simple monitoring and tracking system;
- Setting up a sound communication system to harness the advantages of the system inside the organization;
- Enhancement of allocation of resources, and linking of strategic planning and budgeting to new performance management system.

As Pandey highlights in his study, focusing on intangibles and intellectual capital is one of the most important motives for changes in strategic performance management. Other important goals of SPM implementation/ changes may include enhancing the focus on non-financial dimensions, creating a better understanding of strategy inside the organization.

\(^{30}\) If an organization or leader modifies the SPM by adding/integrating information regarding human capital, this most probably can be considered a SPM change, unless a completely new system is introduced to capture human capital performance (e.g. the HR Scorecard). Even in this latter case, several change factors need to be managed and handled consciously.
organization, linking strategy to day-to-day operations, or the introduction of professional
tools and practices for performance review and feedback.

Islam and Kellermans classify influences on successful SPM implementation into
two groups (Islam – Kellermans [2006]):

- Organizational factors, including elements such as norms/pressure from
customers or competitors, and the availability of necessary organizational
resources.
- Individual-level factors such as perceived ease of use, perceived usefulness, or
the management’s awareness and intentions to use the SPM system – all these
may play a crucial role in success.

As the two authors state, both socio-psychological, economic and resource-based
factors can significantly influence SPM systems, and cause them to deviate from their
original goals and functions.

In his model, De Waal specifies and highlights the following – mostly behavioral –
factors with a significant role in increasing the probability of any successful strategic
performance management system implementation and change (De Waal [2004]):

- Good understanding of organizational members regarding the goals of the
strategic performance management system;
- Positive attitude of organizational members towards performance management;
- The SPM system is aligned with the responsibilities of employees;
- Existence of a performance and development-oriented organizational culture;
- Clear leadership focus on performance management.

In addition to these generic situational factors, De Waal also provides us with a list
of concrete leadership-related elements which have a significant influence on the
success of strategic performance management systems. The author claims that the
following leadership-related attributes have a relevant impact on an SPM
implementation: Accountability, Appropriate leadership style, Action-oriented
communication, Integrity, Ability to lead, Content, and the Aligned division of
responsibilities.

According to Ittner, Larcker and Meyer, two main factors influence the likelihood of
successful SPM implementation. A successful SPM implementation or change is more
probable, if (1) the perceived subjectivity of measurement is low; and, (2) perceived
ability of the system to measure performance (trust in metrics) is high (Ittner et al. [2003]).
Finally, in his integrated model on management accounting change, Kasurinen classifies different influences on the activation level of an SPM system into two categories. Amongst the positive prerequisites (or drivers) we find motivators, facilitators, catalysts, momentum and leaders of change. The typical barriers are the following (Kasurinen [2002]31):

- Confusers – such as uncertainty or different views about change;
- Frustrators – for instance, preexisting SPM systems, or the preexisting organizational structure.
- Delayers – such as a lack of a clear-cut SPM strategy, or inadequate information systems.

If senior management seeks to strengthen the strategy orientation and functionality of the performance management system and does not want to be faced with significant challenges or delays, it has to create a positive atmosphere and consciously handle barriers to SPM change.

As this chapter shows, the implementation, operation and change of a strategic performance management system in an organization usually does not and will not occur without the proper organizational and behavioral background in which senior management and its leadership style play a crucial and influential role32. It is not hard to recognize that almost all of the above-mentioned scholars and studies highlight the crucial role of leadership in any SPM introduction or change (see the italicized components from each lists of influencing factors above). The relevance and validity of this claim and leadership’s impact will be tested during the empirical research, in terms of the human capital’s performance measurement and management, and its integration into a corporate SPM system (see the detailed research model in Chapters 5 and 6).

31 Kasurinen [2002] developed his model by analyzing and consolidating previous research from scholars such as Argyris and Kaplan, Innes and Mitchell, Cobb, Shields, Brooks and Bate, Scapens and Roberts, and Strebel.
32 Leadership related influencing factors are emphasized with italic in the different classifications above.
3. Leadership and leadership style – Important influencing factors on strategic performance management

As illustrated at the end of the last chapter, leaders and leadership practices are amongst the most significant influencing factors of SPM implementation in terms of both success, key attributes and processes, as well as overall content and the focus of an SPM system. In other words, and relating to the scope of the research, if senior management and leadership are interested in using performance information about human capital, and if they support human capital performance measurement and its integration into strategic performance management, the probability of finding relevant managerial information in an SPM system – in terms of strategic objectives, key performance indicators, targets, strategic projects and others – is higher than without leadership interest. This is why analysis of the impacts and connections between the key attributes of leadership (see later), and the availability of human capital information in different SPM processes is the scope of this thesis and research (see Chapters 1 and 5).  

In order to introduce the terminology of leadership as a key component of the research model, this chapter gives a brief and structured overview of the most relevant leadership literature and provides a relevant but focused understanding of leadership as well as introduces the most significant leadership classifications based on their applicability and added value to the research model. Although underlying the research is a focus on how specific leadership styles and role models potentially influence strategic performance measurement and management, as well as how human capital information is integrated into an SPM system, a fully comprehensive organizational behavioral overview of leadership literature is not provided, but rather a suitable definition of leadership, and a selection of the most relevant leadership models/classifications of leadership style that are applied in this research.

Before going into detail, few remarks need to be presented regarding the terminology used in this thesis:

- This research focuses on the role and impact of senior management and its leadership style. As ‘senior management’ thesis refers to people or groups of

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33 As mentioned before, even if the leader is supportive for human capital measurement and SPM integration, various organizational or contextual barriers can arise, from the missing KPI data, changing internal focus and such contextual challenges like the global financial crisis on various sectors in the second part of the 2000s (see for instance Bodnár et al [2009a] and [2010], or Harangozó et al [2010]).

34 For such a comprehensive overview, I suggest taking a detailed look at the classic organizational behavioral handbooks and studies which were the basis for this chapter.
people assigned to the ‘formal’ top managerial positions of the organization. The position of ‘top manager’ refers to the overall head of the organization, or a management team in the highest hierarchical level of the organization only. (This is a result of the corporate level focus of this thesis).

- Leadership is the role that senior management takes, and the style of ‘leading’ the organization. This chapter defines the basic terminology applied in this research.
- Although the research concentrates on top management (as formal leaders – see later), several additional key stakeholders and functional units should be taken into account as a result of their impact and relevance regarding human capital performance measurement. Chapter 3.3 lists these stakeholders, illustrates their impact as relevant leaders, and describes how their impact may potentially be incorporated.
- In addition, the role of informal leaders should also be indirectly considered as a result of their potentially relevant impact (see Chapter 3.3). Nevertheless, the research described in this thesis focuses on formal leaders, as the previous point also underlines.

3.1 The role of the leader and leadership in organizations

As well-recognized organizational behavior (OB) scholars emphasize, although it is a critical determinant of organizational effectiveness, and it is easy to recognize a leader when you see one in action, coming up with a specific definition of leadership is difficult (Huczynski – Buchanan [2013]). Even researchers often disagree about which characteristics best describe leadership, although both the influence and the effectiveness of leadership have a significant impact on an organization and are discussed in most cases. The term ‘influence’ captures how well leaders are able to influence and control organizational members, while ‘effectiveness’ means the ability a group or an organization has to achieve their goals (George – Jones [2012]). From this perspective, leadership can be defined as ‘the capability of an individual to exercise influence and control over the other members to help a group or organization to achieve its goals’ (pp 365.). As a leader, the ‘individual’ should be considered in the light of the above-mentioned definition: leaders influence and control the people who directly report or are connected to them, and their effectiveness needs to be evaluated in terms of whether organizational goals are achieved.

As a result of their ability to influence organizations, George and Jones also differentiate between formal and informal leaders. This approach is useful from the
perspective of this research: the analysis of whether formal leaders – i.e. members who are formally authorized to influence others –, or informal leaders – i.e. members with no formal authority, but as a result of their special skills or talents exert considerable influence – both have significant impact on the integration of human capital into SPM. Although this research is focused on the role of formal leaders, consideration of the presence and potential impact of informal leaders during later phases of the research may provide us with additional perspective (see Chapter 3.3).

As performance is understood in the research and SPM research generally as the ‘achievement of corporate strategic objectives’ (see Chapters 2 and 4), this definition of leadership from George and Jones is appropriate for meeting the main research objectives and is applied throughout. If an effective leader’s role is to achieve corporate goals, the integration of human capital into strategic performance management (a management tool which supports the implementation of corporate strategy) would seem to be an absolutely integral component of this, especially if we accept that intangible strategic resources and human capital have a critical impact on strategy execution (see Chapter 4).

However, since various well-recognized OB experts also describe leadership as one of most complex and difficult-to-define concepts of organizational behavior, before selecting from the best available leadership classifications or models for use as a basis for analyzing how leadership styles impact SPM systems regarding human capital, a few remarks are included below to illustrate the role and main characteristics of leadership. These additional points help with understanding the main practical characteristics of leadership, and also illustrate the developmental history of the topic.

Based on an analysis of various definitions, Pettinger, for instance, argues that although in the literature many different definitions are available, there are certain key elements which may be emphasized as the practical components of leadership. A leader practically focuses on the following main activities (Pettinger [1996] pp. 241-242):

- Getting things done through people;
- Creating and operating effective means of communication;
- Resolving conflicts;
- Creating directions for the organization;
- Organizing resources in support of the above-mentioned tasks;
- Coping with change and uncertainty.

In the author’s opinion, a leader has to place emphasis on:

- Getting key colleagues (and individuals/systems more generally) to optimally perform;
• Ensuring continuity, development and the improvement of work;
• Managing skills and capabilities;
• Fostering continuous improvement in all areas of the working environment, and providing opportunities for continuous development;
• Motivating and encouraging staff, and promoting positive and productive working relations.

As we can see from the list above, many of the key tasks and priorities affect how performance and innovation are handled in the organization. If we consider human capital to be one of the key sources of both, a leader needs to place emphasis on managing its human capital performance professionally and consciously, and operating management tools and processes which will promote this in an effective and efficient way.  

This activity and process-based character of leadership is emphasized by Huczynski and Buchanan, amongst others, who define leadership as ‘process of influencing the activities of an organized group in its efforts toward goal setting and goal achievement’ (Huczynski – Buchanan [2001], pp. 702). The most relevant added value of this definition to the research is that it concerns not only the achievement of corporate goals, but also target-setting as one of the activities that may be influenced by leaders. With regard to the research, this is connected to the first two pillars of a strategic performance management system: strategy formulation and operationalization.

According to Bakacsi, one of the most well-recognized and referenced Hungarian authors in organizational behavior studies, it is hard to define ‘leadership’ not only because of its intangible characteristics, but also because of the variety of terminology available in the literature regarding ‘leading’ and ‘management’. Bakacsi states that the term ‘leadership’ refers to a behavioral category, but has components related to the style, role and functions of leaders. Accordingly, when analyzing leadership we must consider these dimensions simultaneously. In other words, the practical meaning of leadership is a combination of different activities/behaviors, leadership styles, and different managerial roles and functions. The balance or weighting of these different components always depends on the specific organization, leader and context, as well as on the perspective of the researcher. As the author also highlights after a review of the history of organizational behavioral studies, the main focus and the meaning of leadership not only depend on perspective, but change from time to time.

35 Considering their core functions and processes, SPM systems can theoretically be appropriate bases or tools for this purpose.
through the timeline of leadership history (Bakacsi [2004], but see amongst others George – Jones [2012]) or Huczynski – Buchanan [2013]).

Based on the analysis of the leadership literature, and the authors mentioned in this chapter so far, it is now possible to offer a comprehensive overview of the main phases of leadership literature, and the different dimensions or focal points of leadership analysis:

Classic management studies such as those by Fayol and Taylor focused on formal management structures and mechanisms such as the division of work and authority, or regulation. From this perspective, most scholars do not count such efforts as ‘real’ leadership models and studies, at least in terms of the absence of a ‘soft’ behavioral component.

The first ‘real’ leadership studies were published during the 1940-50s, with a focus on the personality traits of the leader. From this point of view, personal characteristics such as intelligence, task-relevant knowledge, dominance, self-confidence, tolerance for stress, emotional maturity, or the integrity and honesty of the leader play a crucial role in the effectiveness and operation of a leader. According to these theories, there is an optimal combination of personal traits and attributes, and the most effective leaders should be selected – or developed, if possible – accordingly.

The next generation of leadership literature focused on the behavior or style of leaders. These so-called ‘behavioral trait’ models tend to analyze what leaders actually do, and what the specific behavioral characteristics are which help a leader to effectively achieve organizational goals and optimally influence other members of an organization. Widely applied leadership models are derived from this period – such as Lewin’s classic autocratic-democratic-laissez faire leadership model, or Likert’s model (University of Michigan) – which introduced job-centered versus employee-centered behavioral dimensions, while the so-called ‘leadership development grid’ was established by researchers at Ohio State University. The latter describes four leadership styles – (1) exploitative autocratic, (2) benevolent authoritative, (3) participative, (4) democratic – based on two behavioral dimensions, namely ‘consideration’ and ‘initiating structure’.

An additional and commonly referred to model is Blake and Mouton’s grid model: this is based on two very similar dimensions from which five different leadership styles are defined of which ‘team management’ is the most effective as a result of a strong leadership focus on production and employees at the same time.

36 ‘Consideration’ is a pattern of sensitivity to relationships and the social needs of employees, while ‘initiating structure’ emphasizes performance and the achievement of goals. For more detail, see (for instance) Hellriegel – Slocum [2006], George – Jones [2012], or Huczynski – Buchanan [2013].
Both the Michigan and Ohio perspectives offer leaders a ‘one best way’ leadership style through the adoption of ‘high consideration – high structure’ as the ideal combination. The main critique of these models is the observation that no single style of leadership can be effective in all circumstances. This has led to the next generation of leadership models; namely, contingency theories of leadership. According to these models, in different circumstances different styles of leadership can be effective and efficient. Into this category are classified models such as Vroom and Yetton’s normative leadership model, Fiedler’s LPC-based\(^{37}\) contingency theory of leadership, and the widely used model of Hersey and Blanchard. This latter model proposes the existence of four different leadership styles – (1) telling, (2) selling, (3) participating and (4) delegating – to be selected according to the level of maturity of followers. The two behavioral dimensions in this model are the task- and relationship-orientation of leaders.

Since around the turn of the millennium, additional leadership trends and concepts have come to the fore of leadership discussions and literature:

- Recognition of the role of heroic, powerful, charismatic, visionary leaders, and the role of informal leadership at all levels.
- Differentiation between transactional and transformational leadership. Leaders with the first leadership style see their relationships with followers in terms of trades, swaps and bargains, in which the most important factor is to reward/compensate followers for their work. Transformational leaders are charismatic individuals who inspire and motivate followers to go ‘beyond the contract’.
- (Re-)recognizing the practical relevance of those leadership models which focus on the different roles and functions of leaders, Kotter’s leadership vs. management, and Mintzberg’s role-based model illustrate this trend, and may offer useful perspectives for the research as well.
- Emphasizing the need for change management knowledge and skills at all levels of the organization.
- Emphasis on the significance of emotions and emotional leadership as a key (hidden) factor behind high performance. Goleman’s six leadership styles – (1) coercive or commanding, (2) authoritative or visionary, (3) affiliative, (4) democratic, (5) pacesetting, (6) coaching\(^{38}\) – are important in terms of the research, since it provides a consolidated view of the previous models, and the model was

\(^{37}\) The least preferred coworker test consists of 18 questions and is used by leaders to assess themselves and develop their leadership towards a more task- or relationship-oriented approach.

\(^{38}\) See more detail in Goleman [2000] and Chapter 3.2.
built based on a quantitative research, with a focus exactly on the relationship between leadership style and performance.

Before proceeding to the next chapter and describing the main leadership models that are of significant relevance to this research and will be applied during the empirical research on the integration of human capital into SPM, there are at least two main additional issues that should be mentioned at this point. Both of them argue that analysis of the connection and impact of leadership onto strategic performance management is relevant:

Besides being one of the most critical influencing factors behind performance measurement and management implementation and change, *leadership itself can also be one of the most valuable strategic resources in an organization*. According to research using a sample of almost 500 investment and portfolio managers from across various industries, 28.4% of the responses assessed ‘Quality of leadership’ as being extremely important in terms of the value of the firm. Only firm performance and industry favorableness were considered to be more important than leadership. In other words, appropriate leadership creates confidence not only in the organization itself, but also reassures financing partners. Ulrich’s book and the aforementioned piece of research also confirm that leadership which keeps its promises, creates a clear and compelling strategy, aligns core competences and builds the necessary organizational capabilities for executing strategy, has a significant impact on the organization and the probability of high strategic performance (based on Ulrich [2015]). This study reemphasizes the fact that leadership has an important impact on organizations and on how performance is measured, managed and perceived at the same time.

In addition to these factors, as a result of discussions with a leadership ‘dream team’, Liu [2010] highlights the following as being of importance:

- Leadership is about activity, not positions. Even if research is focused on ‘formal’ leaders, it may be important to identify if there are any informal leaders, and what their impact is on the of integration human capital into strategic performance management systems.

- There are eight disciplines which have a significant positive impact on the effectiveness of leadership. In the author’s opinion, an effective leader needs (1) to be connected with people, (2) to learn from failure, (3) to reflect on experience, (4) to think deeply, (5) to tell stories, and (6) to be a teacher as needed, (7) to know him or herself, as well as (8) to become and stay him or herself (namely, follow established patterns). These may be important factors in the analysis of leadership which supports or has a positive impact on the integration of human capital into
SPM. A leader with less movement, less popularity, less of a practice-orientation or less of a forward-looking attitude may require and use less information about intangible strategic resources than a leader with the opposite characteristics.

These latter points highlight what has been mentioned in the introduction to this chapter: even if the research described herein focuses on the role of formal leadership (i.e. senior management and the heads of the key connected functional units), the potential impact of informal leaders should not be disregarded.

3.2 Selected leadership models, with a special focus on the integration of human capital into strategic performance management

The role and impact of leaders and leadership on corporate performance and the way performance measurement works are topics which were discussed in leadership theory from the start. Lewin’s studies analyzed how an autocratic or democratic leader handles managerial information, and how this impacts results. According to this author’s findings, although performance is higher in the case of an autocratic leader, information-sharing, as well as the satisfaction and motivation of a team, is higher not only in the case of democratic but laissez faire leadership (Bakacsi [2004]).

The main characteristics of the three leadership styles defined in Lewin’s model are summarized in Table 3 below.

Table 3 – Leadership styles according to Lewin’s classic model

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Autocratic</th>
<th>Democratic</th>
<th>‘Laissez faire’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decision making</td>
<td>By leader for all important issues</td>
<td>By group, after discussions have been supported by leader</td>
<td>‘Free’ individual or group decisions, with no participation of leader</td>
</tr>
<tr>
<td>Execution</td>
<td>First steps initiated and led by leader directly</td>
<td>Perspectives defined by group; leader’s role is to provide alternatives</td>
<td>Leader provides resources but stays away from problem solving and discussions</td>
</tr>
<tr>
<td>Performance</td>
<td>High performance (74%) but with high ‘organizational costs’ If leader leaves, performance drops significantly (29%)</td>
<td>Medium-level but sustainable performance (50%)</td>
<td>Low performance and quality (33%)</td>
</tr>
<tr>
<td>Climate</td>
<td>Stressed/ depressed</td>
<td>Creativity, openness</td>
<td>Feeling of being lost</td>
</tr>
</tbody>
</table>

*(based on Lewin, in Dobák – Antal [2011], pp. 370-374. – excerpt)*
In addition to the above classification, in my understanding an autocratic leader typically needs to collect more centralized information in order to make the best possible decisions on their own, with very limited or zero involvement from colleagues or other experts during concrete decision-making processes. Basically, an autocratic leader will gather and own all performance-related information about human capital to assist them to make decisions regarding the identification, development or utilization of human capital\textsuperscript{39}.

Lewin’s autocratic versus democratic classification is applied in this research so as to incorporate the features of a classic ‘early generation’ leadership model.

In his classic model, Kotter makes a clear distinction between leadership and managerial functions in an organization. The leader establishes the vision and direction, and inspires and motivates others to sign up to the vision and execute it effectively. The leader focuses on people, as well as new initiatives and change. The manager, meanwhile, establishes formal plans and budgets, as well as designs the organizational structure and management tools. The manager focuses on planning and monitoring performance in order to enhance predictability (Kotter [1990]). Besides Kotter, more well-recognized scholars such as Drucker, Zaleznik, Bryman, and Bennis and Nanus have discussed the distinction between the two functions described above (Huczynski – Buchanan [2013]).

From this perspective, the role and impact of a manager or leader types of ‘senior management’ appear to be different regarding the scope of this research: while a leader may be engaged in developing new perspectives such as human capital performance management, a manager may only monitor human capital if its impact is crucial in terms of strategy execution and performance. In other words, if the majority of a ‘senior management team’ act as ‘leaders’, there is a lower probability that human capital information will be measured and integrated into an SPM than in the case that they are manager types. A leader is open to innovation and change, so human capital may be considered as a crucial strategic resource and a part of strategic discussions and strategy formulation processes, but not the other processes or tools of an SPM system. On the contrary, since a manager focuses on monitoring and controlling, human capital may be a part of the related SPM system in the form of strategy operationalization, target-setting and budgeting, as well as performance reporting and review\textsuperscript{40}. The present research hypothesizes that manager may incorporate more information about human

\textsuperscript{39} For a general management model of intangible strategic assets, see Figure 11 in Chapter 4.2.3.

\textsuperscript{40} For more details about the SPM processes, see Figure 6 in Chapter 2.2.
capital into SPM as a management tool, when the organization considers this to be a crucial strategic resource with significant impact on performance (see in Chapter 5.2).

The main differences between leader versus manager roles and functions are summarized in Table 4.

**Table 4 – Main attributes of leader and manager functions according to Kotter’s model**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Leader functions</th>
<th>Manager functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals</td>
<td>Establish direction through vision and strategies for change to achieve goals</td>
<td>Develop plans and budgets, including resource allocation and timetables</td>
</tr>
<tr>
<td>Focus on people and premises</td>
<td>Align people through communication, motivation and creating teams</td>
<td>Organize staff by developing structures, policies, procedures and monitoring systems</td>
</tr>
<tr>
<td>Execution</td>
<td>Motivation and inspiration</td>
<td>Problem solving and control</td>
</tr>
<tr>
<td>Outcome</td>
<td>Positive, sometimes dramatic change</td>
<td>Consistency and predictability</td>
</tr>
<tr>
<td>Criteria for success</td>
<td>External effectiveness – changing to fit to challenges of the environment</td>
<td>Internal efficiency – changing to fit the challenges of the environment</td>
</tr>
<tr>
<td>Metaphor</td>
<td>Doing the right things</td>
<td>Doing things right</td>
</tr>
</tbody>
</table>


As Table 4 illustrates, the probability and method of integrating information about human capital into strategic performance management systems appears to be different if senior management have the attributes of leaders or managers.

Since this classic model illustrates the differences in motivation and need for information according to the two roles in a transparent manner, it has also been selected as an additional leadership model for use in the present research. According to a literature review, there is a clear distinction between managers and leaders in terms of their use of formal management tools and systems such as SPM. Accordingly, application of this model may also generate value-added and practical outcomes regarding the research question and its four dimensions. In addition, it may be possible to compare the results to related international research (see, for instance, Waldman et al. [2001]).

Regarding this model, it should be highlighted that the two roles are not exclusive, and they are much more than two extremes on a continuum. In other words, most people in a management position have to focus on both roles in terms of their functionality and tasks; however, different peoples and situations may place more or less emphasis on each role.
From this latter perspective, Mintzberg’s leadership model, with a focus on the roles of managers and leaders, can be highlighted. The author categorizes the 10 different role-related tasks into three categories, as the table below (Table 5) illustrates (Mintzberg [1975]):

Table 5 – Mintzberg’s model of the main roles and dimensions of management

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Short description</th>
<th>Assigned management roles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal</td>
<td>Managerial roles in this category involve inspiring and motivating people, as well as providing information and ideas around the organization.</td>
<td>Figurehead</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Leader</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Liaison</td>
</tr>
<tr>
<td>Informational</td>
<td>Roles in this category focus on collecting, processing and sharing information inside and outside the organization.</td>
<td>Monitor</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disseminator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Spokesperson</td>
</tr>
<tr>
<td>Decisional</td>
<td>These management roles are about using information in various decisions.</td>
<td>Entrepreneur</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Disturbance handler</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resource allocator</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Negotiator</td>
</tr>
</tbody>
</table>

(based on Mintzberg, in Bakacsi [2004], pp. 215-219, - excerpt)

As the table above also illustrates, if in a senior management position either informational or decisional roles dominate, the theoretical probability of measurement – including the integration of human capital into monitoring tools such as strategic performance measurement systems – is higher than in an organization with an alternative leadership structure.

