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**THE IMPACT OF LEADER ATTITUDES ON THE INNOVATIVE
WORK BEHAVIOUR IN REAL ESTATE DEVELOPMENT COMPANIES**

DOCTORAL THESIS

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Doctor of Science in Economics and Business

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ANNOTATION

Purpose: Leadership and innovation management are scientific disciplines with a strong research interest in management science. However, previous research lacks an examination of how leader attitudes affect the innovative work behaviour of employees in real estate development companies. The theoretical framework and empirical research of this thesis therefore aim to fill this knowledge gap by analysing the relationship between leader attitudes and employee innovative work behaviour scientifically.

Research design/methodology/approach: The author uses three different empirical research methods. To identify leader attitudes, a content analysis (frequency analysis) will be performed. The identified leader attitudes serve as independent variables for the study and allow the author to develop the theoretical research model. The model illustrates the cause-effect relationship by calculating a variance-based structural equation modeling to examine which, and to what extent, of the identified leader attitudes affect the innovative work behaviour of employees working in real estate development companies. Finally, structured expert interviews offer different viewpoints on the topic and include representatives and leaders from real estate development companies and experts from universities.

Research results: This research indicates that certain leader attitudes contribute more than others to the innovative work behaviour of employees in real estate companies. In particular, integrity and loyalty positively and significantly contribute to innovative work behaviour. Moreover, structured expert interviews demonstrate that age, work experience and the affiliation of experts influence the relevance of leader attitudes in fostering the innovative work behaviour of staff members working in real estate development companies. Finally, this research shows a discrepancy between the expert and employee analysis of attitudes that affect the innovative work behaviour of staff members.

Novelty for management science: The author developed a new research model of how certain leader attitudes affect innovative work behaviour. The underlying research offers insights into the hidden structures and concepts of leader attitudes affecting the innovative work behaviour of employees in real estate companies and contributes to the scientific disciplines of leadership, innovation management and organization theory.

Keywords: innovative work behaviour, leader attitudes, real estate development companies, trait approach to leadership

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LIST OF ABBREVIATIONS

Adj.	Adjusted
AVE	Average variance extracted
CB-SEM	Covariance-based structural equation modeling
DOI	Digital object identifier
Dr.	Doctor
Eds.	Editors
f.	Following page
f ²	Effect size
ff.	Following pages
HTMT	Heterotrait-monotrait ratio of correlations
IWB	Innovative work behaviour
LMX	Leader-member exchange
MGA	Multi-group analysis
N	Sample size
No.	Number
OECD	Organisation for Economic Cooperation and Development
p	Page
PLS	Partial least squares
PLS-SEM	Partial least squares structural equation modeling
pp	Pages
Prof.	Professor
Q ²	Stone-Geisser
R&D	Research and development
R ²	Coefficient of determination
SEM	Structural equation modeling

Sig	Significance
SRMR	Standardized root mean square residual
VIF	Variance inflation factor
Vol.	Volume
vs.	Versus

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INTRODUCTION

In times of international competition, economic growth and vibrant economic performances, innovation management has become an essential factor for competing with rival companies on the market.¹ The Economist Intelligence Unit Report (2009) highlights that innovative firms tend to perform significantly better than rival companies and that innovation leads to economic wealth.² Real estate development companies, which are forced to adapt their processes constantly, can only remain competitive through innovation. Internal organizational structures must allow these organizations to react quickly to market changes. Therefore, the way organizations deal with market changes affects competitiveness and the development of properties.³ In this respect, scholars consider innovation to be a crucial element in the success and growth of companies but simultaneously highlight that the precise nature of innovation remains highly complex.⁴ Considering the current literature in innovation research, results contribute in a limited way to the fostering of knowledge in this research field.⁵ From a theoretical and practical viewpoint, the knowledge of why and how companies generate innovation is under-researched.⁶ However, there is growing evidence that one major driver for innovation can be found in leadership.⁷ Graen/Uhl-Bien (1995) state that, although substantial leadership research has been performed, scholars do have a superficial knowledge of leadership.⁸ Similarly, despite the interest in understanding innovative work behaviour in organizations, the current knowledge is relatively

¹ Dereli, D. D. (2015): Innovation Management in Global Competition and Competitive Advantage. *Procedia - Social and Behavioral Sciences*, Vol. 195, p. 1366, DOI: <https://doi.org/10.1016/j.sbspro.2015.06.323>.