In addition to the models described above, the next leadership model to be optionally applied in this research is a synthetizing approach developed and published by Daniel Goleman. This leadership model has been developed based on one of the first quantitative studies to identify those precise leadership behaviors which yield positive results. The research found six distinct leadership styles, each of them springing from different components of emotional intelligence. As a result of the extended research database the Goleman model should be considered a synthesis of the previous works and provides a comprehensive framework work for this thesis. The six leadership styles are as follows (Goleman [2000]):

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41 Goleman used a study by Hay/McBer based on more than 3,800 executives selected from a global database of 20,000.
42 Independently from the connection to the different components of emotional intelligence, such as self-awareness, self-management, social awareness and social skills (see Goleman [2000]).
### Table 6 – Goleman’s six leadership style at a glance

<table>
<thead>
<tr>
<th>Leadership style</th>
<th>Leaders way of operation</th>
<th>When does it work best</th>
<th>Impact on climate</th>
<th>The style in one phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coercive</td>
<td>Demands immediate compliance</td>
<td>To kick-start a turnaround in times of crisis</td>
<td>Negative</td>
<td>‘Do what I tell you’</td>
</tr>
<tr>
<td>Authoritative</td>
<td>Mobilize people toward a vision</td>
<td>When changes require a new vision, or when clear direction is needed</td>
<td>Most strongly positive</td>
<td>‘Come with me’</td>
</tr>
<tr>
<td>Affiliative</td>
<td>Creates harmony and builds emotional bonds</td>
<td>To heal rifts in a team, or motivate people during stressful circumstances</td>
<td>Positive</td>
<td>‘People come first’</td>
</tr>
<tr>
<td>Democratic</td>
<td>Forges consensus through participation</td>
<td>To build buy-in or consensus, or get input from valuable employees</td>
<td>Positive</td>
<td>‘What do you think?’</td>
</tr>
<tr>
<td>Pacesetting</td>
<td>Sets high standards for performance</td>
<td>To get quick results from a highly motivated and competent team</td>
<td>Negative</td>
<td>‘Do as I do, now’</td>
</tr>
<tr>
<td>Coaching</td>
<td>Develops people for the future</td>
<td>To help an employee improve performance or develop long term strengths</td>
<td>Positive</td>
<td>‘Try this’</td>
</tr>
</tbody>
</table>

*(based on Goleman [2000], pp. 9-10 – excerpt)*

As Goleman highlights in his article, these leadership styles need to be combined for success, and there are certain styles – the affiliative or the coercive – which simply do not work properly if the leader applies them independently. The author emphasizes that the climate is positively correlated with performance, and that a leader needs to exhibit a variety of styles in order to be an effective leader and achieve the goals of the organization.

Nevertheless, even if ‘more styles are better’, in most cases there is one leading or ‘dominating’ managerial style of leadership. Accordingly, investigating how this ‘dominating’ leadership style is related to the level and method of the integration of human capital into strategic performance management is a promising approach and may provide valuable finding for managers of intellectual capital.

After considering the main attributes of the different leadership styles and their correlation with flexibility, responsibility, standards, rewards, clarity and commitment (see Goleman [2000] pp. 7), the following hypotheses are posed regarding the relationship between specific managerial styles and the level of human capital integration into strategic performance management:

- As a result of centralized decision making, an authoritative leader needs – and possibly incorporates – more information about the key performance dimensions
and critical success factors of the strategic resources of the firm than other leadership styles, excluding coercive leaders.

- **Coercive** leaders want to collect all the necessary information about key strategic resources; however, as a result of this style’s crisis management character such a leader has no time and no organizational support to collect data to integrate performance into SPM systems (if anything like these are used in the organization). Since coercive leadership probably creates relevant organizational resistance, this resistance also makes it difficult for such a leader to collect, own and integrate the most important information about the key strategic resources, including human capital.

- **Affiliative** leaders are less likely to deal with human capital-related information since they do not want to disturb the working of performance-oriented tools such as SPM systems.

- A *pacesetting* leadership style supports competition and performance orientation, so such leaders are much more likely to measure human capital, and to apply related pressure. Such leaders place significant emphasis on target setting and connecting human capital performance to incentive compensation (rewards) systems.

- **Democratic** leaders involve employees and experts, so need less formal information, and less formal systems of measurement. Accordingly, the SPM system consists of less human capital-related information than in the case of the authoritative leadership style. As a result, nevertheless, a democratic leader depends on its organization more when it comes to strategy execution, and strategic performance measurement and management.

- The *coaching*-style leader focuses more on developing people rather than implementing performance measurement systems. Accordingly, the level of human capital information they employ is low. The SPM system focuses more on the dynamic dimensions of human capital management and less on the static/stock character of human capital.

Since all the hypotheses developed in the research described in this thesis (including those above) are summarized in Chapter 5, only a few remarks and limitations will here be mentioned regarding the role of leadership in human capital integration into SPM, as well as the reasons for selecting the above-described four leadership models, rather than any of the additional ones mentioned in Chapter 3.1.

As described in Chapter 2, the main function of an SPM system is to support managerial decision making and assist senior management to successfully execute
corporate strategy. From this perspective, as a decision-behavioral leadership model I have chosen and integrated Lewin’s autocratic versus democratic classification into the research model. This is a simple and practical system of classification which incorporates a widely referred to leadership model from the organizational behavioral literature. Since the other decision-behavior-oriented models (Likert, Ohio, Blake-Mouton) mentioned in this thesis either partly or fully overlap with Lewin’s and Goleman’s models as selected leadership frameworks, integrating them into the research model would not add enough value to this research to compensate for the ‘extra costs’ of an increase in the level of complexity. One exception to this comment may be the job-centered versus employee-centered leadership dimensions of the Likert model: the relevance of this differentiation in leadership focus will be tested during the case-study phase of the empirical research, and incorporated into the research model in the final thesis, as needed (see Chapter 6 regarding the empirical research plan).

The reason for not using any of the contingency models of leadership in the research is the overall contingency logic of the research and thesis. Since leadership style is considered to be an independent contextual factor in the focus of this research, opening up the framework towards the contingency theories of leadership would indirectly extend the scope of this research to include all the contextual factors behind leadership as well. In other words, the number of independent factors in this research effort would increase from one to a hard-to-manage number (including, for instance, maturity of people, the job versus relationship orientation of the management, organizational size, etc.). The increase in the level of complexity would contrast with my research paradigm and methodological focus, as well as the aim of generating specific findings and practical implications for organizations (for more detail, see Chapter 1).

Regarding Hersey – Blanchard’s four leadership styles, however, the same remark should be made with regard to Likert’s job versus employee orientation: its relevance will be tested during the case study phase, and integrated into the final research model as needed.

In my understanding, the focus of transactional, transformational, charismatic or ethical leaderships concerns the values of a leader and change management, rather than performance measurement (for instance, see Bakacsi [2004] or Huczynski – Buchanan [2013]). As a result, such leadership models are excluded from the empirical research model and the focus on strategic performance management systems. The most important goal is to keep complexity at a manageable level.
Because several researchers of intellectual capital mention the ethical aspects of human capital measurement and evaluation (see Chapter 4.3.3), the relevance of ethical leadership (see, for instance, George – Jones [2012]) may have added value to the final thesis. So, as with Likert’s dimensions or the four leadership styles of Hersey and Blanchard, the relevance of this will be tested during the case study phase, and integrated into the final research and quantitative research model as needed.

Last but not least, it should be highlighted that although leadership is one of the key influencing factors in an organization, the role and impact of leadership is often neutralized or substituted (for example, as it relates to performance or atmosphere, as well as the implementation of different management tools such as SPM, among other things). According to researchers who agree with this statement, leaders sometimes have little effect on the attitudes and behaviors of their followers and organization, no matter what they do, or what kind of style or systems are applied. In some cases, motivation and performance is high, in others it is low – independently of leadership and its behavior (see George – Jones [2013]).

In terms of the successful integration of human capital into SPM systems, it is important to recognize that numerous organizational or contextual factors can act as leadership substitutes and replace the need for formal leaders and leadership. As a result, even if leaders support human capital performance measurement in an organization, additional influences – such as the absence of pressure or high pressure from competitors, the requirements of financial backers, different organizational structures, or informal leaders – can replace the role of formal leaders.

Similarly, several factors can prevent a leader having a real impact in an organization, despite their sometimes significant efforts. Regarding human capital performance measurement and its integration into SPM systems, several factors can act as leadership neutralizers: besides other things, a low level of data availability, previous performance management structures and processes, and ongoing ad hoc challenges that arise from the context, or the lack of a clear-cut strategy can easily create barriers, ‘confusers’ or ‘delayers’ regarding the integration of human capital into strategic performance management\textsuperscript{43}.

As a result of these two phenomenon, and since leadership is not the only factor that influences how an organization measures human capital performance, some practical limitations to this research may arise and should be considered when results

\textsuperscript{43} Regarding the most often mentioned and generic influencing factors of SPM implementation or change, see Chapter 2.3. This chapter describes several additional organizational effects and situations and provides significant insight regarding the thesis and research.
and key findings are analyzed. During this research the focus is on the impact and role of senior management and leadership styles in terms of strategic performance management and human capital performance measurement, and efforts are consciously made to reduce or eliminate the impact of other factors.

### 3.3 Key functional units and internal stakeholders with a potentially significant impact on the integration of human capital into SPM

The research described in this thesis focuses on the role and impact of senior management and leadership style on human capital performance measurement and its integration into strategic performance management systems. However, as illustrated at the end of the previous chapter, both substituting and neutralizing factors may have a significant effect on this process. Amongst other factors, the other formal and informal leaders in an organization are important stakeholders in terms of human capital measurement and the availability of human capital information in SPM systems.

The aim of this chapter is to highlight the most relevant internal functions and managers that should optionally be considered key internal stakeholders of human capital measurement and management regarding data availability and quality, as well as processes or the additional forms of cooperation needed for success.

The following table (Table 7 below) illustrates the most relevant functions that play a significant role in human capital measurement and management, as well as its integration into strategic performance management systems. Formal leaders (in this thesis also referred to as managers or heads of department) and additional key members of these units may be key stakeholders, and may have a relevant influence on why, what and how human capital is monitored, and on the level of availability and the quality of human capital performance information, and how it is utilized as a part of SPM processes and cycles (see Figure 6).
Table 7 – Key internal functions with potentially significant impact on human capital performance measurement

<table>
<thead>
<tr>
<th>Function</th>
<th>Role and possible impact on human capital management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human Resource Management</strong></td>
<td>HR department is the core function regarding processes and policies, as well as data availability regarding human capital. HRM can be an important supporter or neutralizer of leadership in terms of the integration of human capital indicators into incentive systems (see incentive compensation as a core SPM process).</td>
</tr>
<tr>
<td><strong>Strategy Development</strong></td>
<td>The main roles of the strategy department are to develop vision, mission &amp; strategy, incl. defining the list of critical success factors and key performance dimensions of human capital. If strategy is/ is not available, or does/does not contain objectives for human capital, this may significantly influence integration of human capital information into SPM systems.</td>
</tr>
<tr>
<td><strong>Knowledge Management</strong></td>
<td>If a separate KM department is operating in an organization, its impact and role will be similar to that of HR. KM may function as a database/ data source for, e.g., experience and knowledge about human resources.</td>
</tr>
<tr>
<td><strong>Controlling/ Management Control</strong></td>
<td>This plays an important role in data collection and quality, as well as in terms of performance measurement methods. If the integration of human capital-related information into SPM fits with the overall controlling concept of the firm, it may have a positive impact, while in the opposite case it may be a negative factor, or barrier. Controlling (together with Accounting) may be a good source of financial data, e.g. about personnel costs.</td>
</tr>
<tr>
<td><strong>IT</strong></td>
<td>As the main operator of the IT and BI tools in the organization, this function may play an important role in terms of the measurement of the transactional costs of human capital. Functionality and capabilities of IT system components such as ERP are also crucial influencing factors, in my experience.</td>
</tr>
<tr>
<td><strong>In addition: Departments with core activities</strong></td>
<td>Managers and key stakeholders may neutralize even engaged senior leadership by not supplying the necessary data or not implementing necessary administrative processes and tools (e.g. incentives) required to integrate human capital into SPM successfully. Additionally, if core unit managers do not participate in review meetings, this can hinder human capital management.</td>
</tr>
</tbody>
</table>

(In addition to, but excluding senior management as the main focus on this research).

As Table 7 illustrates, the performance measurement of human capital and the integration of such information into SPM is a complex phenomenon with many potential influences other than the leadership style of the top management of the organization.

Although the scope of this research is concentrated only on the role and impact of senior leadership and the connection between leadership style and the level of integration of human capital into strategic performance management systems and its components, during the interpretation and analysis of the finding of the research, the above-mentioned leadership neutralizers or substitutes will not be ignored. They may significantly impact the answers to the research questions.
4. Intangible strategic resources in corporate value and performance, and executing corporate strategy

The role of intangible strategic resources – or as also called in this thesis, ‘intellectual capital’, ‘knowledge capital’ or simply ‘intangibles’ – in corporate performance and value creation has been one of the hot topics in strategic performance management and accounting discussions over the last two to three decades, both from theoretical and practical perspectives. The first phase of this ‘intellectual capital management (ICM)’ dialogue in performance management was intensive and concentrated on ‘theoretical basics’. The focus was mainly on the terminology and classification of the main components of intellectual capital in this early stages. The next phase can be characterized by the development of practical measurement and management methods, consciously designed to capture intangible strategic resources according to the different functions of an organization, including management control and strategic performance management. After a relatively quiet period, research of more recent times has concerned practical challenges and possible solutions and answers to the significant critiques which have emerged regarding the general approach and the lack of practical impacts and implications of the ICM perspective (see, for instance, Bontis [2001], Juhász [2004], Kaufmann – Schneider [2004], Tóth [2008], Dumay [2009], Guthrie et al. [2012], Dumay – Garanina [2013]).

Despite the significant challenges regarding the practical measurement and management of intangible strategic resources, based on the recent trends in organizational value creation, numerous management studies and pieces of research have highlighted the role and increasing impact of intellectual capital in both strategy execution and organizational value, especially in so-called knowledge-based industries, such as the financial sector, software development, consultancy and education. Although it is not difficult to understand that these industries significantly depend on their intangible strategic resources and human capital, the key goal of this chapter is to provide a comprehensive overview of recent IC trends in value creation and strategic performance generation, with a focus on their empirical relevance as well as on the main objectives and challenges of intellectual capital management, and the methods available for

44 Since this thesis involves performance management research with a focus on strategy execution and the role of human capital in this, I consciously try to avoid terms such as ‘intangible assets’, and especially ‘immaterial resources or assets’ and ‘intellectual property’ to capture the concept of intangible strategic resources. The first two terms are mainly used for accounting purposes (together with goodwill), while the third is primarily a piece of legal terminology. The focus of this research is managerial decision making and strategy implementation, not accounting standards or activation opportunities, nor the legal features of intangibles.
measuring and managing performance generated by intangible strategic resources. This thesis focuses on examining human capital as one important component of intangible resources, so this chapter also concentrates on this, and ends with an introduction to the terminology used in the empirical research. The main scope is the integration of human capital information into SPM systems, so this whole chapter follows the perspective of strategic performance management, combined with the features of intangibles, and human capital.

In terms of the relevance of this thesis on human capital measurement and management, the practical problems during the successful implementation and operation of intellectual capital management systems have to be considered much more as relevant supporting factors rather than trends and signs of the decrease in importance of the topic. As the next chapter illustrates, the impact of intangibles is still crucial in many organizations, although the rate of success of the related management tools and systems is low. Better understanding of the role and impact of leadership in integrating human capital into strategic performance management will hopefully help scholars and managers with insights regarding the one of the key success factors – namely, top management support. As described in previous chapters, leadership plays a crucial role in SPM implementation and change, in the case of human capital as well.

Before going into detail in this chapter, a brief comparison of the ICM history with the Gartner lifecycle model provides us with interesting added value as concerns understanding the status and relevance of the intellectual capital perspective (see Gartner [2016])\textsuperscript{45}:

As mentioned in the introduction above, the first intensive phase of discussion about ICM was in the early 1990s. As a result of the increasing gap between the book and the market value of many firms, management scholars and gurus developed different methods of measurement and other tools for capturing intellectual capital. This period has similarities to ‘The innovation trigger’ phase of the Gartner curve.

This active phase of scientific and practical discussion led to the ‘Peak of inflated expectations’ in the mid-2000s, when both researchers and practical experts looked to make a significant positive impact and quick wins as a result of the more-than-40 IC measurement methods that had been developed and published in this period.

Nevertheless, as a result of different practical challenges and problems that emerged during the implementation of ICM, the expected benefits could not be realized so easily. Following this phase of extensive expectations and active discussions, the

\textsuperscript{45} See an analysis of the ICM phenomenon based on the Gartner methodology, and my own experience as a researcher and management consultant over the last 10 years.
ICM perspective entered a phase which may be called the ‘Trough of disillusionment’. The intensity of debate decreased, and a slower and quieter period started, both from a practical and theoretical point of view.

Nowadays, scholars and managers do not seek to identify specific IC measurement methods and tools, but try to find practical ways to overcome practical challenges and to measure the contribution of intangibles to strategic performance and value in applicable ways. If this endeavor is successful, the intellectual capital management perspective may move up the ‘Slope of enlightenment’ and in the more distant future to the ‘Plateau of productivity’ – if this status is in fact obtainable using this approach. Alternatively, the useful and applicable components of the ICM approach may disappear, or become integrated into other perspectives such as management accounting, strategic performance management, HRM or knowledge management, etc.

Using Gartner’s approach, the modern ICM perspective can be categorized as somewhere between the ‘Trough of disillusionment’ and the ‘Slope of enlightenment’. The focus of performance management needs to overcome practical challenges and implement performance measurement methods and tools which are applicable and useful to key stakeholders; namely, the senior management of organizations.

This research aims to contribute to this phase by:

- analyzing the managerial motivations and role of leadership behind human capital measurement and management practices;
- identifying the main content and measurement processes regarding the contribution of human capital to strategic performance, and, in a nutshell:
- creating a better understanding of why, what, how and by whom human capital is integrated into strategic performance management systems.

The next sections briefly illustrate the relevance, available measurement methods and practical challenges of intellectual-capital-focused performance measurement in a structured way.

As mentioned, the empirical research of this thesis will focus on selected knowledge organizations in Hungary in which the role of intangible strategic resources and human capital is extremely significant.
4.1 Trends in organizational value creation – An increase in the role of intangible strategic resources, with a focus on human capital

There are several indications of an ongoing increase in the role of intangible strategic resources in both corporate performance generation and value. This claim is especially valid for knowledge industries such as the financial sector, software development, consulting and the educational sectors – not only worldwide, but also for the Hungarian economy as an integrated part of European, and from many angles global, business\footnote{The enhanced role of intangibles in organizational value creation is not only an international phenomenon, but also valid for the Hungarian context (where this research is implemented). Accordingly, this chapter describes several Hungarian studies and findings. However, before going into detail it is important to emphasize that Hungary is an integrated part of the global knowledge economy, and this has clear relevance to strategy execution and value. Since education and human capital have been key components of our national agenda for several years (see, for example, Poór [2006]), Hungary is a good example of human-capital-related SPM practices; the target of analysis in this research.}. Although acknowledging that these latter sectors are definitely more affected by the intangible trends than the classic industries, the significant difference between book and market value in almost all sectors (see Table 8, for instance) makes it practically necessary for managers to handle knowledge capital and its components in a more effective and efficient way.

Besides the trend towards accounting mentioned above (and described later), several additional signals of the enhanced role for intangible assets, and especially human capital, are appearing: as the sample quotes in Chapter 1 also illustrate, senior management tends to characterize knowledge, motivation and the loyalty of human resources as key strategic assets of the organization. In many organizations, brand, customer relations, strategic partners, innovation, patents, and a flexible organizational structure are considered the most critical strategic resources (see, for instance, ICM and RBV scholars referred to later, or Statista [2017]\footnote{According to the Statista database, for instance, the top 20 US companies registered buying 60 000 patents in 2015. Besides the few investment companies in the list, we find companies such as Hewlett-Packard (10.219), Nokia (7.245), Olympus (1.990), Roche Diabetes Care (1.212), Intel (1.039) and the battery manufacturer Energizer (582). In addition, according to the database more than 3.000 new patent owners are registered regarding non-financial assets in 2014 only. These are only selected examples from Statista; for more details see \url{www.statista.com}.}).

This chapter provides a brief summary of the most relevant research findings and illustrates the various trends behind the enhanced role being played by knowledge assets, including human capital as a key component of this. As the next section highlights, although there have been changes in the intensity of ICM discussions, the importance and the need for the effective monitoring and management of intangible strategic resources are still crucial topics in many organizations.
In one of the early studies of intellectual capital, the authors highlight the fact that companies from almost every industry are investing more into intangibles than at any time before (Daum [2005]). According to Leonard Nakamura’s calculations, US-based companies alone have already invested more than 1 trillion dollars into intangible strategic assets, and – considering that this increase started only in the 1980s – the author estimates that the long-term balance of intangible investments made by private companies is around 6 trillion US dollars (Nakamura [2001], in Lev – Zambon [2003]). To monitor, manage and evaluate such a huge amount of investment is simply not possible without ongoing, relevant managerial information about the performance and status of intangible strategic resources. The use of specific measurement methods is vital from this financial perspective.

The effective implementation of such systems is, however, not an easy task, especially if we consider the immaterial character of intellectual capital, and the fact that classic performance measurement and investment evaluation methods are designed to monitor and manage classic tangible resources, such as financial or other material assets. This lack of proper measurement tools is one of the reasons for the increase in the gap between book and market value.

As Bartlett states, ‘the biggest problem is with economics, that it concentrates the attention mostly on those objects only which are measurable. A phenomena which is easy to capture in a quantitative manner get tendentiously more emphasis than the ones which are hard to be quantified.’ (Bartlett [2003], in Lakatos [2003], pp. 38).

The fact that classic measurement systems such as accounting can only capture intangible strategic resources to a limited extent illustrates the typical challenge of measuring intangibles. As a result of accounting principles, only those intangible assets can be included on the books and financial reports which are separable or which arise from contractual or legal rights established in the past (together: identifiable), which are controlled by the organization and expectedly generate future economic benefits (i.e. more income or a reduction in future costs) for a firm (IAS 38, see Juhász [2004] and Deloitte [2017]). Since almost all intangible strategic resources – and especially the components of human capital – do not match these requirements, most of them are excluded from accounting reports. Accordingly, is almost impossible to make proper

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48 As we will see later, classic accounting systems and tools are not ready for nor designed to generate the necessary managerial information about intangible assets, since – as a result of strict accounting regulations – most of the components of intellectual capital are not captured by those systems (see Chapter 4.2.2.).

49 This is normal, if we consider the main function of accounting to be the provision of standardized information to external stakeholders. Information in financial reports has to be limited to what is reportable for everybody affected, while the real value of intangibles is exactly the opposite: unique resources aligned with a unique strategy provide the most value for an organization in terms of strategic performance (See the VRIO/VRIN criteria in Chapter 4.2.2.).
decisions about the performance of intellectual capital based on financial or accounting information only.

This limitations of classic accounting systems can be also identified by examining the continuously increasing gap between average book value and market capitalization of many companies over the last three to four decades. While in 1978 the average book value of S&P 500 companies correlated 95% to their average market value, by the early 2000s this ratio had decreased to around 20% (Juhász [2004], pp. 5.). In the opinion of experts specialized in financial analysis and evaluation, the enhanced role of intangible strategic resources is one of the most important reasons for the trend in the book-to-market value of firms, and not only in knowledge industries (Daum [2005]).

The following table illustrates the ‘hidden value’ – i.e. the gap between the book and market value – of selected companies as per their data from the early 2000s.