² Economist Intelligence Unit (2009): A new ranking of the world's most innovative countries. An Economist Intelligence Unit report. retrieved on 16.05.2018 from http://graphics.eiu.com/PDF/Cisco_Innovation_Complete.pdf, p. 3.

³ Steele, J./Murray, M. (2004): Creating, supporting and sustaining a culture of innovation. *Engineering, Construction and Architectural Management*. Vol. 11, Issue 5, p. 317, DOI: <https://doi.org/10.1108/09699980410558502>.

⁴ Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management. Context, strategies, systems and processes*. Pearson Education, Essex, p. 4.

⁵ Becheikh, N./Landry, R./Amara, N. (2006): Lessons from innovation empirical studies in the manufacturing sector: A systematic review of the literature from 1993-2003. *Technovation*, Vol. 26, Issue 5-6, p. 644, DOI: <https://doi.org/10.1016/j.technovation.2005.06.016>.

⁶ Meyer, A. D./Goes, J. B. (1988): Organizational Assimilation of Innovations: A Multilevel Contextual Analysis. *Academy of Management Journal*, Vol. 31, Issue 4, p. 897, <https://www.jstor.org/stable/256344>.

⁷ Jia, X./Chen, J./Mei, L./Wu, Q. (2018): How leadership matters in organizational innovation: a perspective of openness. *Management Decision*, Vol. 56, Issue 1, pp. 19-20, DOI: <https://doi.org/10.1108/MD-04-2017-0415>.

⁸ Graen, G. B./Uhl-Bien, M. (1995): Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *The Leadership Quarterly*, Vol. 6, Issue 2, p. 220, DOI: [https://doi.org/10.1016/1048-9843\(95\)90036-5](https://doi.org/10.1016/1048-9843(95)90036-5).

underdeveloped.⁹ Real estate development companies must consider and combine the factors of site, idea and capital to construct new buildings. The coordination of each phase ranging from planning until the realization is highly complex and entails property purchases, the development of utilization concepts, the commercialization and rental or sale. In each phase, a variety of stakeholders such as architects and engineers are involved.¹⁰ In addition, properties are heterogeneous assets due to different sites, floors, floor plans, light conditions and purposes of construction.¹¹ Based on this complexity, real estate developments offer a broad spectrum of innovation opportunities.¹² In particular, it remains unclear which, and to what extent, leader attitudes affect the innovative work behaviour of employees working in real estate development companies. Therefore, this doctoral thesis is aimed at researching this relationship scientifically.

Purpose

The purpose of this dissertation is to substantiate the relationship between leader attitudes and innovative work behaviour in real estate development companies. Furthermore, this research analyses which, and to what extent, leader attitudes have an impact on the innovative work behaviour of employees in such companies.

Aim of research

The aim of this dissertation is to examine and indicate which, and to what extent, leader attitudes have an impact on the innovative work behaviour of employees in real estate development companies.

Tasks to achieve

1. To examine the literature in the scientific disciplines of leadership and innovation management with an emphasis on the typology, spectrum and antecedents of

⁹ Wolfe, R. A. (1994): Organizational Innovation: Review, Critique and Suggested Research Directions. *Journal of Management Studies*, Vol. 31, Issue 3, p. 405, DOI: <https://doi.org/10.1111/j.1467-6486.1994.tb00624.x>.

¹⁰ Vornholz, G. (2019): *Digitalisierung der Immobilienwirtschaft*. De Gruyter Oldenbourg, Berlin/Boston, p. 79.

¹¹ Rottke, N. B. (2017): Immobilienarten. In: Rottke, N. B./Thomas, M. (Eds): *Immobilienwirtschaftslehre – Management*. Springer Gabler, Wiesbaden, p. 144.

¹² Blayse, A. M./Manley, K. (2004): Key influences on construction innovation. *Construction Innovation*, Vol. 4, Issue 3, p. 144, DOI: <https://doi.org/10.1108/14714170410815060>.

innovations and to analyse organizational theories applicable to real estate development organizations.