**Table 8 – Market, book and replacement value of several global companies**

<table>
<thead>
<tr>
<th>(Billion USD)</th>
<th>Market value</th>
<th>Book value</th>
<th>Replacement value</th>
<th>‘Hidden value’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coca Cola</td>
<td>147</td>
<td>6</td>
<td>15</td>
<td>90%</td>
</tr>
<tr>
<td>Microsoft</td>
<td>119</td>
<td>7</td>
<td>18</td>
<td>85%</td>
</tr>
<tr>
<td>Intel</td>
<td>113</td>
<td>17</td>
<td>43</td>
<td>62%</td>
</tr>
<tr>
<td>General Electric</td>
<td>169</td>
<td>31</td>
<td>77</td>
<td>54%</td>
</tr>
<tr>
<td>Exxon</td>
<td>125</td>
<td>43</td>
<td>107</td>
<td>14%</td>
</tr>
</tbody>
</table>

*(based on Roos [1997], in Juhász [2004], pp. 34)*

Although various changes have occurred in financial markets since the early 2000s, including a global financial crisis, there is still a significant gap in book to market value for companies on the S&P 500. According to Bloomberg data, financial markets can be described as follows (based on Ocean Tomo LLC [2015]; Mahn [2015]):

- The average price to book value ratio has been 2.87 in the last 25 years, while its current value is 2.68. Accordingly, *the average market value of the S&P 500 companies is recently more than double than their book value.*

- Intangible assets explain more than 80% of the average corporate value of these companies. Accordingly, *if decisions are based on accountable data alone, an average of 80% of potential intangible strategic resources are possibly not being considered during the decision-making process.*

- Investments into intellectual property products and research and development (R&D) are around 10% of US GDP, and, for instance, between 2012 and 2014 amounted to 652.4 billion USD per year. Accordingly, *to manage this investment, management needs to properly monitor and measure the related activities.*
The following chart provides additional perspective about the relevance of intangibles in value creation: the role of intellectual capital has been continuously growing since 1975, and the general trend was not affected during the financial crisis in the 2000s either.

![Figure 7](image)

**Figure 7** – Components of market value of S&P 500 companies (in %)
(based on US stock data analyzed by Ocean Tomo LLC [2015])

This value-based perspective is, however, not the only important approach that highlights the relevance of intellectual capital and the need for its effective measurement and management. Taking a look at the phenomenon from a broader strategic, organizational and performance management perspective, we can identify the need to consider various additional perspectives in this strategic performance management related thesis, in addition to the above-mentioned mostly value-based, financial or accounting trends and challenges.

The following section summarizes several of these management-oriented research findings about intellectual capital management in short form:

- One of the most commonly referred-to scholars in this area, Baruch Lev and his team, have addressed the senior management of US companies. According to their results, experienced human resources, patents, know-how, software, customer relations, brands, well-developed organizational processes and innovative business models play a crucial role in growth and corporate performance. As the authors emphasize, creating sustainable value is impossible without the conscious management and monitoring of these most crucial intangible components of performance (Lev [2004]). The first step is to identify and measure
the key components of intellectual capital, not only financially but rather from the perspective of the strategy and organizational context.

- Similarly, another important study from the early 2000s highlights the role of market liberalization and expansion, better protection of intellectual properties, enhanced information sharing, the application of new ICT tools and systems, as well as product and technology innovations as the most important triggers of performance (Teece [2000]). Most of these components are strongly connected to intangible strategic resources, and thus emphasize the importance that should be awarded to intellectual capital measurement and management\(^{50}\).

- In another study, 84% of top managers of US-based companies highlighted the availability of highly qualified and motivated human resources ('human capital') as a crucial factor in corporate value creation and performance. Additionally, these managers not only believe in the reality of this situation, but expect the trend to become stronger in the future (Oliver [2001], in Juhász [2004]).

- Finally, a similar conclusion can also be derived from a piece of Hungarian research. In a combined research effort by KPMG and Pannon University, 77% of the participating 130 companies categorized intangibles as critical strategic resources (KPMG BME Academy – Pannon University [2006]).

As we can see in Figure 7, the main financial and investment trends regarding intellectual capital did not change after the financial crisis either, although direct investment into intangible assets might have decreased for the time of the crisis. In addition to the points above, the following studies published after or during the financial crisis also illustrate the need for effective and efficient intellectual capital management, with a focus here on human capital and its impact:

- A longitudinal research project at a market-leading Hungarian financial service company also revealed that intellectual capital – more specifically, human capital, market relations and leadership – remained one of the focal items of senior management, and the budget for these activities was not reduced significantly during or after the financial crisis (Harangozó et al. [2010]). This finding is relevant considering that this sector was one of the most strongly affected by the financial crisis.

- Another European study identified a strong positive correlation between the efficiency of human capital and corporate value and financial performance

\(^{50}\) In addition, and strongly connected to this study, we need to emphasize the fact that intangible strategic resources are the perfect basis for core competences as well. From a strategic perspective, most of the components of IC fit the VRIO/VRIN criteria defined by the RBV approach very well (see Chapter 4.2.3.).
(Maditinos et al. [2011]). The study examined the Greek stock exchange, with the involvement of 96 companies registered there. Considering that Greece has also been one of the economies most impacted by the financial crisis, these results also clearly illustrate the significance of intangible assets.

- Finally, according to the results of a study that focused on the performance of the Italian financial sector after the crisis, *the quality of human resources as well as the effectiveness and efficiency of the organizational structure have a significant positive impact on corporate value and performance* (Veltri – Silvestri [2011]).

As the above-mentioned financial, accounting and organizational studies already highlight, there is a practical need to measure and monitor the intangible strategic resources of most organizations. From a strategic performance management perspective, this means that crucial success factors and key performance dimensions need to be integrated into the SPM system – or, based on the context and management needs, to specific components of it (see Chapter 2). This observation is valid for human capital as well, as one of the key categories of intangible strategic resources or intellectual capital.

The following chart has been designed to summarize the main findings and messages of this chapter regarding the enhanced role and impact of intellectual capital in organizations. As *Figure 8* highlights, the ‘house’ of value creation has significantly changed, both in terms of strategic resources and key management activities, as well as with regard to financial results, corporate strategic performance and shareholder value (see below).
Figure 8 – The House of Value Creation in the 21st Century
(based on Lev and Servatius, in Horváth – Möller [2004] – modified)

As synthesized in the chart, the main factors in value creation now less concern classic tangible resources and more intangible strategic resources such as human capital, corporate relations, and innovation. In order to manage an organization with such a value creation structure, management needs to put conscious emphasis on managing all components of the house, not only the classic tangible assets. Amongst other things, human capital is a strategic resource, so communication about it should be transparent, its productivity should be measured, and its contribution to strategy execution monitored.

4.2 Perspectives about intangible strategic resources – A variety of similar definitions and classifications of intellectual capital

At the beginning of discussions about ICM (from the early 1990s), the main goal of research and practice was to create scientific and managerial awareness about the topic, rather than to develop standardized terminology and a widely approved understanding of intangible strategic resources or intellectual capital. As a result, various general definitions have emerged in the literature and corporate practice, although no standard list of main characteristics, key success factors or key performance criteria has arisen regarding intangibles. In other words, as many authors, management schools, research teams and projects have applied as many (slightly) different classifications, with no universal terminology or theoretical background behind them. This tendency should be
considered in this thesis as a limitation that must be dealt with, even if we acknowledge that strategic intangible resources may vary from organization to organization and from to context to context\textsuperscript{51}. This lack of a standard definition of intellectual capital makes collective discussions, knowledge-sharing and benchmarking challenging and difficult, both from a practical and a theoretical perspective.

One of the indications of the lack of a standard terminology in intellectual capital management is, for instance, the large variety of names and terms used for intangible strategic resources: as mentioned before, they have frequently been referred to as intellectual or knowledge capital, although many different names, explanations and definitions exist (see, for instance, Harangozó [2007]).

The lack of clarity in terminology and definition has been considered but not solved in this thesis. The goal of this thesis is not to create a comprehensive terminology and classification of intangible strategic resources that will contribute to the overall scientific field of intellectual capital management, but – in alignment with the research questions and based on a structured literature review – to develop a functional and practical classification of human capital that may be used in this thesis and the empirical research. Accordingly, Chapter 4.4 describes the appropriate but specific human capital terminology used in this thesis.

This chapter is consciously structured using a top-down approach: first, generic definitions of intellectual capital are reviewed, followed by more specific classifications. The chapter then ends with a brief summary of the most relevant IC measurement and management methods that are available in practice.

4.2.1 Intangible strategic resources – Definition of the ‘extremely complex concept’ of intellectual capital

In many cases, intellectual capital is defined as a portfolio of intangible strategic resources with no psychical, material or monetary shape or existence but which still generates value for an organization (based on Kaufmann – Schneider [2004]; Arbeitskreis IWR [2001]). Gu and Lev additionally emphasize the role of context and declare that strategic knowledge resources do not necessarily create value for an organization, but they turn into value – in the form of profit, better strategic performance or market position (etc.) – only if they are integrated into the core value-added / value-

\textsuperscript{51} See more details about the context embeddedness of intangible value creation, for instance, in Chapter 4.2.3. and 4.3.3.
creation or supporting processes of the organization. The authors refer to marketing and advertising, research and development (R&D), human resources management and IT practices as the most important sources of value added by intangible strategic resources (Gu – Lev [2004]).

In another definition, intellectual capital refers to the assets of an organization that are based on knowledge. This approach emphasizes the difference between the internal and external attributes of knowledge capital. Amongst the internal components, we may highlight strategic resources such as the knowledge and experience of employees, organizational structure and processes, as well as the information management and IT systems of a firm. External factors consist of attributes such as brand value, customer loyalty and the trust in partners (Brennan – Connell [2000]).

Two of the Scandinavian pioneers of intellectual capital management, Edvinsson and Sullivan (1996), provided a similar but relevant definition when they declared that intellectual capital was knowledge that can be converted to value; namely, to market results or company earnings (based on Pfeil [2004]). This definition emphasizes that the impact of intangibles on financial performance is value creation.

Another well-recognized scholar, Mouritsen, associates knowledge capital with developed internal processes, enhanced performance or growth, and improved quality. In this definition, intangible strategic resources are embedded in high performing employees, customers or customer relations, processes and supporting technologies, as well as in the interactions between these four components (Mouritsen et al. [2001], Mouritsen et al. [2003]). Using this definition, it is not financial performance which is at the center, but a broader definition of performance needs to be used in order to identify the most critical characteristics of intellectual capital. In terms of creating better understanding, measuring and reporting of critical IC components, this approach highlights the importance of the knowledge narrative and innovation, as well as the role of visualizing and storytelling in intellectual capital statements.

Bontis and his team approach the term in a dynamic way when they claim that intellectual capital is a combination of a ‘stock’ of strategic resources with no physical or monetary form (similar to the above descriptions), as well as a ‘flow’ of related activities and the interaction between intangible strategic resources inside the organization (Bontis et al. [1999] or Bontis [2001]). Besides the asset character of IC, this definition emphasizes the importance of intangible activities in the effective monitoring, development and utilization of the knowledge capital of the organization.

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52 As an example of the relationship between IC and innovation, see, for instance, Leitner [2011], or Bellora – Günther [2013].
Another relevant practice-oriented definition has been developed by a high-level expert group named RICARDIS53, part of an international piece of research funded by the European Union to analyze the role of intellectual capital and research & development among small- and medium-size enterprises. Here, knowledge capital is used to mean the organization’s human, structural and relational capital, as well as the combination of different business activities related to these three categories. Besides providing a comprehensive overview of recent research findings, the main added value of this research is that it brought together senior intellectual capital and performance management experts from many different key regions. Additionally, the final report from the research effort created a relatively standardized terminology/ glossary for intellectual capital and intellectual capital reporting, as well as a list of the most important reporting tools and schools with a focus and impact on intangible strategic resources from all over the relevant regions in Europe and worldwide, including Austria, Germany, Spain, the Scandinavian countries, Belgium, Japan and Australia (RICARDIS [2006]).

According to Kaplan and Norton, the developers of the balanced scorecard, the term ‘intangible strategic resources’ refers to a combination of the different capabilities of employees which help the organization satisfy the needs of customers at the proper quality, time and cost. These authors classify IC using its three main components, claiming that it can be defined in terms of human (skills, knowledge, talent), informational (information systems, knowledge application, infrastructure) and organizational capabilities (culture, leadership, coordination, team work) (Kaplan – Norton [2005]). This approach leads us to the next chapter, where intellectual capital is described and defined using the key dimensions of its components.

Although many other definitions of knowledge capital are available in the intellectual capital management literature and could have been referred to (see, for example Edvinsson – Malone [1997], Roos et al. [2005], Jurczak [2008]), they are similar to the above-mentioned definitions. This is also true of the definitions of Hungarian researchers who built theirs on the ideas of mainstream ICM scholars, and tailored their classifications to their own research questions and scope.

Despite the fact that the main definitions of IC applied in Hungary are similar to the international mainstream, the following alma maters, researchers and research teams should be highlighted as main local hubs that are involved and contributing to Hungarian

53 RICARDIS is an abbreviation for Reporting Intellectual Capital to Augment Research, Development and Innovation in SMEs. The high-level expert group included one Hungarian member - Dr. Viktória Bodnár, Head of Research Centre at Corvinus University of Budapest.
ICM research and practice, with a special focus on the measurement and management of human capital and its performance.

One interesting piece of Hungarian research led by a strategy research team at the Corvinus University of Budapest (CUB) has investigated the relationship between strategy development and learning capabilities in local SMEs. In their study, this research team defined intellectual capital as business knowledge that is converted into value, with a focus on the following main components: flexible organization, knowledge application, customer relations, innovation, internal and external information flows and communication, information about competition and competitors, as well as cooperation (Szabó [2005]). It is easy to recognize the direct connection of this scope of interest to international practices. Moreover, the connection between CUB’s Institute of Management and the international mainstream is clear due to the presence of Dr. Viktória Bodnár, the head of the Budapest Performance Management Research Center, as the Hungarian candidate on the senior expert team (RICARDIS [2006]) of the abovementioned RICARDIS project. From the Institute of Management, Dr. Tamás Tirnitz (whose research interests include value-based management and reporting, Tirnitz [2015]) and Dr. László Lázár (who has a focus on the strategic resources of the firm from the perspective of management control and cost accounting, Lázár [2002]) may also be noted.

Besides the Institute of Management at the Corvinus University of Budapest, other senior experts who have had a significant impact on local research and discussions about intangible strategic resources and intellectual capital management need to be recognized in Hungary.

The Institute of Business Economics, for instance, is one related institution at which Dr. György Boda and his team, including Dr. Miklós Stocker (et al.) are analyzing the economic measurement and evaluation of intellectual capital (see, for instance, Boda [2008] and Stocker [2012]). In addition, the direct and indirect contributions of Dr. Annamária Kazainé Ónodi (with a focus on the application of value-based management in performance management practice; Kazainé Ónodi [2008]) should also be noted, along with Dr. Ágnes Wimmer (who has a focus on performance management trends regarding value creation, and especially the correlation between operational and financial KPIs; Wimmer [2000]) and Dr. Erzsébet Kőnczől (the role of value creation in strategic systems; Kőnczől [2007]).

Moreover, significant studies have been published by the Institute of Finance, Accounting and Business Law as well. Amongst other publications, Dr. Péter Juhász’s doctoral thesis developed a set of comprehensive findings about how intangible assets and goodwill impact accounting structures and reports in organizations (Juhász [2004]).
while Dr. Kira Martin focused on analyzing the reasons for the increasing gap between the book and market value of companies in Hungary (Martin [2013]).

Knowledge capital management research is, however, not the privilege of Corvinus University, but additional research centers have also made significant contributions to scientific and practical discussions about intellectual capital in Hungary – amongst others (excerpt):

- Dr. György Bőgel, a professor at the CEU Business School, has emphasized in one of his key publications about knowledge management that ‘the wealth of companies goes home every day’, meaning that people (human capital as a key component of strategic resources) go home after work. One of the main challenges of companies is to motivate employees to come back in the morning (see, for instance, Bőgel [1998] and [2006]).
- Dr. Irén Gyökér, Dr. Zsuzsanna Tóth, Dr. Henrietta Finna, Dr. Ágnes Laáb and Dr. János Kövesi (et al.) at the Budapest University of Technology and Economics have played an important role in Hungarian scientific discussions about intellectual capital in different industries, from higher education to the financial sector (see, for instance, Gyökér [2004], Laáb [2007], Tóth [2008] and Gyökér – Finna – Krajcsák [2010]).
- In addition, the contribution of Dr. Zoltán Gaál and his team, including Dr. Lajos Szabó, Dr. Anikó Csepregi and Dr. Nóra Obermayer-Kovács (et al.) from the Pannon University of Veszprém should be emphasized. This research center at the Institute of Management focuses on examining trends in knowledge management, as well as integrating knowledge management into organizations. The research team focuses, amongst other things, on knowledge capital strategies, knowledge management, knowledge sharing and the management of intangible strategic resources (see, for instance, Gaál [2000], Obermayer-Kovács [2007], Gaál et al [2009], Gaál et al. [2011], Csepregi [2011] and Gaál – Fekete [2012]).
- Finally, significant additional research activity in knowledge management and intangible strategic resources is ongoing at the University of Pécs (for instance, by Dr. Csetneki Zsuzsanna and her team), the University of Miskolc (for instance, Dr. Károly Balaton and Dr. István Szintai and their colleagues), and by
- the members of the Knowledge Management Workgroup (led by Dr. Erzsébet Noszkay) operating under the umbrella of the Hungarian Academy of Sciences54.

54 http://www.tudasmenedzsment.org/
Although the list of definitions of intellectual capital may be continued, it may be recognized that most of the above-mentioned descriptions are far too generic for use in practical applications, and do not support the creation of a practical framework for the research questions presented in this thesis either. As my own research experience and Jurczak also highlight, the term ‘intellectual capital’ is an extremely complex concept, so in order to measure it is necessary to specify its concrete components, as well as related critical success factors and performance dimensions (see, for example, Jurczak [2008]).

In alignment with this requirement, the next chapter concentrates on the most important classifications of intellectual capital, with a focus on human capital and its main characteristics.

4.2.2 Intangible strategic resources – Intellectual capital classified according to key components and characteristics

One of the most frequently referred to classifications of IC was developed by Leif Edvinsson, the former intellectual capital director of the Swedish insurance company Skandia. According to his approach, knowledge capital consists two main components - human capital and structural capital.

The first category represents those strategic human attributes in an organization which are valuable, or which create value for an organization: education level, skills and competences, knowledge and experiences, loyalty, key values, as well as corporate culture and philosophy. Regarding human capital, the author emphasizes that these strategic resources are usually not owned by the organization but are closely connected to employees/individuals\textsuperscript{55}.

On the other hand, structural capital consists of those strategic intangible resources which are left in an organization once employees go home. Structural capital is divided into two subcategories according to Edvinsson’s categorization: customer capital and organizational capital. The first category includes those values which are generated by the firm’s relationships with its markets (e.g. client relationships, satisfaction, or the loyalty of customers, market share, the quality of distribution channels, and brand value).

The second component of structural capital is defined by introducing two additional sub-categories: innovation capital captures all the product and service innovations

\textsuperscript{55} Accordingly, companies have to manage and lead human resources in a way which motivates them to come back in the morning. This highlights the importance of behavioral aspects, and the role of leadership: a ‘good’ leader can encourage this, while a ‘bad’ one may promote the exact opposite (especially in a organization where the majority of the employees are from generation Y which requires an entirely different leadership approach to generations before – see e.g. Sinek [2009]).
created by the organization or its employees, while *process capital* describes the features (e.g. cost, time, and quality) of the organization’s core and supporting processes and the organizational structure (Edvinsson [2002], also applied by, for instance, Edvinsson – Malone [1997], and Gyökér [2004]). The relationship of the different components is illustrated in Figure 9.

![Diagram of intellectual capital components](image)

**Figure 9** – Components of intellectual capital according to Edvinsson’s classification

*(based on Edvinsson [2002], pp. 83.)*

Another classification of intellectual capital, widely referred to – and fundamentally very similar to the above-mentioned – was created by Karl-Erik Sveiby. Using his terminology, intellectual capital or intangibles are individual and organization-level knowledge resources, and their potential for value creation. Knowledge capital can be derived from internal resources and features which have a significant impact on strategy, as well as from the external relations and connections of an organization. Accordingly, the author defines intellectual capital by using the following three main categories (Sveiby [2001a] and [2001b]):

- **Human capital.** This consists of the knowledge, skills and competences of the employees in an organization. Sveiby emphasizes regarding this category that the only real actors in business are people, since all assets or structures – even those material or intangible – are products of human behavior and activities (Sveiby [2001b] pp. 63). Accordingly, human capital is closely connected to people: it arrives at organizations with employees who enter the organization, and will be lost once they leave. In the author’s opinion, managing human capital properly is an extremely important task of a leader, and the shape of human capital is an extremely important factor in corporate value, success and strategic performance.
• **Structural capital (internal structure).** Into this category the author locates strategic resources such as organizational processes and routines, business models, IT systems, and - for instance - corporate culture. Although these factors are created by employees as well, in most cases an organization can control and have specific ownership of them. In comparison to Edvinsson’s model (described above), this category is almost the same, and covers the components of process capital and innovation capital.

  *According to Sveiby, human and structural capital together comprise the organization itself.*

• **Relational capital (external structure).** This category includes the quality of the organization’s external relations with its customers, suppliers, and strategic partners. Additionally, it covers the value of brand name/s, copyrights and intellectual property, as well as corporate identity and reputation.

A similar classification was employed by Lynn who described intangible strategic resources or knowledge capital as a combination of human, relational or customer and structural or organizational capital components (Roslender – Fincham [2001]).

  *Mouritsen classifies intellectual capital as a combination of employer (human capital), process and technology (structural capital), and customer- (customer capital) related attributes and performance dimensions (see, for instance, Mouritsen et al. [2003]).

  *Steward [1995] and Bontis [1996] - two of the early authors in the field - propose a very similar classification for intangible strategic resources: human capital, organizational capital and customer capital (in Kannan – Aulbur [2004]). The content of each specific category is almost the same as that of Sveiby or Mouritsen (described above), only the weight of the different components and the focus differ.*

  *Brooking divides knowledge capital into four categories: (1) Market assets equal the potential an organization has due to market-related intangibles such as brands, customer repeat business, backlog, distribution channels, contracts and agreements such as licensing and franchises. (2) Human-centered assets are the collective expertise, creative and problem-solving capabilities, leadership, entrepreneurial and managerial skills embodied by employees of the organization. (3) Intellectual property assets are comprised of the legal mechanisms for protecting many corporate assets, and infrastructural assets, including know-how, trade secrets, copyright, patents, and various design rights, trade and service marks. Finally, (4) Infrastructure assets incorporates those technologies, methodologies and processes which enable the organization to function, including corporate culture, methodologies for assessing risk, methods of*
managing a sales force, financial structure, databases of information about the market or customers, and communication systems (Juhász [2004]).

Another set of practice and measurement-oriented terminology was designed by the German 'Work Group for Immaterial Values in Accounting' (Immaterialle Werte im Rechnungswesen, see in Arbeitskreis IWR [2001], and Tirnitz [2015]). This approach may be considered a synthesis of the previous classifications. The main components and sources of value creation according to knowledge capital are the following: *innovation capital, human capital, customer capital, supplier capital, investor capital, process capital and location capital*. The content of most of these categories is quite similar to that of the earlier described classifications. Accordingly, a detailed description of each component would not add value to this thesis, but the situation represents a good indication of the similarities with different systems of classification, independently of research group, university or region. As a result of the focus and perspective of this thesis, few additional but general definitions or classifications of intellectual capital are contributed here\(^56\). Since *at least one category of each captures human capital as a key source of intangible strategic values and performance*, detailed description of most of the additional definitions and categorizations of knowledge capital would not add further value to the main scope of the research.

Since the research objective is to analyze and understand what is behind leadership choices to integrate strategic performance measurement and management systems, the following two classifications are included to illustrate a few interesting and significant additional considerations regarding the terminology of intellectual capital and human capital that are later applied in this research.

One additional classification of knowledge capital adds value regarding how intangible strategic resources are handled and understood in ‘classic’ performance measurement and accounting practice and research. As has been emphasized in this thesis so far, most of the ‘classic’ performance measurement and accounting tools are imperfect regarding their incorporation of the recent trends towards a significant increase in the role of intangibles in corporate value creation. As a result, in many organizations – especially in knowledge-oriented industries – a significant gap arises regarding *(1) resources monitored by management systems, and the real strategic resources, and *(2) the gap between book and market value, and the value of goodwill which is growing

\(^{56}\) For further classifications of intangibles, see Starovic – Marr [2003] and Kaufmann – Schneider [2004], who provide a very structured overview of the terminology and literature of the topic until 2004. For a later synthesis, please refer to amongst others - OECD [2008], Marti – do Rosario Cabrita [2012], Matos [2013].
continuously (see, for instance, Juhász [2004]57). In other words, senior company management is less and less able to make ‘proper’ performance management decisions based on classic accounting information only. There is a clear need for additional analysis that identifies strategic resources and dimensions using a wide enough frame of reference, and monitors intellectual capital – and one of its most important components, human capital – more effectively and efficiently. In this approach each component of intellectual capital should be measured using key performance indicators that monitor and report on the status of strategy execution and targeted versus actual performance.

The following chart helps us to extend the classic terminology and classifications of intangible strategic resources and knowledge capital from a purely accounting perspective to a wider performance management perspective. As this IC classification highlights, if management focuses only on book value – i.e. on the assets and liabilities that can be activated in a financial accounting system58 –, it will miss an extremely important cluster of intangible strategic resources which have significant impact on corporate value and performance.

As the chart also illustrates, amongst other components human capital is one of the key sources of value and performance in organizations. The availability of employees, their professional knowledge, their business and social competence and experience, as well as (or instance) their attitude, motivation and values are all important from the perspective of market value (as a key indicator of high performance in accounting and evaluation practice). Since these human-related factors are not owned by the firm, leadership has to consider this fact and use the correct tools and processes to keep retain knowledge holders as important/critical members of the organization, in terms of strategy execution and performance generation as well.

57 Also, see more detail in Chapter 4.1.
58 As a result of the different functions of financial accounting, it is strictly regulated by laws such as IAS 38, IFRS 3 or national accounting standards (in Hungary 2000. / C. act, especially paragraphs 25.§, 52-53.§, 57-59.§, 63.§.) For the relationship and role of intangible strategic resources in financial accounting and performance management, see, for instance, Harangozó [2008].
Besides the broader performance management perspective of intellectual capital, the second additional classification that should be highlighted was developed by the European Commission in 2006 based on the MERITUM guidelines originally published in 2002. MERITUM [2002] defines two main categories of knowledge capital, as follows (in Sánchez et al. [2006]):

1. **Intangible resources (static notion)** are the stock or current value of given intangible strategic resources or intellectual capital components at a certain moment in time. Part of this stock of resources can, and another part cannot be expressed using financial terms and indicators. Such indicators can both focus on inputs (e.g. in a university, the number of researchers, for instance) or on outputs (e.g. in the same organization, publications).

2. **Intangible activities (dynamic notion)** implies the allocation of resources and indicators for monitoring the performance of:
   a. The development of internal (or acquiring of) new intangible strategic resources (e.g. hiring a talented workforce, if strategy demands it),
   b. The increase in the value of existing components of intellectual capital (e.g. training of people connected to the example above), or
   c. Evaluating and monitoring the results of the previous two intangible activities.
As the table below illustrates, the main added value and contribution of this classification to the research model is that the integration of intangible strategic resources – and human capital – into SPM systems does not mean only using static performance indicators to monitor the key performance dimensions of human capital. In most cases, organizations have to use dynamic KPIs to monitor key strategic activities regarding the identification, development or utilization\(^59\) of critical intangible strategic resources and human capital.

**Table 9** – Intangible strategic resources and activities (a dynamic/static view of intellectual capital)

<table>
<thead>
<tr>
<th>I. Static dimension</th>
<th>I. Intangible strategic resources</th>
<th>II. Dynamic dimension</th>
<th>II. Intangible strategic activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Human Capital</td>
<td>Organizational Capital</td>
<td>Relational Capital</td>
</tr>
<tr>
<td>To develop internally or acquire intangible resources</td>
<td>To increase the value of already available intangible resources</td>
<td>To evaluate and monitor intangible activities</td>
<td></td>
</tr>
</tbody>
</table>

(based on Sánchez et al. [2006] – modified)

The research model focuses on all of the intangible activities, but has a primary focus on the first category of static intellectual capital components, human capital. More details about the specific research model are available in Chapter 1 and Chapter 5.

### 4.2.3 Intangible strategic resources – A brief overview of different perspectives: from the strategic view to human resource management and knowledge management aspects

Despite the fact that ICM scholars intensified scientific and practical research into intangible strategic resources in the early 1990s, the discussion about the role of intangible strategic resources in organizations was one of the focal topics of strategy management literature much earlier.

The resource-based-view (RBV) strategy management approach, which brought significant emphasis to bear on the internal resources of an organization, can be considered one of the first practical and structured attempts to shape an intangible-focused turnaround in management theory. Although the RBV concentrates on strategy

\(^59\) The main steps of the management cycle of intellectual capital and its components are described in Chapter 4.2.3.
development, not strategy execution, it should be mentioned here as one of the key milestones in the literature in terms of acknowledging the role of non-material strategic resources as the potential basis of core competences and strategic advantage.

Two of the RBV pioneers, Prahalad and Hamel, published a milestone article on core competences at the end the 1980s. With this article, the authors propelled strategy management and thinking through a significant paradigm change away from a technocratic strategic planning or market-based strategy methodology towards a competence-based perspective and approach. According to this novel perspective, the key to strategic performance lies not in the ability to analyze and develop a market position and value chain (as Porter suggests, for example), but in building organizational strategy about the development, ownership and defense of valuable, rare, inimitable and non-substitutable (VRIO/VRIN) strategic resources – in other words: core competences\(^{60}\) (Prahalad – Hamel [1990]).

According to Grant, another important scholar in the RBV field, corporate strategies do not only concern the ownership but also the development of core competences and such capabilities to produce combinations which create profit for an organization, and additional strategic advantage on the market. As the author states in one of his later studies: ‘to keep up with the competition and be successful strategically, the companies have to focus on knowledge and on a flexible integration of it to the organization’ (Grant [1996]). This latter means not only having, but continuously developing those knowledge components which are crucial in terms of strategy.

From this perspective, the creation and development of knowledge – or knowledge capital, using the terminology of this thesis –, as well as monitoring the performance generated by intangible strategic resources are vital tasks for senior leadership, enabling them to manage strategy and strategy execution effectively and efficiently. From this RBV perspective, intellectual capital and its components are perfect examples of core competences since the chance they match VRIO/VRIN criteria is high. The most crucial IC components are those which contribute to strategy development and execution significantly. An SPM system needs to identify these components and monitor their performance properly.

Accordingly, the generic performance management cycle of intellectual capital needs to start with the (1) identification – or recognition – of intangible resources (based on corporate strategy). The next step is (2) intellectual capital development, while knowledge can be really integrated into performance management process through its (3) utilization. This generic ICM framework, derived from the RBV approach, helps us to

\(^{60}\) For more information on the resource-based approach and the VRIO/VRIN criteria, please refer (for example) to Barney [1991] or Grant [1996]).
answer one of the key research questions in this thesis: ‘how can human capital be integrated into strategic performance management systems?’.

As Figure 11 (below), illustrates, the generic (performance) management cycle of intellectual capital also provides us with more detail about the content and focus points of the separate stages. Discussion of these nine questions is also vital for understanding and identifying the key success factors of human capital and integrating human capital information into SPM systems.

**Figure 11 – General Performance Management Cycle for Intangibles: Applying the RBV Approach and Strategy Perspective to Intellectual Capital Management**

*(based on Günther et al., in Horváth – Möller [2004], pp.162)*

As the figure illustrates, the RBV approach provides us with a useful perspective for filtering IC and selecting as well as monitoring the most crucial components and performance dimensions of knowledge capital in the process of the general intellectual capital management cycle (including performance measurement and SPM as well). This approach emphasizes the role of the organizational context and strategy at the same time, which adds value in terms of this practice-oriented thesis and the research questions that will be analyzed.

Since based on corporate strategy and context the meaning and importance of intangible strategic resources – and one of the components, human capital – may vary
significantly, the intensity and method of measuring and managing human capital may be different from organization to organization. A knowledge-intensive organization in a dynamic environment needs and applies a different level of human-capital-to-SPM integration than another one operating in a more traditional or stable sector. Similarly, an organization with a strategy of differentiation will most probably implement a different set of human capital indicators and use them in the SPM system in a different way to another firm which has a focus on cost advantages or growth. Similarly, the role of leadership can be extremely important and significant, even if the environment, the corporate strategy or the overall structure of the SPM system are the same in an organization, and vice versa.

Accordingly, as the RBV approach and the above-mentioned generic ICM cycle highlight, the role of context should not be completely ignored, especially during the analysis and interpretation of the findings in this thesis. Even if leadership needs human capital information and supports its integration into SPM systems, other contextual factors may be needed to be considered. As summarized in Chapter 3.3., the attitudes of other functional units or (for instance) data availability can make it hard to implement an effective and successful system used of performance measurement for human capital.

Besides highlighting the importance of strategy in the selection of the most crucial attributes and performance dimensions of intellectual capital, and the role of context in terms of the findings of this research, several additional remarks can be also derived from the resource-based perspective, especially with regards to the main focal points and research questions of this doctoral thesis:

- **Classic RBV focused mostly on the stock and status of strategic resources, and on identifying and developing the most crucial components and dimensions of intangible strategic resources**, or in the case of this research, human capital specifically. From this perspective, the first-generation RBV approach and tools help senior management to define and monitor the performance and status of key IC components at specific points in time.

- **Besides the classic RBV however, it is useful to consider the next-generation RBV perspective**; the *dynamic resource-based view of the firm* (see for example Hagan [1996], Kuwada [1998], Bowman – Ambrosini [2003] or Helfat – Peteraf [2003]). Dynamic RBV promotes an important message in terms of this thesis: it is not only the static attributes (‘stock’) of intangible strategic resources, but also the related

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61 This research is focused on the role of leadership, but regarding the ability to generalize or the role of other influencing factors, see for example remarks about leadership neutralizers and substitutes in Chapter 3.2.
IC management and dynamic development processes (‘flow’) which are crucial for strategy execution and achieving targeted strategic performance. This message reemphasizes Table 9 in the previous chapter which illustrates that intangible strategic resources and activities are the two main attributes that should be integrated into SPM in terms of human capital as well.

This chapter has illustrated several significant insights that are considered in this thesis and research following a brief but structured review of the RBV strategy perspective in terms of integrating intellectual capital into strategic performance management processes and systems.

Since the main focus of this thesis is how human capital performance is captured and integrated into strategic performance management, it is also useful to consider the following few thoughts about human resources management (HRM). Since the independent factor in this research – leadership (see Chapter 2.3) – is one of the core topics discussed by both organizational behavior and strategic human resources management (HRM) literature, this section highlights a few relevant trends that should be considered in practical research into the performance measurement of human capital. In addition, since the last component of a strategic performance management system is usually incentive compensation (see Figure 6 in Chapter 2), this also creates a link (and the need for collaboration) with the HRM function. Besides such a strategy perspective as RBV, described above, it adds value to consider several elements of the HRM perspective too. As can be seen at the end of this chapter, since ICM is about knowledge management (KM) at the same time, integrating a few features of this perspective will be found to be useful too. Let us proceed with HRM first.

Since performance management (PM) is one of the core processes of an HRM system (see for example Dessler [2005], Noe et al. [2007], and Csillag [2014]), this thesis which focuses on the integration of human capital into strategic performance management, is required to consider the policies, processes and tools that are developed and operated by HR processes in terms of performance management in the organization. Such formal HR-related PM processes such as management-by-objectives, personal target setting, 180 or 360 degree feedback, or the components of incentive and compensation, as well as the ratio of variable and fixed salaries, are crucial influences on the integration of human capital into SPM. If an organization does not have performance-based incentives, or the HR function in a firm does provide any opportunities for leadership to connect the strategic performance contribution of human capital to any elements of compensation policies, the maturity of human capital in SPM
will not proceed at a level above the Performance Review stage (see Figure 6 before). This fact is also considered during this research.

According to the HRM literature, the performance management cycle has three main objectives and functions in an organization: (1) aligning behavior with strategic and business objectives, (2) the development of people, and (3) the administration of people’s performance for other HR systems such as compensation, headcount planning, hiring, training, as well as talent and career management (Csillag [2014]). The first of these HR functions is directly connected to the main objective of an SPM; namely, supporting the management to implement corporate strategy, while the other two are also crucial factors and components of HR systems, as well as attitudes towards human capital measurement and SPM integration. If the HRM unit has a ‘strong’ function in the organization, if HR is considered to be a strategic resource, or if the HR department is able to support the necessary strategic performance data about human capital, the probability of the integration of human capital to SPM may be higher. This fact is considered in this thesis too, despite the fact that the core HR-related performance processes and solutions – excluded in the first function above – are not the subject of the focus and scope of this research.

The focus is much more on formal strategic performance measurement and management systems (see Chapter 2), which can otherwise be an important source of information for the PM process that is also operated by HR. In other words, the information that is generated by a strategic management information system can be also used by HR during its performance management process, especially in individual target-setting, or during performance feedback sessions.

Accordingly, HRM is one of the key stakeholders in terms of human capital performance management as a part of SPM, and experts from both management functions need to work together in order to ensure success. Since in this research effort the focus is the role of senior management, collaboration between HR and SPM is outside its scope. The impact of this, however, is considered only indirectly (as a possible leadership neutralizer). Deeper analysis of the relationship between HR and SPM and its impact on the integration of human capital into SPM could follow as an optional phase of the research program62.

Finally, since this thesis focuses on the measurement of human capital performance, it cannot be forgotten that this refers to measuring and evaluating63 human beings – more

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62 First, we have to understand the reasons for the existence of performance information about human capital, and only then can we go to further and analyze how this information is being used in different functions in the organization.

63 The term ‘evaluation’ here refers to a comparison between target and actual status, including indicator values, action items or any additional planned features that the manager and employees agree on at the beginning of the planning
specifically, their performance and contribution to corporate value and strategy execution. The measurement and evaluation of human resources in general may possibly affect several organizational behavioral and ethical issues (see, for instance, Harangozó [2007]). From among these, this thesis concentrates on the role and impact of senior management and leadership on the basis of a structured literature review (see Chapters 2 and 3) and tailored longitudinal research into intellectual capital management in Hungary⁶⁴. Based on these studies, leadership style, as well as the attitude and support of senior management, are considered important factors of any strategic performance management implementation and change, including the integration of human capital into the SPM system.

As a result of the above-mentioned points and HRM considerations, this thesis considers HRM as one of the most crucial stakeholders in the organization regarding human capital performance measurement and management, in terms of SPM systems.

In addition, even if this thesis involves research into strategic performance management, and does not focus directly on knowledge management trends and practices⁶⁵, one important perspective of knowledge management literature needs to be considered.

Since the most crucial attributes and components of knowledge capital, especially in the case of human capital, are tacit components (see, for instance, Polanyi [1958] or Nonaka [1991] and [1994]), the measurement and monitoring of the strategic performance of human capital is not easy either. As a result of its intangible and often tacit character, the risk of subjectivity in human capital management is significant, and this includes identifying, formalizing and monitoring the different key performance dimensions of human capital. If this perceived subjectivity is too high, it can act as a leadership neutralizer as described above regarding the role and impact of HR.

Senior management’s perception about this risk of subjectivity and proportion of the tacit component of knowledge capital, or their trust in the reliability, validity and objectivity of human capital data and indicators may have a significant impact on the integration of human capital into strategic performance management systems. This fact should be considered and consciously handled during this thesis and research⁶⁶. Even if this thesis

⁶⁴ See, for instance, Harangozó [2007], Bodnár et al. [2009a], Bodnár et al. [2009b], Harangozó et al. [2010], Bodnár et al. [2010] and Bodnár et al [2011].
⁶⁵ Accordingly, topics such as knowledge development, sharing or storing (see Table 10 below) are outside the scope of this thesis. In terms of knowledge management trends in Hungary, the studies and members of the MTA Knowledge Management Workgroup led by Dr. Noszkay, or research groups like Dr. Gaál’s team at Pannon University, can provide the reader with more detail.
⁶⁶ For the main practical challenges regarding the implementation of SPM, see Chapter 2.3., while the typical challenges of ICM are illustrated in Chapter 4.3.3.
involves research into SPM, the latter influences may have a relevant impact on the interpretation of the findings.

Besides the above-described possible leadership neutralizer that is identified from knowledge management literature, an additional and much more positive feature should be mentioned here. After analyzing the main functions and tools of a knowledge management system (Davenport – Prusak [2001], Hislop [2009] or Dalkir [2011]), the authors claim that several components can provide us with value added inputs, especially in terms of identifying and describing the most crucial components and performance dimensions of intangible strategic resources, and human capital as the main scope of this research.

By providing a structured overview of the topics discussed in this chapter, the following table illustrates some of the key considerations that should be taken into account during the SPM research from the perspectives of HRM and KM.

The RBV approach has provided us with an interesting and useful additional perspective regarding the relevance of intangible strategic resources (independently from the ICM lifecycle), while the generic IC management process (see Figure 11) will be further elaborated on in the following chapters which describe more specific IC measurement methodology (see Figure 12), and discuss the various IC measurement methods and tools (Chapter 4.3.).
Table 10 – Integration of human capital into SPM: what does the HR and Knowledge Management perspective add to this thesis and research model?

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>RESEARCH NARRATIVE: STRATEGIC PERFORMANCE MANAGEMENT</th>
<th>ADDITIONAL PERSPECTIVE/1: HUMAN RESOURCE MANAGEMENT</th>
<th>ADDITIONAL PERSPECTIVE/2: KNOWLEDGE MANAGEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overview</td>
<td>SPM is a term used to describe management systems and tools designed to support management in strategy execution and enhancing the performance of the organization.</td>
<td>In a simplified way, the HRM perspective focuses on systems and processes which ensure that the organization possesses proper human resources. Performance Management is a key part of HRM practice.</td>
<td>KM’s perspective focuses on localizing and converting various kinds of information – incl. values, expertise, context, processes, etc. – to structured, well attributed and valuable knowledge resources.</td>
</tr>
<tr>
<td>Main focus</td>
<td>Corporate, business-unit level performance Corporate strategy and performance criteria cascaded to units and individuals</td>
<td>Individuals and team-level performance Individual and team-level contributions to corporate performance</td>
<td>Creating, storing and sharing knowledge resources Tacit and implicit knowledge components</td>
</tr>
<tr>
<td>Main function</td>
<td>Measuring, monitoring and improving corporate performance</td>
<td>Feedback and developing human resources in order to enhance their performance</td>
<td>Managing and coordinating knowledge resources inside the organization</td>
</tr>
<tr>
<td>Sample tools and processes</td>
<td>Core components and tools in a Performance Management System: - Strategy formulation - Strategy operationalization - Target setting and budgeting - Performance measurement - Performance review - Incentive compensation – in accordance with HR policies, and using collaboration between the two functions</td>
<td>Performance management a key component connected to the following HRM processes: - HR strategy &amp; workforce planning - Job structure &amp; competence management - HR flows (incoming, outgoing) - Career management &amp; succession planning - Learning &amp; development - Incentive systems, compensation – in collaboration with the related SPM process - Internal communication &amp; HR Administration</td>
<td>SECI – Socializing, Externalization, Combination and Internalization (Nonaka) Knowledge process wheel model, including: - Knowledge generation - Knowledge codification - Knowledge mapping - Knowledge storing - Knowledge sharing - Knowledge transfer - Knowledge application</td>
</tr>
<tr>
<td>Considerations from the perspective of this thesis (Excerpt)</td>
<td>The focus of the research is how the strategic performance of human capital is measured and integrated into SPM systems, and its components. The SPM perspective is described in Chapter 2, while more details regarding the research model are contained in Chapter 5.</td>
<td>HRM is one of the key stakeholders regarding human capital performance measurement, in terms of data availability and utilization, as well as being a result of HR’s key role in incentive compensation. These two types of collaboration needs should be considered during this SPM research on strategic performance measurement and management of human capital.</td>
<td>Knowledge management creates very important added value during the first step of the generic ICM cycle (see Figure 11). During this ‘Recognition’ stage, SPM experts and managers must identify and classify the most important key strategic factors and dimensions of human capital. Knowledge mapping, for instance, could be a useful tool for this.</td>
</tr>
<tr>
<td>Relevance to the research model (Inputs)</td>
<td>Core of the research model: Analyzing human capital information in various SPM components, with a focus on the impact of leadership style. Six components of SPM systems.</td>
<td>To analyze the connection with and impact of human capital measurement on compensation system and incentives (+/-). Considering HRM as a key data source on human capital measurement and management.</td>
<td>To analyze how to identify critical human capital components during the SPM cycle, and to consider the impact of perceived subjectivity as a result of tacit knowledge. Practical KM tools to identify human capital.</td>
</tr>
</tbody>
</table>

(based on a structured literature review and the scholars referred in Chapters 2, 3 and 4, including the current author’s earlier research, e.g. Harangozó [2011])
As the table above illustrates, despite the focus in this thesis on strategic performance measurement and strategy execution, both the HRM and the KM approaches – two different but highly connected perspectives – are aspects which may be integrated into the design of this research.

During the formulation of the research model and hypotheses, the following two main issues need to be considered:

- SPM and HRM need to work closely together if leadership wants to integrate human capital into SPM systems successfully. This is clear in the case of incentive compensation, but there is also significant impact in terms of data availability, and human capital information in performance reporting and review.

- SPM and knowledge management need to work together, especially when the senior management seeks to identify and operationalize the most crucial strategic components of human capital. This is an important input for strategic performance management experts during the first phase of the ICM performance management cycle, as illustrated in Figure 11.

Appropriate collaboration with HRM, as well as the existence and support of Knowledge Management, may make a positive impact on human capital measurement, and help integrate the most relevant human capital performance information into SPM systems if the leadership style is generally supportive towards human capital measurement and its integration into strategic performance management.

Acknowledging that there may be various goals and objectives for intellectual capital management, and that there exist various practice-based methods and tools for measuring and managing intellectual capital (as well as the fact that different practical challenges can emerge), the probability of successful implementation is higher if HRM and KM are on the board of SPM, and collaboration between them is better.

The next chapter summarizes possible objectives, tools and challenges of intellectual capital management.
4.3 Intellectual Capital Management – Objectives, various performance measurement and reporting tools, and practical challenges

As a result of the previously described trends and tendencies in strategy, corporate performance and value creation (see Chapter 4.1), many organizations – especially those in which knowledge is definitely a crucial strategic resource – need to capture the contribution and performance of intangible strategic resources and human capital effectively. For various reasons, including the intangible character of knowledge capital, or the inadequacy of classic measurement tools such as accounting or financial performance management, this is not a simple task, even if details about various IC measurement methods have been published in the literature and corporate practice.

This chapter gives an overview of the status of intellectual capital management practice, with a focus on

- the most important managerial objectives for ICM implementation;
- related performance measurement and reporting tools with a special focus on human capital;
- the most common practical challenges related to strategic performance measurement and the management of intangibles.

Since intangible strategic resources have no physical or financial appearance in most cases (see the definitions in earlier chapters), their identification, measurement and management are harder than in the case of classic material assets. In addition to the generic influencing factors of any SPM implementation and change process (see Chapter 2.3), we can count on additional challenges and the existence of potentially inhibiting factors in the case of intellectual capital measurement and management. Most of these factors are also relevant to human capital measurement and management.

4.3.1 Main objectives of measuring and reporting intellectual capital and intangibles

As emphasized in the SPM literature and practice, it is hard to make effective and efficient decisions regarding strategy, strategy execution and performance without structured, reliable and regular managerial information about the objects of decisions. This claim is absolutely applicable to intangible strategic resources, and their integration
into strategic performance management cycle and systems. The first step of IC/HC focused strategic performance management has to be 'measurement' – i.e. specification and monitoring of the targeted key success factors and performance dimensions of strategic components of intellectual capital. From an SPM perspective, performance measurement refers to a process of gathering, processing and analyzing information and providing it to senior management to support their decision making. From the perspective of this thesis, the latter is the main goal of intellectual capital measurement and reporting methods and the integration of human capital into SPM. Besides this generic goal, however, different authors have emphasized different goals and objectives for intellectual capital measurement and management. This chapter illustrates several of the most important examples.