2. To identify leader attitudes, which will serve as independent variables in this research work, by performing a content analysis (frequency analysis).
3. To develop the hypothesis, sub-hypotheses, research questions and the research model.
4. To design and calculate a structural equation modeling to examine statistically and scientifically which, and to what extent, the identified leader attitudes affect the innovative work behaviour of employees in real estate development companies.
5. To conduct structured interviews with experts from the practitioner and academic perspective on the topic of leader attitudes affecting innovative work behaviour.
6. To examine the statistical findings from the structural equation modeling with structured expert interviews so that similarities and differences can be analysed.
7. To offer recommendations for practitioners and researchers in the disciplines of leadership and innovation management and to derive suggestions for further research on how to improve innovative work behaviour by applying certain leader attitudes.

Research object

Real estate development companies

Research subject

Leader attitudes and their impact on innovative work behaviour

Research questions and hypotheses

The research questions of this thesis are as follows:

1. How can leader attitudes be identified?
2. Which leader attitudes contribute to innovative work behaviours in real estate development companies?

3. Do certain leader attitudes contribute more than others to innovative work behaviours of employees in real estate development companies?

Derived from these research questions, the main hypothesis of this dissertation is formulated as follows:

H₀: Leader attitudes have an impact on the innovative work behaviour of employees in real estate development companies

Theses presented for defense

1. Effective leadership is grounded on a set of leader attitudes that staff members can perceive.
2. Leader attitudes directly affect the innovative work behaviour of staff members in real estate development companies.
3. Particular leader attitudes have a stronger impact on innovative work behaviour of staff members in real estate development companies compared to others attitudes.

Novelty of the research

Scientific novelties:

1. The development of a new theoretical model to research the cause-effect relationship between leader attitudes and innovative work behaviour in real estate development companies.
2. The finding that leader attitudes have a different relevance and extent for staff members to foster innovative work behaviour.
3. The identification of a discrepancy between the leader and employee perception of attitudes that affect the innovative work behaviour.

Practical novelties:

4. Leaders can improve the innovative work behaviour of staff members by focusing on the attitudes integrity and loyalty in leadership.
5. For experts, the relevance of leader attitudes in fostering innovative work behaviour is affected by work experience and age.

Methodology

The author uses three different research methods to examine the relationship between leader attitudes and innovative work behaviour in real estate development companies. To identify leader attitudes from the academic literature, a content analysis (frequency analysis) was performed. The identified leader attitudes serve as independent variables for the research and allow the author to develop the research model by demonstrating the assumed cause-effect relationships. After the independent variables for this research were identified, employees working for real estate development companies were contacted to analyse how attitudes from their leaders affect their innovative work behaviour by calculating a structural equation modeling. In total, 137 staff members working for real estate development companies fully answered the questionnaire either on paper or online. Finally, interviews with 13 experts were conducted to examine the relationship between leader attitudes and the innovative work behaviour of staff members working for real estate companies so that this relationship could be analysed from a different perspective and more holistically. The experts had the opportunity to either participate on paper or online. The experts who participated were academic staff members from universities with research focus on management, representatives of real estate development organizations and leaders working in real estate development companies. The results of both the employee and expert surveys were statistically analysed and compared. Based on the research results, conclusions, suggestions to organizations and leaders in real estate development companies and recommendations for further research are provided.

Research limitations

This thesis only addresses the impact of certain leader attitudes on innovative work behaviour in real estate development companies. The author is aware that other factors (e.g., the work situation) might also influence the innovative work behaviour of employees in such companies. Moreover, staff members from non-European cultures may require other attitudes from leaders to demonstrate innovative work behaviour. Finally, this research solely focuses on European real estate development companies (the research object) and is limited to the years 2017 to 2021.