*Turner and Jackson-Cox [2002]* highlight three main objectives for the measurement and reporting of intangible strategic resources: (1) enhanced management and control of the investments organizations make into human resources and human capital, (2) identifying companies with growing or decreasing intangible values, as well as (3) measuring company returns on investment in intellectual capital. According to these authors, it is very important that the measurement and monitoring of knowledge capital directs the attention of managers and investors towards these core strategic resources. Another relevant scholar, *Bernard Marr*, adds his opinion that the main benefit of intellectual capital measurement is that experts and managers identify and discuss the main individual components and key performance dimensions of the most strategic intangible resources. Marr acknowledges the role of financial terms in measurement and management control in general; however, in many different strategic situations it is also pointless to stick to only making financial evaluations, especially in the case of intangible assets (in Juhász [2004]).

From the perspective of strategic performance management and the research narrative, regular managerial reporting on strategic performance as well as the strategic KPIs for intellectual and human capital have more added value in terms of regular strategy reviews and decision making than financial evaluation, which needs many expert hours and resources in most cases. The first objective of the above-mentioned

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67 Intellectual capital / Human capital

68 The term ‘measurement’ refers to data collection and information generation (e.g. reporting) processes, while the term ‘evaluation’ is when the managers compare target and actual values and decide on action items/ ways of eliminating performance gaps and achieving strategy (as the main criteria of good performance).

69 For instance, the IC measurement method (see the 4 leaf model) developed by Areopa consists of a large number of different indicators and factors that should be calculated to properly financially evaluate intangible assets and the financial value of the firm (developed by Ludo Pyis and his team, see for instance Stocker [2012]). The data collection and administration needs of such a system – if we want to use it for quarterly reporting, for instance – could possibly create extra costs for an organization that may not be exceeded by the benefits of better strategic decision making. In the case of ad hoc strategic decisions (e.g. selling a company or a business unit) it makes absolute sense to use such a complex
authors is closely connected to the man focus; i.e. on the performance and contribution of human capital.

In another study, Andriessen differentiates three main types of motivation for the measurement of intellectual capital and its components: (1) enhance the quality of internal management decisions, (2) improve information in external reporting, as well as (3) comply with the law and regulations, or the business requirements (e.g. defined by investors, owners, key market players, etc.). According to the author, the first category covers such factors such as increasing the efficiency and effectiveness of performance management and management control; better understanding and monitoring of strategies, activities, and the effects on performance; development of a resource-based strategy, defining strategic initiatives for the implementation of strategic objectives, and – in general – the development of the intellectual capital management practice. Amongst the external objectives, intentions such as eliminating information asymmetry towards investors; reporting a more realistic value for the organization; enhancing the company’s attractiveness in terms of financial capital; and improving reputation are mentioned. The third category of legal and transactional factors the author does not consider to be real motivators or managerial objectives regarding intangibles; however, he considers them the minimum criteria for staying in the market (Andriessen [2004]).

The previously mentioned RICARDIS expert group and research emphasized the following main objectives behind intellectual capital measurement – more specifically behind Intellectual Capital Statements as one of the methods of IC measurement – in knowledge-oriented and innovative organizations. Several of the goals listed below are closely connected to strategic performance management, and since they have been collected and discussed by 65 senior managers or practical experts, and researchers from various sectors and European countries, they involve both scientific and practical goals at the same time (based on RICARDIS [2006]):

- **Enhance the quality of managerial decisions** by making intellectual capital transparent and reportable;
- **Develop a performance-oriented culture where knowledge sharing is standard and effective**;
- **Provide a better understanding of strategic objectives, activities and the business model** of the organization;
- **Attract a qualified and talented workforce, and initiate strategic partnerships** with another organizations;

system; however, for regular performance reporting and review not so much. For this latter, companies tend to use regular standard reporting which incorporates dynamic opportunities for analysis and drill down functions.
• Improve communication between management and additional key stakeholders;
• Create better transparency about performance and value for owners/shareholders and investors;
• Complete the information that is available in financial reports using relevant indicators for the intangible strategic resources of the organization (as these are the basis for future value creation);
• Improve the efficiency and effectiveness of capital markets, support better decision making about capital allocation.

Very similar objectives have been defined by the German Federal Ministry of Economics and Labor during their ‘Wissensbilanz’ project which involved the participation of many innovative Germany organizations and small-medium-sized enterprises. The main goals for intellectual capital measurement and reporting are as follows (based on Arbeitskreis Wissensbilanz [2004] pp 12-13):
• Systematic management of the organization, supporting better decision making by management as regards performance;
• Better access to financial resources and acquisition of loan and equity capital;
• Meeting legal requirements;
• Enhancing employee recruitment and the retention of talented people;
• Developing cooperation and partnerships;
• Enhancing customer acquisition and retention.

Although such classifications of the objectives for intellectual capital measurement and management could be continued (see, for example, Horváth – Möller [2004], Grimaldi – Rogo [2013], Serenko – Bontis [2013]), this would not add extra value to this thesis. Most of the managerial objectives mentioned by the different experts are overlapping, but with the same main focal points that should be applied in practice. Almost all of them highlight ‘better decision making’, ‘better support for strategy execution by management’ or ‘better transparency about intangible performance’. These three goals are very important from the perspective of this research when analyzing the integration of human capital into strategic performance management. Accordingly, instead of continuing to list the different generic objectives behind ICM, in the next section I rather emphasize several additional remarks regarding the objectives of integrating human capital into Strategic Performance Management Systems:

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70 See for instance Arbeitskreis Wissensbilanz [2004] – the guideline developed by the above-mentioned German federal ministry for enhancing the standardization and effectiveness of intellectual capital statements, one of the most frequently referred to performance management tools for strategic intangible assets/ knowledge and human capital.
71 Intellectual capital measurement & management.
1. The managerial motivation for enhancing the transparency of intangibles is a key motivation for integrating human capital performance into SPM systems. The key performance dimensions and factors related to human capital (or the KPIs that articulate them) should be monitored regularly, with a focus on the factors which are critical in the strategy and strategy execution of the organization.

2. This enhanced transparency – and managerial reporting – about human capital cannot be only ‘l’art pour l’art’. In an optimal case, the extra information about human capital performance should be used in different managerial decisions. The maturity level of the integration of human capital into SPM depends in the research precisely on whether and how leaders need and use human capital information during the SPM cycle (see later).

3. Since performance generated by human capital is not only relevant for strategic performance management but for other internal stakeholders, such as – amongst others – human resources, an additional key goal of human capital performance measurement is to enhance cooperation between the key internal stakeholders such as SPM and HRM inside an organization. Since both parties can have a significant impact on the level of integration of human capital into performance management systems and processes, this partnership is a very important factor. It is not only external stakeholders – as the generic ICM objectives highlight above – who should be focus of the measurement and information, but key internal ones as well. Although this is part of the generic motivation behind ICM, in the case of Human Capital it should be given higher emphasis.

Besides the above-highlighted remarks, most of the other key triggers behind intellectual capital measurement and management are also relevant for human capital performance measurement and reporting. For instance (1) developing a performance culture, (2) attracting and retaining a talented workforce, (3) enhanced knowledge sharing and cooperation, (4) obtaining better understanding of the strategy and the business model, or (5) providing additional performance information to owners and investors are also of critical importance regarding human capital performance management, especially in sectors where human resources are the most critical strategic resources factors in strategy implementation and performance.\textsuperscript{72}

\textsuperscript{72} See for instance Rob Austin and Pat Larkey’s interesting research about the performance measurement of knowledge workers (Austin - Larkey [2007]).
4.3.2 Overview and typology of IC measurement methods and management tools, with a focus on human capital

As discussed previously, the first step of the intellectual capital management/ performance management cycle is the identification and monitoring of its most critical dimensions and components. The key performance dimensions or key success factors of intellectual capital should be derived from strategy – and the main function of SPM systems is to support strategy implementation and the organization to achieve ‘high performance’ (see Chapter 2)\(^73\).

Since recently the enhanced and growing role and importance of intangible strategic resources in corporate competitiveness and value has been observed, this trend has created a practical need for new ways of measuring performance in a more enhanced manner. As a result, various organizations have developed or applied their own management tools and frameworks for capturing intellectual capital and its value. Intellectual capital measurement and reporting tools however, should not be applied for the stricter or better control of intangible strategic resources, but their use should be considered an opportunity to enhance managerial transparency about the most important strategic resources which can be used in promoting value creation, strategy execution and performance.\(^74\) Nevertheless, as a result of different practical challenges during ICM implementation (see the next chapter), achieving the state-of-the-art SPM integration of intellectual or human capital is not easy, even if the fact that the intention to create a set of proper management tools to manage intangibles matches the functional paradigm followed in this thesis from the beginning.

This chapter provides the reader with relevant practical examples of different performance management tools specifically designed to monitor the performance of knowledge capital. During the brief overview the focus is on the most frequently referred-to methods, as well as on human capital, as this is main subject of the research model. Since in the management practice and literature at least 40 different measurement methods are mentioned for the measurement of intellectual capital (see, for example, Jurczak [2008] or Sveiby [2010]), at this point the thesis does not aim to provide a fully

\(^73\) We define ‘high performance’ in this thesis as the effective and efficient achievement of strategic objectives, independently from the characteristics of the strategy or the specific strategic objectives. In other words, performance may be financial performance, but articulated by a set of non-financial indicators as well. Key success factors and indicators for capturing them need to be defined based on the strategy of the organization.

\(^74\) Sveiby, one of the intellectual capital gurus, calls the widely referred management slogan “what you cannot measure, you cannot manage” completely erroneous. In his opinion, this attitude leads to incorrect motives and practice, since it focuses on internal control and external PR only. However, the main goal should rather be “learning” and “looking for new opportunities” (Sveiby [2010]). This research is designed to be balanced by analysing the motives behind human capital’s integration into SPM in order to answer this question using the research sample. The hypothesis is that properly implemented IC reporting can definitely provide useful information for managerial decision making, while the way it is used in an organization may also be dysfunctional, meaning that is may be used only for control, not for learning as well. It’s use may be balanced in a properly planned and used SPM system.
comprehensive approach but is instead selective. This perspective is however absolutely aligned with the practical research model, where the specific performance management tool or framework is not critical either: the scope of the research is on the integration of human capital into SPM, meaning the focus is on content rather than form or structure. The main question is whether human capital information and indicators are available in the different SPM systems and processes independently from the specific management tools or frameworks used in organizations (see table below).

As mentioned before, more than 40 performance measurement methods have been developed to capture intellectual capital and provide structured support for managers for measuring, evaluating and managing their intangible strategic resources – or in accounting terminology: intangible assets. According to the one of the most frequently referred to classifications, the measurement methods for intellectual capital can be assigned to one of the following main four categories (see, amongst others: Bontis [2001], Roos et al [2005], Sveiby [2010], or [Juhász [2004], Harangozó [2007], Boda [2008], Tóth [2008], Stocker [2012]):

1. **Direct Intellectual Capital Methods (DIC):** these models break down intellectual capital into its various components and estimate the total financial value of intangibles by individually and directly evaluating the specific components.

2. **Market Capitalization Methods (MCM):** these methods estimate the financial value of intangible strategic resources or intellectual capital by calculating the difference between the market and book value of the company. If the market capitalization (or market value) is higher than the value of the stockholders’ equity in the financial reports (as the book value of the firm), then the intellectual capital has a positive value to the organization.

3. **Return on Assets Methods (ROA):** these models divide the average pre-tax earnings of the organization by average tangible assets. The result is a company’s ROA which is then compared to the industry average. Describing this in a simplified way, the value of intangibles can be calculated by capitalizing the positive (or negative) difference in returns compared to industry average.

4. **Scorecard Methods (SC):** these methods identify various components and performance dimensions of intellectual capital, and are designed to monitor changes in the status of key intangible components by using specific key performance indicators. Accordingly, the main function of these tools is not
financial evaluation but the management and monitoring of the different critical intellectual capital components.

The following table illustrates the above-mentioned categorization of different intellectual capital measurement methods and tools, using several sample management tools for each category described above.

**Table 11 – Categorization of IC measurement methods, with examples**

<table>
<thead>
<tr>
<th>Cat.</th>
<th>I. Focus</th>
<th>II. Evaluation by using</th>
<th>Sample IC measurement methods (and key authors), with a conscious focus on human capital</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall IC value</td>
<td>Individual IC components</td>
<td>Financial KPIs</td>
</tr>
</tbody>
</table>

Like DIC, ROA and MCM methods are designed and focus on the financial evaluation of intellectual capital. For the selection of critical intangible resources and performance dimensions to be measured by KPIs, the different frameworks use different criteria – for instance, in a BSC we identify factors by their strategic contribution and need for action/urgency (Kaplan – Norton [1996] & [2005], Van Den Berg [2002]), while the Intellectual Capital Statement emphasizes the role of management challenges during the identification of the key success factors; for instance, Mouristen et al. [2003]), while the German Wissensbilanz approach focuses on the core value-creation processes and the value chain of the organization (Arbeitskreis Wissensbilanz [2004]). Since the research applies a management tool/framework independent approach, the models are illustrative only. During the research the focus is on the different SPM processes (see Chapter 2.) and the human capital information inside them. It may only be additional information if a company uses BSC, ICS or any other tool to capture human capital within performance management systems. The level of integration is key, not the management tool itself.
As the table above illustrates, many different measurement methods and tools have been developed during the recent period. In general, we can say that the overall approach of most of the IC measurement methods mentioned above are similar; however, they may use different processes or indicators to capture the critical IC components and their contribution to performance. If we consider that the term 'high performance' refers to when an organization achieves its strategy effectively and efficiently, this latter trend in terms of different indicators and IC content is absolute normal. As discussed before, according to the overall IC management cycle (see Figure 11 in Chapter 4.2.3), the most important components, dimensions and characteristics of knowledge capital that need monitoring must be identified and specified based on a selected set of criteria (in the present approach, based on corporate strategy). A state-

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78 Although the main goal of Scorecard methods is not to make a financial evaluation of intellectual capital, in several cases we can identify financial indicators with which to measure various performance dimensions or strategic success factors of human capital (e.g. EVA on top of a KPI system, or the ‘average salary compared to competitors’ indicator to estimate future fluctuation, or the capability of a company to retain key knowledge holders). From this perspective, SC methods also use financial KPIs during performance measurement and management.
of-art performance measurement process always needs to start with the selection of the most critical dimensions and resources - monitoring and implementation can only follow. This is illustrated in the following chart by applying this generic assessment approach to intellectual capital (De Beer – Barnes [2003]).

![Diagram of assessment methodology and main steps of assessing and monitoring intellectual capital](image)

**Figure 12** – Methodology and main steps of assessing and monitoring intellectual capital

*(based on De Beer – Barnes [2003], pp. 19. - modified)*

After reviewing this figure about the assessment methodology of intellectual capital, it is easier to understand the reasons *why Table 11 highlights scorecard methods*:

In terms of supporting strategy execution and strategic performance management, scorecard methods seem to be most relevant, as a result of their focus on status and performance gaps in terms of the most crucial IC components and performance dimensions, independently of how these dimensions and the related KPIs have been selected. Based on the structure of the specific IC method, the filtering mechanism may be corporate strategy, a knowledge narrative with management challenges, or any different criteria applied by the senior management of an organization. As the main function of scorecard methods is to monitor and regularly report on the status of critical performance dimensions, they are the most relevant tools in terms of strategy execution and strategic performance management.
This claim is valid and applicable to the present research model as well, since – from both a theoretical and practical standpoint – the most important motivation for integrating human capital information into SPM systems is exactly this: *managerial support in strategy execution and in monitoring the contribution of human capital to strategy and performance (one of the most critical resources in organizations from various industries)*.

Before proceeding with our journey towards the research model which is developed and applied in this thesis with a focus on the integration of human capital into strategic performance management systems, it is nevertheless important to make or reemphasize a few additional remarks regarding the research model and the various IC measurement methods and tools described in this chapter:

- This research focuses on the integration of human capital into strategic performance management, with a special focus on the role and impact of leadership style. During this effort, the focus is not on the specific content of the human capital indicators, but on the way they have been developed and utilized in the different components of the SPM system. In my understanding, if human capital information is applied and used in more processes of the SPM framework (as described in Chapter 2), the level of the integration of human capital into SPM will be higher as well.\(^\text{79}\).

- Since the aim of SPM is to support the implementation of corporate strategy, the focus is on scorecard methods, not on the financial evaluation of intangibles and human capital. In other words, this thesis concentrates on performance management tools which apply key performance indicators to monitor strategic trends and gaps in terms of the contribution of human capital to strategic performance.

- Human capital is captured in almost all of the scorecard methods listed in the table above. For instance, the *human focus perspective* in Skandia Navigator (together with Innovation) measures directly key performance related to human capital, while the *learning and development perspective* in BSC, as well as the *competence component* in the Intangible Assets Monitor (IAM) incorporate indicators to capture human capital as well.\(^\text{80}\). In addition, tools such as the HR Scorecard, the Knowledge Audit Cycle or Human Capital Intelligence have been primarily designed to measure performance generated by human capital specifically (etc.).

\(^\text{79}\) For more detail, see Chapter 5 which describes the research model this thesis is based on.

\(^\text{80}\) For instance, the IAM method structures the indicators according to growth, innovation, efficiency and stability. This approach is valid for KPIs regarding human capital as well (see, for instance Harangozó [2007] and [2012]).
Finally, although the above-mentioned SC methods clearly capture human capital as one of the critical categories of intangible strategic resource, the present research consciously employs a ‘method free’ approach to avoid too much attention being paid to the method itself, instead of the content. In other words, the focus of this research is not limited to any of specific performance management tools above (such as BSC, IAM, HR Scorecard, Intellectual Capital Statement, Knowledge Balance Sheet, etc.), but structuring the research model according to the significant components and processes of an SPM system (as described in Figure 6 in Chapter 2). The main questions are why and what kind of performance information about human capital is integrated into which SPM processes, and how, independently of the specific tools used by the organization.

In justification of the approach of not focusing on a specific performance measurement and management tool in this research effort, there are both empirical and literature-based arguments. As the next chapter illustrates, as a result of different practical challenges and problems, there is no one best way to measure intellectual capital, and none of the specific IC measurement methods predominates. All the models have benefits and limitations, as the following examples illustrate in brief:

- One of the first practical IC measurement and reporting tools, the Skandia Navigator™, was developed by Leif Edvinsson, the Corporate Director of Intellectual Capital at the Swedish financial Skandia in 1998. However, as a result of various challenges, the company compiled and published its IC report for only a few years after the first issue (based on the Skandia homepage, and Starovic – Marr [2003]).

- Despite the fact that Austrian universities and even the National Bank of Austria have to submit an intellectual capital statement to the government by law (the related act was updated in 201681), the utilization of related performance indicators and information about knowledge capital is very limited inside the affected organizations. One of our own research projects indicates that the main reasons for not using ‘Wissensbilanz’ for internal management purposes are (1) the overly high number of KPIs, (2) a low level of internal relevance of indicators, (3) its lack of connection to performance agreement and funding, and (4) the low level of trust in KPI data. Accordingly, the report may be considered an instrument for use in compulsory external reporting rather than an SPM tool for internal performance management purposes (Harangozó – Tirnitz [2010]).

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81 Wissensbilanz Verordnung 2016 is published on 29 April, 2016 – [www.ris.bka.gv.at](http://www.ris.bka.gv.at)
• Although the HR Scorecard has been designed specifically to measure and monitor the performance contribution of human capital, as well as the human resources management activities in an organization, this tool can be considered a tailor-made balanced scorecard, not a new performance measurement framework (see for instance Becker et al. [2001]).

From this perspective, although there are many different methods of IC measurement available in the literature, directly focusing on the specific tools, not on the human capital content in an SPM system, may not lead to clear results with real added value.\textsuperscript{82}

In addition, based on the present author's experience, and independently from the fact that there are no specific human capital measurement tools in place in most organizations, many organizations and senior managements have different human-capital related objectives in their strategy development and operationalization processes, and discuss a variety of various human capital indicators in their strategic reporting and review processes. The reasons and tendencies for this are not self-evident, however, and it is not easy to identify patterns at first glance.

The main objectives of this research effort are, accordingly, to analyze and understand the method of implementation of such human capital management systems and the reasons for the different levels of human capital integration into SPM systems, with a special focus on leaders' involvement and impact on this.

4.3.3 Practical challenges and limitations of the mainstream IC measurement tools and monitoring frameworks

During the last decades numerous IC measurement methods and approaches have been developed to capture the enhanced contribution of intangible strategic resources in corporate value and performance. Despite the availability of various intellectual capital management tools, during their practical implementation various challenges and problems have emerged and led to questioning of the reliability of the estimated IC values, misuse of the information generated by the measurement methods, and/or a low level of trust in the KPI data (etc.). In addition, different unintended organizational or behavioral side effects may also appear when the introduction and operation of such systems has not been conscious enough (see, for instance, Harangozó [2007]). This

\textsuperscript{82} Of course, if results later indicate that patterns exist regarding the measurement tools typically used in practice, this will be dealt with during the analytical phase. However, this topic is not the preliminary focus of this research.
chapter summarizes the most typical practical challenges and limitations of IC measurement and management tools, in order to create the necessary background for the later analysis of the findings of the research.

The first important category of practical challenges in IC measurement relates to the intangible nature of intellectual capital and its components (such as human capital). As a result of the tacit nature and lack of material or financial form of these resources and assets, their performance evaluation and assessment is mostly made feasible by measuring and monitoring (or, better to say, ‘estimating’) their indirect impact or influence on strategy or corporate value. This approach, however, may easily include numerous subjective factors when it comes to identifying the crucial dimensions, as well as specifying them in terms of indicators and target setting, as well as during the managerial assessment and evaluation of recent status and actual performance. As a result, IC measurement cannot be as accurate and precise as managers expect it to be, and this perceived subjectivity can significantly decrease the level of acceptance of the system by the key stakeholders inside and outside the organization.

In addition, despite the growth in the number of management and measurement methods developed to deal with intellectual capital, the list of ICM tools is still less extensive and well-tested than the classic managerial approaches applied to the assessment of material or financial assets. On the other hand, classic measurement and evaluation methods such as accounting systems do not provide a proper framework for monitoring intangible strategic resources. Of course, because the main function of a financial accounting system is to provide standard and reliable external information about business transactions – which happened in the past or are expected to happen in the very near future – and which have an effect on the value of assets and liabilities, as well as the financial performance of the organization, they may be less flexible when it comes to capturing most of the various intangible strategic resources. How specific national or international accounting standards regulate opportunities for activating intangibles, excluding various easily protectable or controllable intangible assets (such as licenses, patents or copyrights) is variable, and most of the performance impact of intellectual capital is captured in goodwill as the difference between market and book value. Although the value of goodwill can be significant in many cases, this only KPI to estimate the value of intellectual capital is too generic and collates the impact of many

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83 See later.
84 Providing a detailed description of accounting regulations that concern intangible assets is outside the scope of this thesis; however, for international regulation see IAS 38 and IFRS 3, while Hungarian accounting regulation is described in Law C/2000 (Számviteliv tiv.).
85 In a Hungarian context, see for instance the research findings of Juhász [2004] and Martin [2013].
different factors in one – it is thus less practical and useful for performance management purposes, where the goal is to understand the trends and status of specific critical components which impact performance (such as the key performance dimensions of intellectual or human capital). In addition, as the main function of strategic performance management is to support decision making as regards the future execution of strategy (the key criteria of performance), the added value of mostly past-oriented accounting systems is limited.

Regarding the above-mentioned generic challenges regarding the ability of accounting systems to capture intellectual capital, it is worth mentioning here another financial assessment and measurement tool – namely, Human Resources Costing and Accounting\textsuperscript{86} – that may be used to evaluate intangible strategic resources, and especially the object of the research, human capital. Although the financial evaluation of human resources raises serious ethical concerns and questions, the main function of the HRA approach is to identify and evaluate human capital, as well as generate managerial information about its value (Gebauer – Wall [2002]). The HRA provides different ways – namely, acquisition costs, replacement costs, alternative costs, market or income-based methods – to financially evaluate human capital and its performance\textsuperscript{87}; however, it is possible to emphasize the weak points of almost all of the methods (see for a structured summary, amongst others, Juhász [2004]) – so their added value is also limited in this research. Since the main focus is to support future strategy execution and strategic performance management, financial evaluation methods are of less added value. This statement is also valid for the HRA approach, which remains outside the scope of this research as well. In general, during this research a performance management, not management control perspective, is applied (for the difference, see for instance Chapter 2 and Bodnár [2005]).

Besides the above-mentioned limitations with activating and monitoring intangible assets inside accounting systems, additional challenges may appear as a result of the differences in the value creation of intellectual capital compared to ‘normal’ material and financial resources. Kaplan and Norton, developers of the BSC method from Harvard Business School in Boston, highlight the following four factors and specialties (Kaplan – Norton [2005]):

1. *Value creation is indirect*: value creation through intangibles is hard to capture directly since it mostly happens via indirect cause-and-effect relationships and

\textsuperscript{86} See HRA 1 and HRA 2 in Table 11 above.

\textsuperscript{87} Accordingly, the HRA approach does not evaluate the people themselves, but the performance generated by them. From this perspective the significance of ethical questions related to the evaluation of human life may be decreased; nevertheless, other negative risks or side effects exist (see for instance Ebersberger [1981], in Juhász [2004]).
chains. The identification and analysis of the influence of different cause-and-effects is crucial in the effective measurement/ performance management of intellectual capital.

2. **Value is embedded in context:** the contribution of intangibles to corporate performance is always individual and unique and depends on the level of alignment between intangible strategic resources and strategy.

3. **Value is potential:** the costs invested in intellectual capital and its components are only a weak estimation of value. The future value of intangible assets can be significantly more or less for the organization than their acquisition costs and value.

4. **Intangible strategic resources are closely linked:** the components of intellectual capital are connected to each other, to strategy and to the context. The identification and measurement of their individual value or contribution to strategy and strategic performance is hard in most cases. For instance, specific knowledge or the low turnover of employees may be critical in one organization, while another firm may need different professional knowledge, or new impulses and perspectives from employees (which can lead to higher turnover). Accordingly, both strategies and performance information about intellectual capital should be interpreted with consideration of these linkages in terms of corporate strategy and the key performance dimensions of the specific IC components (incl. human capital) as well.

   Besides the study summarized above, Kaplan and Norton emphasize in general that the supportive role and commitment of executive management and leadership is crucial for implementing any strategic performance management system, not only IC measurement (Kaplan – Norton [1998], in, for instance, Bodnár et al. [2009a] and [2010]). This perspective and the generic influencing factors of any SPM implementation and change process described in Chapter 2.3 provide important background for this research as well: during the analysis of the integration of human capital into strategic performance management systems, the role of leaders is the main influencing factor that is analyzed to create understanding.

   As already illustrated in this chapter, implementing IC measurement and management is not an easy task in general, as a result of different overall challenges independent of the specific IC measurement methods available in the literature and corporate practice. Additionally, several management studies have highlighted the direct organizational and behavioral challenges regarding specific IC measurement methods.

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88 Of course, other key components of the organizational context also have an impact on SPM implementation and content (i.e. if the system includes any indicators for human capital). However, these are outside the scope of this research which focuses on Hungarian SPM maturity regarding human capital and the role of the leader in this.
The following examples illustrate such findings regarding specific IC measurement methods, and generate additional insight into the topic:

- Regarding the practice of measuring human capital, Edersberger [1981] mentions the ethical risks of labelling people based on their performance, and accordingly putting them in a ‘box’. Since it is very hard for employees to break out from this box and overcome their labels later, even if their performance has increased significantly, it is very important for senior management and leaders to be pragmatic and flexible when using any IC measurement tools. Avoiding this ‘manipulative’ situation will have a positive impact on successful human capital measurement and the level of motivation in an organization. Connected to this, Johansson [1999] highlights that the role of the emotional intelligence of leadership during measurement is one of the key success factors (both authors referred to by Juhász [2004]).

- In addition to this generic behavioral criticism above, North, Probst and Romhardt highlight three practical problems, with a special focus on indicator-based scorecard models. According to the authors, the available IC methods (1) do not measure the important factors, (2) tend to apply the wrong approach to measurement, and (3) tend to use improper indicators (North et al. [1998]).

- Finally, Ittner and Larcker emphasize the positive impacts of the use of IC measurement methods in the organization; however, the authors also draw attention to potentially negative impacts of the over-/misuse of financial indicators during monitoring the contribution and performance of intangible strategic resources. In the author’s opinion, there are four main errors that organizations can make during the implementation and operation of IC measurement and reporting (Ittner – Larcker [2004]):
  - A lack of linkage between indicators and (corporate) strategy.
  - A lack of attention to the (cause-and-effect) relationships.
  - A lack of target setting, especially regarding the key performance dimensions of intangibles strategic resources.

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89 This is relevant, even if the importance of pursuing a ‘method-free’ approach has already been emphasized during this research. Maintaining a focus on the motivation and reasons for measuring human capital (why), the content (what) and processes (how) of this, as well as the utilization (who) of performance information that is generated, are the main focus points of this research, not a focus on any of the specific methods.

90 The role of emotional intelligence is also highlighted in Goleman’s leadership model and has been consciously integrated into the empirical research in this thesis (see Chapter 3.2).

91 In their opinion, although the methods have important added value and a positive impact on IC measurement and management practice, they do not explain the difference between book and market value, and are not able to handle one of the most important components: knowledge.

92 The methods focus too much on aggregated financial measures, but not on the cause-and-effect relationships, or on individual skills and competences.

93 The methods prefer a quantitative evaluation approach, rather than integrating qualitative aspects as well. Moreover, the methods tend to apply an overly short time horizon; however, the impact of intangibles becomes measurable only in the long term in many cases.
As illustrated throughout this chapter, both the scientific and practical discussions suggest enhanced management attention to intangible strategic resources in many sectors and organizations, especially in knowledge organizations. Nevertheless, according to my experience as a consultant and researcher, relatively few organizations use any of the specifically designed IC measurement and management methods to measure their intangibles and integrate them into their SPM practice effectively and successfully.

Accordingly, understanding the reasons for this situation and the impact of leadership on it in a selected set of Hungarian organizations, and with a special focus on one of the key IC components (human capital) are the main objectives of this thesis and research effort.

The next chapter introduces the overall terminology of this thesis in order to lay the groundwork for Chapter 5, in which the overall research model is described, and Chapter 6, which details the main attributes of the empirical research plan.

### 4.4 Human Capital – Terminology and key performance dimensions to be considered and applied in this research

Human capital (HC) is one of the core components of intangible strategic resources in all of the definitions and classifications of intellectual capital (see Chapter 4.2).

Many scholars and practical experts have introduced and discussed the various definitions and classifications of human capital from different perspectives, including strategy and performance management, human resource management and knowledge management.

As Table 11 illustrates, all of these different aspects may be of value to this thesis and research into the integration of human capital into SPM systems and its key components. While the SPM perspective focuses on formulating and operationalizing strategy through KPIs, as well as setting KPI targets and monitoring their execution through regular reporting and review, the HRM approach helps us to understand the connection between human capital KPIs and incentive systems and compensation processes. In addition, by considering the KM approach the research model can be

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94 For instance, according to results by Ittner and Larcker, 70% of companies use measurement and reporting approaches which lack statistical reliability and validity. Organizations tend to decide on the purpose of measurement only after KPI data is collected, or in many cases, different business units use different methods to measure the same performance dimensions. This latter approach, for instance, is a big mistake in terms of the comparability and standardization of the system (Ittner – Larcker [2004]).
enriched with an analysis of knowledge mapping tools which can potentially be used to identify the critical success factors and key performance dimensions of human capital; the key scope of this thesis and research.

Even though it is acknowledged that every organization needs to apply their own definition of human capital and select the most critical human attributes based on corporate strategy, this chapter develops and introduces the author’s own definition of human capital that is used in the research. In addition to general human capital-related terminology, it also provides a brief and structured overview of the typical performance dimensions of human capital that have appeared in different relevant IC studies and measurement methods.

Table 12 (below) is the result of a comprehensive and structured review of the scorecard and relevant DIC methods, as described in previous chapters; however, as a result of the context and strategy embeddedness of human capital, it cannot be used as a fixed list of human capital indicators or key performance dimensions. The human capital attributes and performance dimensions in Table 12 should be used much more as a flexible and useful guideline to what kind of human capital information is typically integrated into performance management systems in practice. Since the specific HC indicators have to be developed based on corporate strategy, the table below functions only as an illustrative sample and a guideline to shape the focus of the empirical research in this thesis, rather than as a list of specific performance dimensions to be ‘generally’ incorporated into a specific SPM system.

Based on a structured literature review, and according to the research focus, this thesis applies the following main definitions and terminology:

1. *Intellectual capital (IC) – or knowledge capital, intangibles or intangible strategic resources as synonyms in this thesis* – is a combination of the critical strategic resources of an organization which have no classic material or financial form or appearance, but which participate in the value creation processes and are directly or indirectly connected to knowledge. In other words, the components of intellectual capital are the most important intangible strategic components of a firm which critically contribute to strategic performance and value creation.

From a *static* point of view, intellectual capital is a composite of the following four main subcategories: *human, customer, relational and structural capital*\(^{25}\).

\(^{25}\) According to the management accounting perspective shown in Figure 10 in Chapter 4.2. This research uses a broad managerial understanding of intangible strategic resources or intellectual capital.
From a strategic performance management perspective, both the static and dynamic character of intellectual capital should be highlighted. Not only does the actual status (stock) of intellectual capital have to be monitored but also those intangible activities (flow) which are crucial to acquiring or developing the intangible critical strategic resources needed to execute strategy and generate corporate performance. Both should appear in a well-designed and implemented intellectual capital measurement system (or SPM which integrates IC properly).

2. **Human capital (HC)** captures those components – i.e. critical success factors and key performance dimensions – of intellectual capital which are closely connected to human resources or human resources management.

In the terminology used in this thesis, human capital basically consists of the most critical (strategic) skills, knowledge and similar attributes of employees that affect specific human capabilities to do productive work.

In other words, human capital captures strategic performance generated by human resources, or their skills, capabilities, activities and collaboration, experience and knowledge (etc.). Human capital and human performance are the focus of this thesis and research. The human capital component of intangible strategic resources is maintained as the scope of the research model described in Chapter 5 (see later).

Regarding human capital, it is also important to differentiate between its static and dynamic character. During analysis of the level of human capital information in SPM systems, both the static and dynamic dimensions of performance should be considered and assessed in the research sample. From this perspective, the research model is aligned with one of the classic system theories of performance management and management control\(^96\). Accordingly, human capital can be measured using indicators that focus on input and output (static) attributes, and by indicators that measure activity-related or process (dynamic) indicators.

Note: this thesis consciously does not use ‘human resources’ as a synonym for ‘human capital’. The reason for this is to emphasize the performance management perspective applied in this research. Human capital refers to the performance generated by human resources and activities, while the assessment of human capital relates to the assessment of its performance, not assigning a concrete financial value to human beings or human resources themselves.

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\(^96\) This input-process-output logic of management control and performance management builds on the classic cybernetics and system theory of the firm (see for instance Ludwig von Bertalanffy, in Bodnár [1999], Lázár [2002], and Dobák – Antal [2011]).
3. In addition, the terminology in this thesis should be seen in the light of the following observations:

- ‘Value’ in the research does not refer to monetary terms or financial value per se\(^\text{97}\), but describes the ability of intellectual and human capital to contribute to strategy and strategy execution, as well as to generate performance for the organization.

- ‘High performance’ means refers to when an organization achieves its strategic objectives in terms of meeting its KPI targets (practically considering a range of forms of approval).

- ‘Strategic performance management system (SPM)’ is defined as a managerial toolset for supporting leaders with relevant information (in different reports) regarding corporate strategic performance and the status of the execution of corporate strategy. This thesis and research focuses on the corporate level only, and the main components of an SPM system are summarized in Figure 6 in Chapter 2.

- ‘Human capital integration’ illustrates the level of information available in the SPM system and its specific components regarding human capital. Besides the amount of human capital information, the term refers to the quality and managerial utilization of the related information and indicators about human capital.

This thesis and research model is based on a \textit{L1 to L6 maturity model}, in accordance with the level of integration of human capital information into the specific processes of an SPM system. Level 1 means when amongst the strategic objectives, we can find human-capital-related information (i.e. human capital integrated into ‘Strategy formulation’, while Level 6 refers to when different incentives and compensation impacts are also connected to human capital performance and indicators (i.e. human capital is integrated into the ‘Incentive compensation’ component of an SPM).

See this in more detail in the research model described in Chapter 5.

As already highlighted, the components, critical success factors and key performance dimensions of human capital are embedded into the strategy and context of the organization. Accordingly, the critical factors that should be integrated into an SPM system have to be derived from corporate strategy, and it is not possible to develop a ‘one best’ set of critical success factors for human capital, or a standardized ‘one best’

\(^{97}\) Of course, in a business organization financial performance is ultimately the most important indicator. However, it is also value from a SPM perspective if customers or employees are satisfied and loyal, or a research team at a university publishes more research papers. Value in this case is interpreted more widely according to the SPM focus and approach.
list of the most important components and performance indicators of human capital either\textsuperscript{[98]}. Nevertheless, since the most relevant IC classifications and IC measurement methods all contain a brief description of (or performance dimensions and factors concerning) human capital, from a structured review of these classifications and measurement methods we can develop a useful database that can be used as a guideline during the empirical research.

Accordingly, Table 12 has been developed as a result of a structured and focused literature review, and can and will be applied to guide the empirical research regarding the typical dimensions of the strategic performance of human capital. As mentioned before, as a result of the embeddedness of intangible strategic resources the specific content of the integration of human capital into SPM can differ from the list below, since it needs to be led by the organization based on corporate strategy, and the information needs of senior management and leadership.

Table 12 - Key components and performance dimensions of human capital (sample)

<table>
<thead>
<tr>
<th>Model</th>
<th>Human capital components / key performance dimensions applied in the specific model Excerpt, brief summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Human Resources Costing and Accounting (HRA)</td>
</tr>
<tr>
<td></td>
<td>This approach focuses on financial indicators regarding human resources and HR performance.</td>
</tr>
<tr>
<td></td>
<td>The monetary value of human capital can be estimated in 5 different ways:</td>
</tr>
<tr>
<td></td>
<td>a. Acquisition costs = Hiring costs + Learning costs</td>
</tr>
<tr>
<td></td>
<td>b. Replacement costs = Acquisition costs + Costs of dismissal of other employees (incl. lower efficiency, empty job, severance)</td>
</tr>
<tr>
<td></td>
<td>c. Alternative costs = Opportunity cost of human resources (market price if labor market is perfect, which is not the case every time)</td>
</tr>
<tr>
<td></td>
<td>d. Market price (especially in the case of unique knowledge or skills of employees)</td>
</tr>
<tr>
<td></td>
<td>e. Income-based value = NPV (Future income to be paid to employees)</td>
</tr>
<tr>
<td>2</td>
<td>Balanced Scorecard</td>
</tr>
<tr>
<td></td>
<td>BSC emphasizes the role of cause-and-effect relationships and hierarchy of the different dimensions and perspectives that generate performance. The organization needs to have high quality human capital to develop effective and efficient processes and satisfy its customers. In a business organization the top priority (i.e. hierarchically at the top) is financial performance, while in a public sector entity the priority is mission achievement. According, Human Capital as a critical group of strategic resources is captured mainly in the &quot;Learning and Development&quot;, and partially in &quot;Processes&quot; perspective. The key performance dimensions and indicators for measuring human capital depend on the strategy and strategic objectives (strategy map) of the organization. The BSC consists of both leading (input, process) and lagging (output) indicators.</td>
</tr>
<tr>
<td>3</td>
<td>The HR Scorecard</td>
</tr>
<tr>
<td></td>
<td>The HR Scorecard – developed by Harvard professors – supports Human Resources Management as a strategic partner by making its strategy and contribution to performance measurable and specific. From this perspective, this tool is designed to connect HR strategy and practices to corporate strategy and measure the most crucial attributes of human resources in terms of influence and impact on strategic performance.</td>
</tr>
</tbody>
</table>

\textsuperscript{[98]} There is no single best way to do this, just as contingency theory highlights regarding organizational structure (see for instance Dobák – Antal [2011].
The main dimensions of measurement are identical to the perspectives of the original BSC, but tailor-made for HR & HRM:

1. Financial: the top of the hierarchy, this parameter captures HR’s impact on corporate performance (if possible in financial terms).
2. Customer: a focus on the internal users of HR’s services and their satisfaction.
4. Strategic (Learning & Development): measures HR’s internal human resources and their skills & capabilities.

An HR scorecard focuses on the a) HR Deliverables, b) Performance of HR’s work systems, c) Level of HR’s strategic alignment, as well as d) HR efficiency and e) impact of HR.

Note: although Becker et al. [2001] provide us with different sample KPIs for measuring the performance of HR, the HR objectives, KPIs and initiatives in the 4 perspectives of an HR Scorecard should be developed according to HR’s strategy and value chain in the organization.

The HR Scorecard has to include both leading and lagging KPIs to create a balanced structure for HR performance management.

Sample KPI topics that are usually captured in an HR Scorecard:
- Effective & efficient utilization of human resources
- Skills & capabilities, incl. education and experiences
- Employee satisfaction
- HR costs, headcounts
- Workplace atmosphere
- Incentives, career management
- Technology & infrastructure

4 Skandia Navigator™
   This model was developed by Edvinsson and Malone: human capital is at the heart of the model as one of the key components of IC.
   Human capital represents those strategic human components which create most value for an organization: education level, skills and competences, knowledge and experiences, loyalty, and key values, as well as corporate culture and philosophy.
   Skandia Navigator uses a similar structure to the BSC above; here, the ‘Renewal and development focus’ and the ‘Human focus’ capture human capital in most cases.
   The model provides a set of 164 indicators in total (of which 91 are connected to intellectual capital) however, the final list of KPIs should be defined according to the process model and strategy of the organization.
   Regarding human capital, for instance, the following KPIs are suggested: % Managers with advanced degrees, Annual turnover of staff, and Leadership index (examples only).
   The Skandia model was one of the early pioneers of IC measurement but the overly high number of indicators that should be reported on every year means that the method is limited.

5 Intangible Assets Monitor
   In alignment with Sveiby’s IC definition, this model applies a specific category to monitor human capital. ‘Competence’ is measured using 4 main dimensions, such as growth/renewal, efficiency and stability.
   - Growth/Renewal of human capital is measured by (e.g.) Average years of experience, Proportion of employees with a university degree.
   - Efficiency of human capital is captured by (e.g.) Average value added per employee, Average added value per expert, Change of added value per change in number of employees.
   - Stability is monitored by Employee satisfaction, Fluctuation or Average age of employees.
   Note: KPIs used for the three main dimensions may depend on the key success factors of the organization.

6 Wissensbilanz (IC Statement) – Austria
   The original ‘Wissensbilanz’ report was created by the ARC - Austrian Research Centers, and has been published since 2001. The indicators for Human Capital as an input are as follows (based on ARC’s 2007 Report):
<table>
<thead>
<tr>
<th>Model</th>
<th>Human capital components / key performance dimensions applied in the specific model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Relevant methods from Table 11 Excerpt, brief summary</td>
</tr>
<tr>
<td></td>
<td>• Number of employees (FTE)</td>
</tr>
<tr>
<td></td>
<td>• Number of employees (headcount)</td>
</tr>
<tr>
<td></td>
<td>• Number of researchers (headcount)</td>
</tr>
<tr>
<td></td>
<td>• Proportion of research staff (% headcount)</td>
</tr>
<tr>
<td></td>
<td>• New employees hired – total (FTE)</td>
</tr>
<tr>
<td></td>
<td>• New researchers hired (FTE)</td>
</tr>
<tr>
<td></td>
<td>• Total employees departing (FTE)</td>
</tr>
<tr>
<td></td>
<td>• Total researchers departing (FTE)</td>
</tr>
<tr>
<td></td>
<td>• Total retirements (FTE)</td>
</tr>
<tr>
<td></td>
<td>• Personnel expenses (%)</td>
</tr>
<tr>
<td></td>
<td>• Proportion of women (%)</td>
</tr>
<tr>
<td></td>
<td>• Proportion of female research staff (% headcount)</td>
</tr>
<tr>
<td></td>
<td>• Women in senior positions (%)</td>
</tr>
<tr>
<td></td>
<td>• Women in supervisory and advisory boards (%)</td>
</tr>
<tr>
<td></td>
<td>• Staff with more than one degree (% of researchers)</td>
</tr>
<tr>
<td></td>
<td>• Expenditure for personnel development (TEUR)</td>
</tr>
<tr>
<td></td>
<td>• Total training days per employee</td>
</tr>
<tr>
<td></td>
<td>The compulsory report for universities and the National Bank of Austria (etc.) was derived from the original ARC model and is now regulated by law. The Human Capital indicators in this version focus on the following key dimensions (based on ÖNB's report 2006):</td>
</tr>
<tr>
<td></td>
<td>• Overall employment structure (e.g. total, fluctuation, education levels)</td>
</tr>
<tr>
<td></td>
<td>• Flexible employment (e.g. part time, telework, sabbatical)</td>
</tr>
<tr>
<td></td>
<td>• Diversity – Role of women (e.g. total %, mgmt. %, expert %)</td>
</tr>
<tr>
<td></td>
<td>• Training, career &amp; talent mgmt. (e.g. rotations, training days and % data)</td>
</tr>
<tr>
<td></td>
<td>• Knowledge sharing (e.g. the participation in different classes as trainer, giving lectures)</td>
</tr>
<tr>
<td>7</td>
<td>Wissensbilanz (IC Statement) – Germany</td>
</tr>
<tr>
<td></td>
<td>According to this model, the critical IC/HC components should be selected based on the knowledge strategy of the organization. The knowledge strategy is derived from corporate strategy, and highlights the key performance dimensions of human capital as well. For instance: Employee skill building, Employee satisfaction, Innovation or Flexibility of processes &amp; organization. Human capital indicators that may be measured include:</td>
</tr>
<tr>
<td></td>
<td>• Education level of staff (i.e. % academics, specialists, unskilled workers, apprentices, trainees)</td>
</tr>
<tr>
<td></td>
<td>• Training costs per capita, Training days per employee</td>
</tr>
<tr>
<td></td>
<td>• Experience building (in years)</td>
</tr>
<tr>
<td></td>
<td>• Social competences (quality of customer relationships)</td>
</tr>
<tr>
<td></td>
<td>• Motivation and leadership competences (employee satisfaction, fluctuation, absenteeism)</td>
</tr>
<tr>
<td>8</td>
<td>Intellectual Capital Statement – Denmark</td>
</tr>
<tr>
<td></td>
<td>This model was developed by Mouritsen and his expert team on behalf of the Danish Ministry of Science, Technology and Innovation. Human capital – incl. skills, capabilities and knowledge of employees – is one of the core components of the model, besides customers, technology and processes (according to Mouritsen’s definition of intellectual capital previously indicated). The KPIs and key dimensions of human capital should be defined based on and connected to the following:</td>
</tr>
<tr>
<td></td>
<td>• Knowledge narrative (analogous to mission / vision)</td>
</tr>
<tr>
<td></td>
<td>• Management challenges (similar to strategic objectives but do not need to be linked to each other. These are more ‘problem packages’ that must be solved by the organization).</td>
</tr>
<tr>
<td></td>
<td>• Actions / Initiatives regarding intellectual capital</td>
</tr>
<tr>
<td></td>
<td>The indicators measure effects (results or outcomes), activities (‘what are we doing?’) and resources (‘what resources do we need or create?’), This is connected to the input-process-outcome logic of system theory mentioned before.</td>
</tr>
</tbody>
</table>

(To be continued on next page)
### Model Relevant methods from Table 11

#### Human capital components / key performance dimensions applied in the specific model

**Excerpt, brief summary**

The key performance dimensions and KPIs for human capital are context embedded, and have to be defined to monitor the specific knowledge narrative, management challenges and activities. Typical HC performance dimensions in this model (based on actual sample ICS reports[^99]):

- **Resources**: No. of employees, Distribution by sex, Average age, Average loyalty, Education structure, Rate of employees with the highest degrees, Employees with international activities, Internally recruited managers, Income/Revenue/Turnover/Profit per employee, Cross sales, Self-managed teams (etc.)
- **Activities**: New employees, Appraisal interviews, Further training needs, Training days per employee, Employee intake, Job rotation, Mobility (etc.)
- **Effects**: Employee satisfaction, Employee turnover, voluntary dismissals, Absence, Incidents, Company image, Applications (etc.)

**9 Wissens-Scorecard**

This model is the knowledge-oriented version of the balanced scorecard, with a special focus on the cause-and-effect relationships behind the value added generated by intangible strategic resources. Human knowledge and human capital is mainly captured by the "Learning and Development" perspective of this model. The KPIs in this module have to be defined by the knowledge strategy, and focus on the crucial factors behind the knowledge management approach and capabilities needed for value creation by IC.