Approbation of research results¹³

a) Scientific publications

1. Lauck, Rene (2018): Gaining competitive advantages with Risk Management. *New Challenges of Economic and Business Development Conference Proceedings - 2018*. Riga, Latvia, pp. 396-406, ISBN 978-9934-18-344-7, (Web of Science, EBSCO).
2. Lauck, Rene (2019): Indicators for measuring transformational and transactional leadership. *New Challenges of Economic and Business Development Conference Proceedings – 2019*. Riga, Latvia, pp. 486-497, ISBN: 978-9934-18-428-4, (Web of Science, EBSCO).
3. Lauck, Rene (2019): A theoretical analysis of the relationship between leader personality traits and innovative work behaviour. *International Academic Conference on Management, Economics and Marketing - Proceedings of IAC 2019*, Vienna, Austria, pp. 194-200, ISBN: 978-80-88203-11-7, (National Library of the Czech Republic).
4. Lauck, Rene (2019): Theoretical and empirical research on gender and leadership. *Humanities and Social Sciences Latvia*, Vol. 27, Issue 1, pp. 120-137, DOI: <https://doi.org/10.22364/hssl.27.1.06>, (EBSCO).
5. Lauck, Rene (2019): Content Analysis: Identification of leader personality traits affecting the innovative work behaviour. *International Academic Conference on Management, Economics, Business and Marketing – Proceedings of IAC-MEBM*, Vienna, Austria, pp. 188-193, ISBN: 978-80-88203-14-8, (National Library of the Czech Republic).
6. Lauck, Rene (2020): Structured Expert Interviews: The Relevance of Leader Attitudes in the Leadership Process in Real Estate Development Companies. *International Academic Conference on Management, Economics, and Marketing – Proceedings of IAC-MEM*, Budapest, Hungary, pp. 112-119, ISBN: 978-80-88203-15-5, (National Library of the Czech Republic).

¹³ Parts of this dissertation and (intermediate) results were published and presented in international academic conferences and peer-reviewed journals by the author.

7. Lauck, Rene (2020): Structural equation modeling: The impact of leader attitudes on the innovative work behaviour in real estate development companies. *Humanities and Social Sciences Latvia*, Vol. 28, Issue 2, pp. 47-68, DOI: <https://doi.org/10.22364/hssl.28.2.04>, (EBSCO).

b) Scientific conferences

1. Lauck, Rene (2018): Gaining competitive advantages with Risk Management. *New Challenges of Economic and Business Development - 2018*, University of Latvia, May 10-12, 2018, Riga, Latvia.
2. Lauck, Rene (2019): Indicators for measuring transformational and transactional leadership. *New Challenges of Economic and Business Development – 2019*, University of Latvia, May 16-17, 2019, Riga, Latvia.
3. Lauck, Rene (2019): A theoretical analysis of the relationship between leader personality traits and innovative work behaviour. *International Academic Conference on Management, Economics and Marketing – 2019*, Czech Institute of Academic Education, July 5-6, 2019, Vienna, Austria.
4. Lauck, Rene (2019): Content Analysis: Identification of leader personality traits affecting the innovative work behaviour. *International Academic Conference on Management, Economics, Business and Marketing – 2019*, Czech Institute of Academic Education, November 29-30, 2019, Vienna, Austria.
5. Lauck, Rene (2020): The impact of leader attitudes on the innovative work behaviour of employees in real estate development companies. *78th Annual International Conference*, University of Latvia, January 23, 2020, Riga, Latvia.
6. Lauck, Rene (2020): Structured Expert Interviews: The Relevance of Leader Attitudes in the Leadership Process in Real Estate Development Companies. *International Academic Conference on Management, Economics, and Marketing – 2020*, Czech Institute of Academic Education, March 13-14, 2020, Budapest, Hungary.

Content and structure of dissertation

The introduction of this dissertation describes the actuality and novelty of this topic for management science as well as the research gap, the hypotheses, the research questions, the limitations and the purpose of this thesis.

The first chapter of this dissertation focuses on the theoretical framework in which the author carries out an in-depth literature analysis of the current state of research regarding leadership and innovation management. In particular the typology and spectrum of innovations, different sources of innovations, organizational theories with respect to real estate development companies and the trait approach to leadership are examined and discussed.

The second chapter deals with the identification of leader attitudes, which serve as independent variables for the research model. The author then performs a content analysis (frequency analysis) and identifies eight leader attitudes that are most discussed as being essential in leadership. Moreover, these eight identified leader attitudes are analysed to gain a deeper understanding of the multifaceted constructs.