Note: this model focuses on knowledge & knowledge management practices and systems more than human capital management; however, since human resources are one of the key knowledge holders in an organization, it is worth mentioning them here.

**10 IC Index™**

This method is an example of a second generation IC measurement practice: it is designed to consolidate the individual indicators into a single index and develop a hierarchy of the different indicators.

It offers a better visualization of the value creation processes of the organization (such as IC Navigator below).

The IC Index starts with defining strategic priorities and derives the crucial resources and flows/dynamics from strategy. The KPIs for monitoring the most crucial intangible strategic resources and activities (Key Success Factors, KSF) should be defined as a last step.

The Human Capital Index in this model comprises dimensions such as the following:

- Achievement of key success factors in HR/HR Management
- Average value added per employee
- Effectiveness and efficiency of trainings (etc.)

Note: new innovations or business opportunities are measured by the Innovation Capital Index; however, they may be closely connected to human resources in many industries. As mentioned above, the KPIs used for human capital depend on the strategy and KSF list.

**11 Intellectual Capital Navigator**

Stewart’s model is also a second generation method for IC measurement. It defines three specific indicators to explain the book-to-market ratio regarding each component of intellectual capital (i.e. human, customer, structural).

For the human capital component, the KPIs are as follows:

- Fluctuation rate of knowledge workers (%) 
- Sales of new products from total sales (%) 
- Employee attitude (loyalty)

**12 Human Capital Intelligence**

This model developed by Fitz and Entz is designed to determine the financial return of human resources and people (ROP) by using sets of human capital indicators.

It highlights the significant role played by human capital professionals and HR personnel on the condition of an organization's ROP.

Main dimensions of the model: innovation, productivity, and enterprise quality.

Note: As a result of the main characteristics of this model, in the present research ROP can be analyzed as an optional top indicator in the system, with a focus on human capital performance.

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[^99]: See e.g. Mouritsen et al. [2001] and Rimmel et al. [2004].
<table>
<thead>
<tr>
<th>Model</th>
<th>Relevant methods from Table 11</th>
<th>Human capital components / key performance dimensions applied in the specific model</th>
<th>Excerpt, brief summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>MERITUM</td>
<td>The MERITUM model and guidelines were developed by an expert group of six European countries on behalf of the European Commission between 1998 and 2001, led by Paloma Sánchez. The model defines intellectual capital according to human, relational and structural capital elements, and defines three main stages for its management: 1. Identification of intangibles, 2. Measurement, and 3. Management. Critical components and success factors, as well as the KPIs for IC/HC, should be specified based on the strategic objectives. The main added value of this model is how it introduces two main dimensions of measurement – companies have to use KPIs to measure their a) Intangible resources and b) Intangible investments. The model follows a similar approach regarding static vs. dynamic IC dimensions described earlier in this chapter.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Technology Broker</td>
<td>Despite being a DIC method with a focus on the financial valuation of intellectual capital, mentioning it here adds value to this research: The Technology Broker model establishes a practical way of auditing intangible strategic resources with 178 specific IC indicator and IC audit questions. The model defines IC using four components, including Human Centered Assets. The main dimensions and focus of this latter are: Collective expertise, creative and problem solving capability, leadership, entrepreneurial skills, managerial skills. Note: as a result of the need to address 178 questions, implementation of the model is not easy and may be periodical. In most cases it is used not for regular management review purposes, but only when the organization needs to undertake a monetary appraisal of its intellectual capital. Another challenge is that the method calculates financial value by using a set of qualitative questions and a Likert scale.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>HR Controlling System</td>
<td>This is not a specific IC measurement tool, although as a result of its impact on the integration of human capital into strategic performance management systems, if an organization applies it, the HR Controlling System might have a significant impact on data and information regarding the performance of human resources and human capital. As a result, we should mention the main dimensions of HR controlling here, although this thesis focuses only on the corporate level and strategic KPIs regarding human capital. The HR Controlling System is an overall approach and set of processes and tools for planning and measuring the performance of human resources and the HR function. In most cases, the following main dimensions are applied inside an HR Controlling toolset: 1. Skills &amp; competences, education 2. Satisfaction, motivation 3. Costs Note: The operational HR controlling concepts and tools are outside the scope of this thesis. The focus is corporate strategy execution and the contribution of human capital. (based on a literature review, see Chapter 4.2.1 and 4.2.2)</td>
<td></td>
</tr>
</tbody>
</table>

As a result of the strategy embeddedness of intangibles – and human capital as well – the specific dimensions of performance (objectives, KPIs, KPTs) and strategic components of human capital need to be specified based on corporate strategy. Accordingly, the table above is a high-level theoretical guideline employed during this empirical research which analyzes the integration of key human capital performance.

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100 For more details about the definitions and tools of HR Controlling, see for instance: Potthoff – Trescher, Wunderer – Sailer, Brinkmann, Hentze – Kammel, in Sorossy [2011].
information into SPM systems. Nevertheless, by analyzing the 15 measurement methods in Table 12 it is potentially possible to consolidate the typical key performance dimensions and key success factors for human capital into a more practice-oriented format for use in this research effort. Since the table above indicates overlapping and complex human capital categories which are hard to implement in a research effort such as this one, before going on to the empirical research it was necessary to decrease the complexity and minimize overlaps in terms of the performance dimensions of human capital. The results of this activity are summarized in Table 13 below.

This practical list of key success factors and strategic performance dimensions of human capital is the result of a detailed consolidation process, with a focus on the typical human capital components of the 15 measurement methods described above. During the consolidation and grouping process, overlaps in Table 12 were minimized by identifying the repeating dimensions of human capital and categorizing them according to the static (stock) versus dynamic (flow) view of intangible strategic resource measurement and management (as described in Table 9, earlier).

From this perspective, the following table (Table 13) should be considered a practical human capital performance measurement and management framework, and the practical guideline for the empirical research related to this research project. It consists of the typical performance dimensions of human capital that are contained in the literature and categorizes them according to their static and dynamic features.

Table 13 – Initial model for human capital performance management: the key strategic performance dimensions of human capital according to a literature review

<table>
<thead>
<tr>
<th>Key performance categories</th>
<th>Static (stock) performance dimensions</th>
<th>Dynamic (flow) performance dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR stability and growth</td>
<td>Positions filled/ open</td>
<td>Fluctuation/ Turnover of staff</td>
</tr>
<tr>
<td></td>
<td>Organizational image (in the targeted labor market segments)</td>
<td>Hiring/ New employees</td>
</tr>
<tr>
<td></td>
<td>Application trends for the organization</td>
<td>Employees leaving / Resignations versus dismissals</td>
</tr>
<tr>
<td></td>
<td>Experience (years)</td>
<td>Retirements</td>
</tr>
<tr>
<td>Skills and competences</td>
<td>Degrees &amp; educational level</td>
<td>Training (volume, coverage, spending per employee)</td>
</tr>
<tr>
<td></td>
<td>Proportion of core &amp; support staff</td>
<td>Knowledge sharing &amp; experience building</td>
</tr>
<tr>
<td></td>
<td>Experience (knowledge)</td>
<td></td>
</tr>
<tr>
<td>Attitude and loyalty</td>
<td>Employee satisfaction</td>
<td>Training in social competencies</td>
</tr>
<tr>
<td></td>
<td>Absenteeism</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loyalty (years)/ Average age in the organization</td>
<td>Team building</td>
</tr>
<tr>
<td></td>
<td>Social competencies</td>
<td></td>
</tr>
</tbody>
</table>
According to the literature review and detailed analysis of the IC measurement methodologies in Table 12 and in previous chapters, these six consolidated key performance categories – or key success factors emphasized with blue font in the table above – are the most frequently referred strategic performance dimensions of human capital. This thesis and research concentrates on scorecard methods as tools for supporting senior management in executing corporate strategy. From this perspective, during the empirical research I apply Table 13 as the operational guideline for analyzing the various SPM tools and scorecards in terms of human capital performance information. The above-mentioned key success factors and the related dimensions are components of the proposed Human Capital Performance Management Framework, which will be tested, validated and updated based on findings from the case study and a selected sample of knowledge-oriented organizations.

Since the specific human capital KPIs and KPTs should be selected based on corporate strategy, this thesis and research focus applies mainly to this level (not to the specific KPI level), and is designed to compare them to the practically implemented KSF categories that have been identified during the empirical phase of research with sample organizations.
5. Conceptualization of the empirical research – Integration of human capital into SPM systems

As previous chapters summarize, intangible strategic resources and human capital still play an important role in corporate performance and value creation, despite the numerous challenges and criticism of the topic that have recently arisen, with regards to performance measurement and management of intellectual capital as well. Both the scientific and practice-based community appear to be becoming frustrated as a result of the contradiction between the previously high expectations regarding the ICM perspective (see Chapter 4) and its relatively low direct impact on strategic performance measurement methods and practices (see earlier sections of this thesis, and, for instance, Guthrie et al [2012], or Dumay – Garanina [2013]). As highlighted before, according to Gartner’s terminology, Intellectual Capital Management seems to be located in a ‘Trough of disillusionment’, and needs to first find answers to significant organizational challenges and criticisms before it can move forwards to the next stage; the ‘Slope of enlightenment’.

This thesis is also designed to support this step forward, and, by focusing on leadership as one of the most important influencing factors of SPM implementation and change, to integrate general SPM studies into human capital measurement research. The main objective is to analyze and test the role of leadership in the success of SPM, with a special focus on human capital as a key component of intangibles and a relevant area of strategic performance management (as a result of its significant impact on corporate performance in many industries and sectors).

The previous chapters have introduced the most relevant literature as the basis of this research model, which is built up using the following logic (in the form of basic hypotheses that support the thematic selection of the topic of the strategic performance measurement of human capital):

- Strategic performance management systems are designed to support management with relevant information about both the static and dynamic shape of the critical strategic resources of a firm in order to execute corporate strategy successfully.

- Human capital is a key component of intangible strategic resources, so its performance and contribution need to be effectively monitored and managed by the management of an organization, especially in knowledge-intensive sectors101.

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101 As many scholars emphasize with special regard to human resources, HR is a strategic resource and the human resource management function needs to be called strategic HRM and should focus on adding real strategic value to the
Leadership plays a crucial role in the overall structure, content and processes of an SPM System.

Following this logic, leadership plays a crucial role in integrating human capital (including all its different components) into SPM.

The latter is the main focus of this thesis and research: analysis of the managerial motivations and reasons for, content, and method of integrating human capital into SPM, as well as the way senior management uses (does not use) generated strategic performance information about human capital are the main focal areas of this thesis and the research model that is detailed in this chapter. As a result, this research may be able to generate relevant findings for senior management\textsuperscript{102}, strategic performance management experts\textsuperscript{103}, as well as human resource managers\textsuperscript{104} which will improve the practice of human capital management, and make the strategic contribution of human resources more transparent and considered. These are some of the potential practical benefits of this thesis and research, in terms of human capital measurement and management in Hungary.

Before going on to more detail about the research model, it is important to highlight the following points regarding the scope and focus of this research:

- The research involves investigating strategic performance management – not HRM or Knowledge Management. Accordingly, it concentrates on the strategic control cycle of human capital (see Table 2), and the key managerial information that is integrated into SPM and its components (see Figure 6) regarding the performance and strategic contribution of human capital. As summarized in Table 10, HR and Knowledge management are different perspectives and may contribute differently to this SPM research; however, they are outside the direct focus of the research model.

- This research is corporate-level; more specifically, it focuses on the core processes and components of corporate SPM systems, while the lower level and more operational performance management tools (see the middle and right-hand side of

\textsuperscript{102} For instance: How to measure strategic resources such as intangibles and human capital in order to make better strategic decisions which better fit their own leadership style?

\textsuperscript{103} For instance: How to make SPM systems more effective and efficient in terms of integrating intangibles and human capital performance, with consideration of the leadership style of their customers (i.e. the senior management)?

\textsuperscript{104} For instance: How to make human capital more transparent, and prove its strategic relevance and contribution to strategy and strategy execution by considering the impact of senior management’s leadership style?
Table 2) are outside the scope of this thesis\textsuperscript{105} (these topics may be investigated in later research into how corporate-level human capital information is cascaded or drilled down to more operational and hierarchical levels in an organization).

- This research focuses on \textit{the role of senior management, and its leadership style}. The impact of other relevant leaders and managers in the most connected functions in an organization (see Table 7) are considered and analyzed as potential supporters, substitutes or neutralizers of leadership in terms of the integration of human capital into SPM. Excluded these aspects mentioned here, the impact of the lower level management’s leadership style is however out of the direct scope if this research either.

- This research is designed \textit{to analyze and understand the human capital measurement practices and role of leadership in a selected set of relevant organizations}, in an optimal case from knowledge-intensive sectors\textsuperscript{106}.

The research model, which is described in this chapter, is designed to create a better understanding of the connection between leadership styles and human capital measurement and management practices.

Accordingly, it provides relevant practical findings and contributes to filling a practical gap in terms of the role of leadership and optionally responding to relevant practical challenges of the implementation of any performance measurement tools or methods related to the intellectual capital management perspective. As leadership is one of the most crucial factors in any process of strategic performance management implementation and change, it is applied to the ICM perspective with a special focus on one of the most crucial components of intangibles; human capital. According to the structured literature review, senior management and its leadership style may have a crucial influence on whether an SPM system is successfully implemented, and whether it also captures intangible strategic resources; in our case, human capital.

By selecting leadership and leadership style as independent behavioral factors in this research model, the thesis aims to fill an additional gap in Hungarian strategic performance management research which has a focus on intangible strategic resources.

Several pieces of ICM research have already discussed in the Hungarian scientific community, such as the overall \textit{trends and tendencies in Hungarian knowledge-management practice} (see e.g. Bőgel [2006], Obermayer-Kovács, [2007], Gaál et al.

\textsuperscript{105} Accordingly, measurement tools applied in tactical or operational control systems such as operative planning, operational reporting and performance reviews, and cost and profit calculations as parts of a broader management accounting, or external financial and accounting reports, are outside the scope of this research.

\textsuperscript{106} The focus is on knowledge-oriented organizations, with the option of integrating numerous traditional organizations into the research as an optional control group (see Chapter 1.3 and later).
[2009] or [2011]), or the role of individual, team or management-level factors on knowledge management (see e.g. Bencsik [2004] or Csepregi [2011]), as well as on organization-level factors such as cultural embeddedness (see e.g. Noszkay [2008]).

In addition, several scholars have already discussed and analyzed the role of intangible strategic assets in corporate value from an accounting or management perspective (see e.g. Juhász [2004], Kőnczöl [2007], Boda [2008], Stocker [2012], Martin [2013]), the availability of different performance management and reporting practices for capturing shareholder value (see e.g. Kazainé Ónodi [2008], or Tírni [2015]), and the overall status of various IC measurement tools and methods in different sectors (see e.g. Tóth [2008], Bodnár et al. [2011], or Harangozó [2012]).

Nevertheless, with the exception of several conference papers (see for instance Bodnár et al [2010]), little comprehensive research has concentrated on how important organizational behavioral factors – such as leadership – influence intellectual capital-focused performance management systems in Hungarian organizations. This thesis is designed to be such a piece of comprehensive research, and to move the discussion a forward in this regard.

5.1 Research framework – Level of integration of human capital information into corporate SPM systems

This thesis and performance management study are designed to analyze the role and impact of senior management and its leadership style on the integration of human capital into corporate strategic performance measurement systems.

As Chapter 1, and more specifically, Figure 1 illustrate, during the implementation of this piece of research the author concentrates on four dimensions of the overall research question above - namely:

- What are senior management’s objectives and motivations for integrating human capital into strategic performance management systems (Why)?
- What kind of human capital performance is integrated into corporate SPM, and what are its different components (What)?
- Which corporate SPM components change as a result of the integration of human capital, and what is the availability and perceived quality of human capital information (How)?
- Who provides and utilizes the available human capital information during the corporate SPM cycle (Who)?

The overall research model and framework are summarized in an integrated and structured way in Figure 13 (below). During the empirical research into these four
dimensions, the focus is on the role of senior management in terms of its leadership and leadership style. This approach fits with the literature review described before, where leadership is considered as one of the most important influencing factors of any SPM implementation or change (see Chapter 2.3). In terms of IC measurement and management challenges, the impact of leadership can be significant as well (as Chapter 4.3. also highlights).

Besides examining the relationship of the different leadership styles to the level of human capital information in the strategic performance management system, additional leadership substitutes and neutralizers are considered as a result of the potential impact of other internal functions and key stakeholders inside the organization (see in more detail Table 7 in Chapter 3.3).

In addition, the impact of data availability is acknowledged: as a result of the intangible character of human capital, the overall availability and perceived quality of human capital performance information may significantly influence how the system is utilized and its sustainability in terms of the trust and the perceived reliability awarded it by senior management.

The following chart illustrates the overall logic of the research model and framework applied in this thesis in a structured and comprehensive way.

Figure 13 – Overall structure of research model applied in this thesis
I. Independent variable: Leadership & Leadership style (of senior management)\textsuperscript{107}

As the research question highlights, the overall objective and scope of this thesis and research is to analyze the role and impact of the leadership style of senior management on the integration of human capital to strategic performance management and its components.

Chapter 3 introduces the leadership terminology which is applied. Since the research model focuses on the senior management of the organization, in our understanding leadership refers to the senior management’s ‘\textit{capability to exercise influence and control over the other members to help a group or organization to achieve its goals’}. From another perspective, this means a ‘\textit{process of influencing the activities of an organized group in its efforts toward goal setting and goal achievement’}. This latter perspective is important in this thesis in terms of the definition of performance, which means in this research the level of achievement of strategic objectives and targets.

The different leadership styles are specified in this thesis by using four different leadership models (as Tables 3, 4, 5 and 6 introduce, and which is detailed in Chapter 3.2). The following table lists the different categories of leadership style applied in this thesis during hypothesis development and analysis.

\textbf{Table 14} – Overview of leadership models applied in this thesis

<table>
<thead>
<tr>
<th>Lewin’s classic leadership styles</th>
<th>Kotter’s function-based model</th>
<th>Mintzberg’s model of the roles of management</th>
<th>Goleman’s consolidated leadership styles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autocratic</td>
<td>Manager</td>
<td>Interpersonal</td>
<td>Coercive</td>
</tr>
<tr>
<td>Democratic</td>
<td>Leader</td>
<td>Informational</td>
<td>Authoritative</td>
</tr>
<tr>
<td>Laissez faire</td>
<td></td>
<td>Decisional</td>
<td>Affiliative</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Democratic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pacesetting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Coaching</td>
</tr>
</tbody>
</table>

(based on Tables 3 - 6 in Chapter 3)

The main hypotheses regarding the connection between the different leadership styles and the level of integration of human capital are described in the following chapter.

\textsuperscript{107} Senior management refers to formal leaders who have been assigned to the highest hierarchical level of the organization. In other words, a senior manager is a top manager of a firm (e.g. CEO, director, etc.).
II. SPM system components

This thesis is designed to analyze the relationship between leadership style and performance information about human capital which is integrated into SPM systems and its six core SPM processes or components: namely strategy formulation, strategy operationalization, target-setting and budgeting, performance measurement, performance review, and incentive compensation. The main function and content of the different core components of SPM are described in Chapter 2, and are summarized in a comprehensive manner in Figure 6.

As the literature review and the chart above also highlight, the main focus of the research is these six core processes of strategic performance management system in terms of identifying and analyzing available human capital performance information inside SPM systems and their components. Since these core components of an SPM are built on each other, the following categorization is employed in terms of the integration of human capital into SPM:

- **Level zero (L0):** No specifically human capital related strategic objectives are defined and available in the SPM system.
- **Level 1 (L1):** As a result of the strategy formulation process, the organization has specified its strategic objectives, and the SPM contains properly defined strategic objectives regarding human capital.
- **Level 2 (L2):** In addition to defining strategic objectives, the organization also applies KPIs for the majority of its human-capital related strategic objectives. However, no KPI targets are available for these human capital indicators.
- **Level 3 (L3):** Besides having specific objectives and KPIs related to human capital, the organization also defines target values (KPTs) for the majority of the human capital indicators.
- **Level 4 (L4):** In addition to the human capital planning functions in the SPM (see L1-L3), the organization is starting to monitor its human capital performance regularly. More specifically, actual values for KPI are reported for the majority of human capital indicators, and an ‘actual vs. plan’ analysis is integrated into regular SPM reports (which include data collection and processing, with adequate data availability and quality).
- **Level 5 (L5):** The ‘actual vs. plan’ results (values and gaps) are not only reported, but also discussed by senior management in the case of the majority of human capital indicators. This normally happens during regular strategy and performance review meetings and implies that, besides discussion and review, senior management is defining the necessary activities that will close any significant performance gaps in terms of human capital indicators.
- **Level 6 (L6):** This is the highest level of integration of human capital into SPM, when KPI are not only regularly reported, reviewed and discussed, but also the incentive compensation of the responsible managers (KPI owners) is connected to KPI performance and the level of target achievement.\(^{108}\)

In terms of objectives, the static and dynamic components of human capital need to be considered in KPIs and KPI targets, as well as the measures which can capture input, process or output dimensions of human capital performance (as discussed in Chapter 2).

Besides the six core SPM processes listed above, *this thesis and research also indirectly considers two main types of supporting SPM processes* as a result of their relevance as potential leadership supporters, substitutes or neutralizers (see more details in Chapter 3.3):

- **Supporting management information system (MIS):** as a result of human capital’s intangible – or sometimes even tacit – character, the availability, quality and perceived reliability of human capital KPI or KPT data may have a significant impact on the integration of human capital into the SPM system. The availability of data, supporting people or technology, as well as the availability of standardized data gathering and processing processes, is indirectly considered during the empirical research process.

- **Supporting key internal functions, and their impact:** as Table 7 illustrates (Chapter 3.3), supporting functions and their leaders may support, substitute or neutralize the impact of leadership / leadership style. These indirect influences will be considered during the empirical research effort as well.

Besides the core and supporting SPM processes, in Figure 13 above there are two additional boxes (inputs, results) which are considered outside of the scope of the empirical research framework, but which also need to be indirectly considered:

- **Inputs:** Vision, mission and corporate strategy are developed by the senior management, and function as key input factors of SPM systems in general. As per definition, the main function of an SPM is to support strategy execution by translating corporate strategy into measurable strategic objectives. Accordingly,

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\(^{108}\) As mentioned in Chapter 2, if an organization connects its incentives to indicators related to the SPM this brings both advantages and disadvantages. From this perspective, the model above does not represent a real maturity model, but illustrates the level of human capital integration only. From L0 - L6 the amount and importance of human capital information is higher, and the related level of accountability may also be more significant.
KPIs and KPTs help with implementing strategy, but not developing it. This is an important input of SPM with a significant impact on the system in general, however, it is out of the direct scope of this research (I analyze its potential impact, but do not focus on it directly).

- Results: this box illustrates the performance and results of an SPM; namely, the achievement of strategic targets in terms of financial and non-financial, as well as leading and lagging indicators (if an organization applies this latter differentiation to KPIs).

Our hypotheses regarding the connection between senior management leadership and the level of the integration of human capital into SPM are formalized in the next chapter.

III. Dependent variables & expected results

This section of the research model illustrates the four dimensions of the overall research question (see Chapter 1.2).

Figure 1 on page 5 describes the four main dimensions of the research question in more detail, while the next chapter formulates the key hypotheses that are tested during the phase of empirical research.

5.2 Hypotheses – The impact of leadership style on human capital integration into SPM systems

As summarized in previous chapters, according to the structured and focused literature review, leadership plays a significant role and has a major impact on strategic performance management change and implementation. Moreover, leadership may have a crucial impact on strategic performance and can even create value for the organization itself (see Chapter 3, and, for example, Ulrich [2015]).

Starting with a structured literature review, and based on various widely referred scholars and management studies, this chapter formulates the hypotheses that are analyzed during the empirical research phase. As with during the literature review this chapter consciously concentrates on the main research question, the main dimensions of which are summarized in Figure 1, as well as on the overall research framework illustrated in Figure 13.
Since the literature review has explored all three surfaces of this research\textsuperscript{109}, relevant hypotheses can now be developed for testing during the empirical research stage. This chapter describes the main hypotheses of this thesis concerning the level of the integration of human capital into strategic performance management systems, with a focus on the role and impact of senior management and its leadership style.

Various studies have emphasized the role and impact of leadership in successful SPM implementation and change, including the role of intangible strategic resources and human capital management\textsuperscript{110}. This is the basis of the main hypothesis which are tested in this research effort. The main hypothesis is thus as follows:

<table>
<thead>
<tr>
<th>Main hypothesis:</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a connection between the leadership style of senior management and the level of integration of human capital into SPM in organizations.</td>
</tr>
</tbody>
</table>

This main hypothesis is further broken down and detailed according to the four dimensions of the research question, as well as by applying the selected leadership models described in Chapter 3.1 in more detail.

In accordance with the research model above, and aligned with the four selected leadership models, the below-described four main groups of hypotheses can be identified for each of the selected leadership models.

However, before going into detail about the separate models and analysis of the ‘what’ and ‘how’ questions, the following table presents the main hypotheses regarding the ‘why’ component of the research model (namely, the managerial motivation for human capital performance measurement and management):

<table>
<thead>
<tr>
<th>H1 – Hypotheses regarding the objectives and motivation of senior management regarding integrating human capital information into SPM systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>In alignment with the general IC measurement trends described in Chapter 4.</td>
</tr>
<tr>
<td><strong>H.1.1.</strong> The main motivation of senior management for integrating human capital-related information into strategic performance management is ‘Performance measurement’ and ‘Decision-making support’ (with consideration to the main SPM functions in Figure 5).</td>
</tr>
<tr>
<td><strong>H.1.2.</strong> There are many differences regarding this motivation according to the style of leadership of senior management (the specific hypotheses are presented in the different models, as relevant).</td>
</tr>
</tbody>
</table>

\textsuperscript{109} Namely, SPM, leadership and human capital management features.

\textsuperscript{110} See more detail in Chapters 2.3. and Chapter 4.3.
The previous chapters claim that human capital plays an important role in value creation in many organizations. If this is true, senior management, who are responsible for strategy execution, need to measure the contribution of human capital to strategic performance, and integrate this information into decision-making in general. These are the reasons for integrating it into the SPM system and cycle, as described in H.1.1 (above).

Amongst other factors\(^{111}\), based on the leadership style there may be differences in terms of the motivation and reason for human capital performance measurement and management. This justifies hypothesis H.1.2.

Besides the possible variation in ‘why’ senior management may decide to implement human capital measurement tools, there are also potential differences in terms of ‘what kind’ of human capital information is used, and ‘how’ it is integrated into the SPM. In other words, there is a connection between style of leadership and the level of integration of human capital-related information into SPM (L0 - L6). The following section describes the related hypotheses according to the four leadership models applied in this thesis.

In the following box, the hypotheses regarding Lewin’s classic leadership model are presented:

<table>
<thead>
<tr>
<th>H2 – Hypotheses regarding Lewin's leadership model (based on Table 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are differences between autocratic, democratic and laissez faire styles of leadership in terms of the integration of human capital into SPM in an organization:</td>
</tr>
<tr>
<td><strong>H2.1</strong> An autocratic leader needs the most information about human capital performance: the level of integration of human capital information into SPM in this case is most likely to be at L4.</td>
</tr>
<tr>
<td><strong>H2.2</strong> An autocratic leader will not connect incentive compensation to human capital indicators, thus the probability of reaching L6 is low.</td>
</tr>
<tr>
<td><strong>H2.3</strong> The probability of the integration of human capital information into SPM is medium in the case of a democratic leader: the likelihood of reaching L5 or L6 is highest.</td>
</tr>
<tr>
<td><strong>H2.4</strong> The use of human capital performance information(^ {112}) is the highest in the case of a democratic leader.</td>
</tr>
<tr>
<td><strong>H2.5</strong> A laissez faire leadership style will not support the integration of human capital information into SPM, thus the level of integration will be lowest in this case from among the three leadership styles.</td>
</tr>
<tr>
<td><strong>H2.6</strong> Human capital performance(^ {12}) is lowest in case of laissez faire leadership.</td>
</tr>
</tbody>
</table>

As a result of extremely centralized decision making, an autocratic leader needs to command all relevant information about strategy execution and strategic resources such as human capital (H2.1). However, since all decisions are made by the autocratic leader,\(^ {111}\) For instance: senior managements’ perception of the importance of human capital in strategy and strategy execution.\(^ {112}\) In terms of meeing corporate strategic targets related to human capital.
they have no real opportunity to make their team accountable for strategy achievement, so the probability of connecting performance indicators to incentive systems is very low (H2.2).

Democratic leaders involve their teams in decision-making processes, so do not need centralized human-capital-related performance information as much as autocratic leaders. In addition, since democratic leaders usually consider their employees to be key strategic assets, they aim to maintain their motivation and a good working atmosphere inside the organization. As a result, strategic human capital information is integrated into SPM for the purpose of communicating the importance of human resources at a medium level, and the chance of connecting this with incentives is relevant – as a result of the decision-making authority of the democratic team (H2.3). Since this model most strongly emphasizes the importance of human capital in the model, and understands that employees are motivated, target achievement – and thus the strategic performance – of human capital is the highest among the three styles (H2.4).

A laissez-faire leader does not lead and use management tools in general, so the estimated level of human capital performance measurement and management is hypothesized to be lowest (H2.5). In addition, human capital performance is also low, as a result of a lack of real leadership in the organization (H.2.6).

The second leadership model applied in this research was developed by Kotter, who differentiates between managerial and leadership functions. The different characteristics of these two types may also have a significant impact on the level of integration of human capital related information into SPM systems, including the four components – why, what, how and who – of the present research model. The main hypotheses regarding this leadership model are summarized in the box below:

<table>
<thead>
<tr>
<th>H3 – Hypotheses regarding Kotter’s function-based model (based on Table 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a difference in terms of the impact of manager and leader functions, both as regards the motivation of senior management, and the content and method of integrating human capital information into SPM:</td>
</tr>
<tr>
<td><strong>H3.1</strong> In the case of a leader-type of senior management, ‘Behavior-orientation’ or ‘Psychological guidance’ are the most important reasons for integrating human-capital-related information into SPM.</td>
</tr>
<tr>
<td><strong>H3.2.</strong> In the case of a managerial type of senior management, the focus is the same as in H1.1; namely, a focus on ‘Performance measurement’ and ‘Decision-making support’.</td>
</tr>
<tr>
<td><strong>H3.3</strong> In the case of a leader type of senior management, the most probable level of use of human capital information is L1.</td>
</tr>
</tbody>
</table>

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113 See Figure 5 in Chapter 2.1.
H3 – Hypotheses regarding Kotter’s function-based model (based on Table 4)

H3.4 In the case of a manager-like type of senior management, the SPM system will include more information about strategic resources such as human capital: the level of integration of this information will also be higher than in the case of a leader type of senior management.

H3.5 The utilization of human capital performance information is higher in the case of a manager type of senior management.

H3.6 There is no significant difference in human capital performance between the two leadership types.

As leadership focuses on making changes and motivating and guiding employees, the soft functions of an SPM are more important than in my generic hypothesis as regards the motivation for human capital performance measurement (H3.1). The goals of the managerial type of senior management, however, are not different in terms of the generic objectives of the integration of human capital into SPM (H3.2).

Since leaders are open to change and innovative perspectives such as ICM, human capital is highly liable to be discussed amongst the strategic objectives (L1), while because a leader type of senior management does not prefer to use management tools and measurement, additional integration of HC information into SPM is not usual. (This is the logic behind H3.3, above).

The case of the managerial type of top management is exactly the opposite: the availability and probability of the utilization of formal human capital performance measurement and performance information is greater (as described in H3.4 and H3.5).

Since both styles have a positive impact on the human side of an organization, there is no significant difference in human capital performance between the manager and leader types of senior management (H3.6).

In the next section, Mintzberg’s model is applied. The author analyzes the different activities and tasks of senior management and defines 10 roles that such management play. These ten different roles are categorized into three main groups, as the box below summarizes.

H4 – Hypotheses regarding Mintzberg’s model of roles (based on Table 5)

There is a difference in the level of the integration of human capital into SPM based on the importance of the different roles Mintzberg describes.

H4.1 The level of the integration of human capital into SPM is high only if senior management intensively concentrate on its informational role (especially monitoring).

114 A leader motivates employees, per definition, while with managers the availability of human capital information in strategic discussions communicates the importance placed on human capital.
Since Mintzberg’s model highlights the fact that in all organizations and in the case of senior management all functions have to be applied, only one hypothesis is defined regarding human capital performance management and its integration into SPM: if senior management places emphasis on informational roles, the probability of human capital measurement is high (H4.1). This hypothesis indirectly also claims that human capital management is low or irrelevant if its informational role is not highlighted.

In addition to the models above, during the empirical study a further final leadership model is used. This is Goleman’s consolidated leadership model, also described in Chapter 3. The main hypotheses regarding this leadership model are presented below:

<table>
<thead>
<tr>
<th>H5 – Hypotheses regarding Goleman’s leadership model (based on Table 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a result of significant differences in the six leadership styles, in the hypotheses there are also relevant differences in terms of the level and nature of integration of human capital into SPM.</td>
</tr>
<tr>
<td><strong>H5.1</strong> An authoritative leader incorporates more information about human capital into the strategic performance management system than with other leadership styles: the level of human capital integration is L4 or L5.</td>
</tr>
<tr>
<td><strong>H5.2</strong> In the case of a coercive leader, the level of integration is probably extremely low (L0).</td>
</tr>
<tr>
<td><strong>H5.3</strong> An affiliative leader is also less likely to integrate human capital related information into SPM systems: thus the level of integration is moderate (L1).</td>
</tr>
<tr>
<td><strong>H5.4</strong> With pacesetting leaders there is a high probability of the measurement of human capital, and even connecting human capital performance to an incentive compensation system: the level of integration is high (L6).</td>
</tr>
<tr>
<td><strong>H5.5</strong> In the case of democratic leaders, the most probable level of the integration of human capital into SPM is moderate to high: L4 or L5.</td>
</tr>
<tr>
<td><strong>H5.6</strong> In the case of coaching leaders, there is no clear pattern with the level of integration: L1 - L5 is possible, however, L6 is unlikely.</td>
</tr>
<tr>
<td><strong>H5.7</strong> In the case of a coaching leader, the human capital related information available in SPM focuses on the dynamic side of performance measurement.</td>
</tr>
<tr>
<td><strong>H5.8</strong> Human capital performance is highest in the case of a democratic or coaching leader.</td>
</tr>
</tbody>
</table>

As this thesis has stated before, this latter model of leadership represents a kind of integrated model, with a focus on the connection between leadership style and organizational performance.

Similar to with Lewin’s model (see H2.1 before), an authoritative leader makes all decisions on its own: as a result of this centralized decision making, an authoritative leader needs and incorporates much formal information about human capital, but cannot delegate accountability and connect KPIs to incentive systems (H5.1).

Coercive leaders seek to collect all information about human capital performance but as a result of their interim and ‘dictatorial’ character have no organizational support
and time to integrate human capital into SPM systems. The level of integration of human capital information into SPM is the lowest of all cases (H5.2).

An affiliative leader prefers not to disturb the harmony in the organization by using a performance-oriented tool such as a human capital performance measurement system, so it tends not to integrate such information into the SPM. Nevertheless, some discussion about human capital and its inclusion into strategic discussions is probable (H5.3).

The pacesetting leader prefers competition, so does not only integrate human capital information into the measurement processes of an SPM system, but also connects incentive compensation to human capital performance achievements (H5.4).

As a result of similar reasons as in the case of Lewin’s model (see H2.3), the probable level of integration of human capital information into SPM is moderate (H5.5).

Since a coaching leader concentrates on developing its people and teams, this model probably integrates human capital into SPM, but it is hard to identify typical patterns. The only valid claim may be that, in terms of coaching, reaching L6 is not probable (H5.6). It is more important for such leaders to define and monitor the development of human capital: the character of human capital information is then more close to the dynamic – i.e. activity related – features of the SPM approach (H5.7).

Finally, as also highlighted in previous chapters, even if senior management and its leadership support human capital management and its integration into strategic performance management systems, there are additional and significant organizational influences – see: leadership neutralizers and substitutes described in Chapter 3 – that must be considered during this piece of research into SPM.

In this matter, this thesis takes an extremely focused approach as the following hypotheses illustrates:

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**H6 – Hypotheses about potential leadership supporters, substitutes or neutralizers**

<table>
<thead>
<tr>
<th>(based to Table 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main hypotheses regarding leadership supporters, substituting and neutralizing factors:</strong></td>
</tr>
</tbody>
</table>

**H6.1** If at least one or more of the following functions exist and operate in an organization, it will positively impact the level of integration of human capital information into the SPM system. *HRM, Knowledge Management, Strategy, HR Controlling, IT system for administering HR*

**H6.2** A low level of data availability has a significant negative impact on the integration of human capital information into SPM.

**H6.3** A low level of perceived data reliability or quality has a significant negative impact on the integration of human capital information into SPM.

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115 Although all hypotheses will be pre-tested in a case study organization, it is considered most important to double check and refine this hypothesis in terms of identifying the most important units with a significant positive or negative impact.
If strategic performance management experts have allies in an organization, it may be easier to convince senior management of the importance of using human capital in strategic performance (H6.1). Otherwise, if the necessary performance data is not available or is not of proper quality, it will have the opposite impact (H6.2 and H6.3). Since the measurement of intangibles is challenging (see Chapter 4.3.3), the probability of this latter situation may be relevant in practice.

In this chapter, the hypotheses regarding the relationship of leadership style and human capital measurement in terms of the integration of human capital into strategic performance management systems have been provided. Although the hypotheses can practically be operationalized into direct questions in the (planned) survey instrument, to increase the transparency of the hypotheses the main ones have been subsumed into one main hypothesis which is broken down to 5 core and 1 supporting sub-hypothesis groups, as can be seen in the following chart:

![Figure 14 – Hierarchy of research hypotheses](image)

These hypotheses will be tested using a two-step empirical research process (as introduced in Chapter 1.3 and described in more detail in Chapter 6). During the first qualitative phase, the hypotheses will be pre-tested in a knowledge-intensive organization, and filtered and/or refined for use in the quantitative phase of the empirical research as needed.
6. Plan of the empirical research

This thesis uses three main research pillars and methodologies. The first pillar involves a structured literature review to provide a deep but focused overview of the relevant studies and scholars from the strategic performance management, leadership and human capital management literature. Following this stage, one main and five key categories of hypotheses (see above) are developed regarding the main research questions. In addition, both qualitative and quantitative research methodologies will be applied in the empirical phase as part of a two-step empirical research plan that will generate a more comprehensive picture and reliable practical findings regarding the overall research question, and its four dimensions. This chapter provides more operational information about the empirical research plan, and is built on the research approach and methodology introduced in Chapter 1, and more specifically in Chapter 1.3.2.

As highlighted above, the empirical study phase follows a two-step approach in alignment with the paradigm and the main objectives of this research effort. The following table illustrates the main steps in the two-step empirical research approach, with an estimated timeline for their completion according to the latest information.

Table 15 – Empirical research plan: a two-step approach

<table>
<thead>
<tr>
<th>#</th>
<th>Phase</th>
<th>Content</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.</td>
<td>Qualitative case study</td>
<td>As a result of case study research, the hypotheses will be pre-tested in a knowledge-intensive organization and then refined as needed. The organization is a market-leading financial services provider in Hungary. This is the third stage of a piece of longitudinal case study research. Two rounds have already been implemented: the first focused on the direct impact of leadership after SPM implementation in 2008, while the second round analyzed the impacts of the global financial crisis in 2012. This round is designed to be implemented in the summer of 2017, and has a focus on analyzing the impact of the changes in senior management and leadership in recent years. During this phase, document analysis, as well as managerial interviews and optional focus groups will be conducted with the senior management of the company. To identify the possible leadership supporters, substitutes or neutralizers, HR, Strategy, Controlling, Knowledge Management and IT functions will be also involved as control groups for the managerial interviews. Similarly, several key stakeholders from core departments will be interviewed and involved.</td>
<td>Hypotheses pre-tested and refined. Preparation of survey for next stage, and finalization after integrating case study results into research model.</td>
</tr>
</tbody>
</table>
# II. Quantitative survey

With the partnership of the Hungarian Association for People Management (OHE), this phase involves testing and approving/declining the hypotheses which were developed based on a literature review and refined during the first empirical stages of this research (see above). The survey will be sent to a selected sample of the more-than 100 OHE members. The selected sample will be designed in a way which supports homogeneity from two perspectives:

- Use of a homogenous core sample with a special focus on the knowledge-intensive sector.
- Another sample with a focus on organizations from more classic industries.

This latter sub-sample will be used only as a control group (if feasible). Nevertheless, since this thesis concentrates on investigating knowledge sectors, the main sample is the priority for the empirical research. The homogenous sample will be analyzed using statistical techniques in order to create relevant conclusions regarding the research question and the hypotheses. The survey will be completed by the senior management (top managers), and, as a control group, the Head of HR in the selected organizations.

The main goal of this *exploratory empirical research* is to contribute to the discussion and development in Hungary of strategic performance management, in terms of understanding the connection between senior management’s leadership styles and human capital management, and to provide practical findings about the impact of leadership on the level of integration of human capital performance information into corporate SPM systems. According to the previous chapters and the author’s practical experience there is a contradiction between communicated and followed values regarding the strategic importance of human capital and human resources, as many organizations call human capital a ‘key strategic resource’ but in their SPM systems there exists little regular information regarding its performance. The research described in this thesis analyzes this topic in terms of the most important dimensions of human capital in an SPM system\(^\text{116}\), with a clear focus on one aspect of it: the role of leadership on the integration of human capital into SPM.

As highlighted above, the *three main research methodologies* – and the classic process of triangulation inside each pillar – will lead to the significant validity of the main

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\(^{116}\) When identifying both static and dynamic human capital performance dimensions in an SPM, Table 12 (developed from a literature review) may be used as a guideline. Otherwise, consider that human capital and performance information about it in an SPM should be aligned with organizational strategy as well: this research seeks to identify the typical dimensions that should be considered in an SPM regarding HC; however, their applicability is highly dependent on strategy and context (see further points regarding generalization, below).
findings of this empirical research. The main function of the case study phase is to pre-test and refine the main hypotheses based on a structured literature review. Since the present author has worked with the selected case study organization before, they have already obtained deep knowledge of the history of the firm. In addition to this fact, since the senior management of the company has changed since the last phase of longitudinal research, the impact of changes in leadership may be tested. Accordingly, this case should be considered an exploratory case study\textsuperscript{117}, used to test and refine (or even delete) the hypotheses that have been developed based on a structured literature review.

The involvement of an additional peer group of researchers and experts from the Budapest Performance Management Research Center, and the OHE, will support the reliability of the interviews and the survey that will be implemented during the quantitative phase of the empirical research. The interviews will be documented correctly and (given interviewee consent) will also be recorded, allowing the researcher a better opportunity to listen to the interviews more than once, and accordingly derive more valid findings.

As mentioned in the table above, the opportunity for the generalization of the qualitative phase is limited: case study analysis is always dependent on context, and normally cannot be generalized to another organizations.

The research findings from the quantitative phase may also only be generalized in a limited manner. They are directly applicable to the homogenous core sample of knowledge-intensive organizations involved in this research. As described above, the conscious process of selecting a sample from the OHE network will allow us to create a core sample with a focus on knowledge/ human capital intensive organizations. The opportunity for extended generalization will be analyzed once the structure of the final sample is known: if most organizations are from the same industry or sector, and the sample covers most of the given sector, it may permit broader generalization, while in other cases we predict a limited opportunity for generalization.

Regionally, since the research will be implemented in a set of Hungarian organizations, the findings may also be restricted to Hungarian organizations, especially when considering that our independent factor (leadership) is significantly embedded in culture, not only on a corporate but on a national level too (see - amongst other research - the widely referred to GLOBE\textsuperscript{118} research, and, for instance, House et al. [2013]).

\textsuperscript{117} See, for example, Yin [1994] or McDonough - McDonough [1997], both referred to by Zainal [2007].
\textsuperscript{118} Global Leadership & Organizational Behavior Effectiveness, http://globeproject.com/
7. Discussion

As this thesis proposal discusses, both the strategy and performance measurement and management of intangible strategic resources have been one of the key challenges of management studies in recent decades, both from a theoretical and practical perspective. Although many commonly referred to scholars have focused on examining the topic in terms of the impact and meaning of intellectual capital through the development of a variety of specifically designed IC measurement methods and their integration into accounting and performance management systems, the real and practical impact of the ICM perspective on management practices has been less significant than expected prior to this work. As a result of the intangible character of knowledge capital, as well as the need to understand and manage complex cause-and-effect relationships during value creation, the development and implementation of any related performance management tools and methods is a challenging task in most organizations in most industries, especially in the so-called knowledge-intensive sector where a most significant proportion of corporate performance and value is generated by intangible strategic resources such as human capital, relational capital or organizational capital. An examination of the trend towards an increase in the role of intangible strategic resources and the way they are integrated into strategic performance management systems, with a focus on one of the most relevant components, human capital, is the scope of this thesis proposal.

During the last 10 years of my career as a performance management and controlling researcher and management consultant, I have been faced with the following — or similar — questions from various senior managements: how can we measure and integrate human capital into a practical performance management system, and how can we execute strategy in a human-oriented organization effectively and efficiently? This question is thus a practical concern of mine, which perception was reemphasized after a number of research projects and also during the development of this thesis. Many scholars and most of the managers I have encountered throughout my career have claimed that human capital is an extremely important and critical strategic resource for the organization in terms of strategy development and communication. Nevertheless, as it concerns performance measurement and management, or the monitoring of the contribution of human capital to strategy execution, a lack of reliable and structured information is prevalent. In other words, very few companies define and integrate human capital indicators and targets into strategic performance reports, and even fewer discuss this issue during strategic performance review meetings. An analysis of the gap regarding the communicated importance and on-the-ground practice of integrating
human capital related information, as well as understanding the main managerial reasons for this, are the most important objectives of the research and this thesis.

Of course, many different organizational and contextual factors may influence the practice of human capital performance measurement, and the level of integration of human capital information into strategic performance management systems. One of the most important of these is the role of senior management in a firm, and the impact of leadership style. As discussed before, leadership may support but also discourage performance management implementation and change in general, and specifically human capital performance. The relevance of this hypothesis has been detailed in this thesis proposal, and will be analyzed in a case study organization and in a set of knowledge-oriented organizations as well. During the case study, the above-described hypotheses will be first pre-tested, filtered and refined, then tested using a broader sample of the member organization of OHE as well. Through this process, the findings of the research may be generalized to a specific list of organizations where the probability of focus on human capital is higher (as a result of their membership of OHE).

Generalization of the results will be limited in terms of region and industry to the sample that participates in the empirical research during the quantitative research phase. In addition, since this research focuses on leadership, and, more specifically, four main leadership models, by applying different models the findings may also differ.

Finally, this thesis concentrates on examining leadership and its role in corporate-level strategy execution, and human capital measurement and management. As a result of the need to manage complexity and practical considerations concerning the implementability of the research model, neither more operational levels of strategy execution, nor other contextual factors are included in the scope of this current research. Both the integration of human capital information into strategy cascading, and the various additional organizational factors that affect human capital performance measurement could be parts of later research which takes into account findings from this stage of research. Similarly, this thesis focuses on human capital as a key component of intangible strategic resources. The role of leadership in the measurement of additional IC components such as relational or organizational capital may be also analyzed in future research. Since human capital seems to be a critical factor at most organizations, this research effort was consciously begun with a focus on intangible strategic resources in terms of strategy execution and strategic performance management.
References


Boda, Gy. [2008]: A tudástőke kialakulása és hatása a vállalati menedzsmentre. Infota, Budapest.


Harangozó, T. [2007]: Az intellektuális tőke mérése és ennek lehetséges magatartási vonatkozásai. Vezetéstudomány, 12/XXXVIII., pp. 18-34.


Horváth, P. – Möller, K. (Editors) [2004]: Intangibles in the Unternehmenssteuerung. Verlag Franz Vahlen, München, Germany.


Keep, E. [2000]: Creating a knowledge driven economy: definitions, challenges and opportunities. SKOPE, Coventry, UK.


Laáb, Á. [2007]: Ga(rá)zdálkodás a szellemi vagyonnal. TIPOTEX - BME, Budapest.


Pfeil, O. P. [2004]: Earnings from Intellectual Capital as a Driver of Shareholder Value. Haupt Verlag AG, Bern.


Sorossy, S. [2011]: HR controlling alapok. (Basics of HR Controlling). Lecture at the Corvinus University of Budapest, in Human Resources Controlling class in the Human Manager Program, 09-12-2011, Budapest.