In the third chapter, the author performs two further empirical studies, which comprise the development and calculation of a structural equation modeling and the execution of structured expert interviews. At the beginning of this chapter, the hypothesis, the methodology and the research design are outlined. Additionally, the procedure and relevance for each of the applied research methods are explained. Finally, the findings are systematically analysed and compared.

The last part of this dissertation includes the conclusions, suggestions to organizations, leaders and employees and directions for further research in the disciplines of leadership and innovation management.

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1. THEORETICAL PRINCIPLES AND STATE OF RESEARCH OF INNOVATION MANAGEMENT AND LEADERSHIP

The following first chapter provides a fundamental literature review in the research fields of innovation management and leadership. In addition, this section focuses on organizational aspects and theories of real estate development companies as well as sources for innovations. Additionally, it analyses the requirements and dimensions of innovative work behaviour and demonstrates the complexity and relevance of this topic for management science. Finally, the author discusses the trait approach to leadership and outlines the inconsistencies of previous studies and the necessity of this research.

Due to global competition and increasing competitiveness, innovation management in general has become a crucial factor in economics.¹⁴ Newly developed ideas and state-of-the-art methods, structures and products may lead to organizational success and economic vibrancy. Innovations therefore have the ability to create, extend or close markets.¹⁵ One crucial factor for being innovative can be found in leadership.¹⁶ According to Tidd/Bessant (2013), the contribution of executives to the organizational performance can be significant (positive or negative).¹⁷ Goodman/Dingli (2017) outline that the ability of leaders to learn, adapt, support and inspire individuals represents a crucial challenge for organizations. Fulfilling these requirements needs, amongst other qualities, creativity.¹⁸ The current literature on the topic of innovation management demonstrates a broad range of empirical phenomena, and the majority of them are intangible and challenging to measure in cause-effect relationships.¹⁹

¹⁴ Dereli, D. D. (2015): Innovation Management in Global Competition and Competitive Advantage. *Procedia - Social and Behavioral Sciences*, Vol. 195, p. 1366, DOI: <https://doi.org/10.1016/j.sbspro.2015.06.323>.

¹⁵ Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management. Context, strategies, systems and processes*. Pearson Education, Essex, p. 4.

¹⁶ Jia, X./Chen, J./Mei, L./Wu, Q. (2018): How leadership matters in organizational innovation: a perspective of openness. *Management Decision*, Vol. 56, Issue 1, pp. 19-20, DOI: <https://doi.org/10.1108/MD-04-2017-0415>.

¹⁷ Tidd, J./Bessant, J. (2013): *Managing Innovation. Integrating Technological, Market and Organizational Change*. Fifth Edition, Wiley, West Sussex, p. 112.

¹⁸ Goodman, M./Dingli, S. M. (2017): *Creativity and Strategic Innovation Management. Directions for Future Value in Changing Times*. Second Edition, Routledge, Abingdon, p. 239.

¹⁹ Ritala, P./Schneider, S./Michailova, S. (2020): Innovation management research methods: embracing rigor and diversity. *R&D Management*, Vol. 50, Issue 3, p. 298, DOI: <https://doi.org/10.1111/radm.12414>.

Figure 1 demonstrates that creativity is an antecedent of innovation. The combination of staff members' creativity and innovation in the working environment is defined as innovative work behaviour. The relationship between innovation and leadership can be described as inconsistent, as previous research does not examine which leader attitudes and to what extent have an impact on the innovative work behaviour of staff members working in real estate development companies.

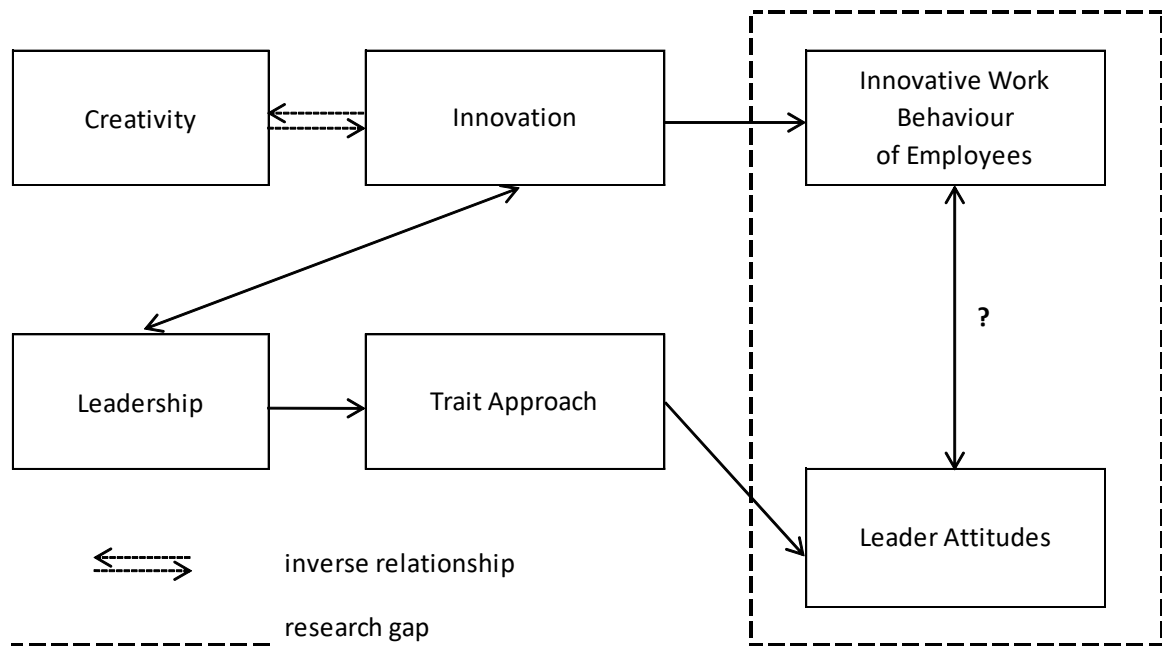


Figure 1: Research gap about the relationship between leader attitudes and innovative work behaviour

Source: author's compilation

Northouse (2016) has already criticized previous studies on leader attitudes for failing to examine cause-effect relationships. In particular it remains unclear how leader attitudes affect work outcomes.²⁰ From the personality perspective, Woods et al. (2018) refer to Anderson et al. (2014) and point out that differences in personality traits represent crucial influence factors for the construct of innovative work behaviour, but the precise nature and the relationship remain unclear and are inadequately studied in the academic literature.^{21 22}

²⁰ Northouse, P. G. (2016): Leadership. Theory and Practice. Seventh Edition, Sage Publications, Thousand Oaks, p. 31.

²¹ Woods, S. A./Mustafa, M. J./Anderson, N./Sayer, B. (2018): Innovative work behavior and personality traits: Examining the moderating effects of organizational tenure. Journal of Managerial Psychology, Vol. 33, Issue 1, p. 30, DOI: <https://doi.org/10.1108/JMP-01-2017-0016>.

²² Anderson, N./Potočník, K./Zhou, J. (2014): Innovation and Creativity in Organizations: A State-of-the-Science Review, Prospective Commentary, and Guiding Framework. Journal of Management, Vol. 40, Issue 5, p. 1303, DOI: <https://doi.org/10.1177/0149206314527128>.

Robertson/Callinan (1998) emphasize that an analysis of personality may be too general to research complex human behaviours in organizations²³ and thus requires concrete traits to be researched to examine cause-effect relationships between leader attitudes and the innovative work behaviour of staff members in real estate development companies.

Therefore, the first chapter discusses the major principles of innovation management and leadership. The following subchapter examines the terminology, requirements and spectrum of innovations and demonstrates the complexity of this research field.

1.1 Terminology, requirements and spectrum of innovations

The term innovation has become ubiquitous in both academia and economic practices.²⁴ In general innovation is described as the production of novel thoughts, procedures and goods and simultaneously contains the generation of new relationships,²⁵ and it originates from the Latin word „innovatio“.²⁶ Ahmed/Shepherd (2010) characterize the term innovation from different viewpoints:²⁷

- Invention: It describes the relevance of resources to invent or develop new goods or services.
- Diffusion and learning: The main emphasis is on the acquisition, support or usage of certain products or services.
- Event: The focus can be traced back to a concrete event, for example the development of a product or service.
- Trajectory: A single innovation may lead to further innovations to be derived from the original innovation.
- Change (incremental or radical): The level of innovation may range from small adjustments to substantial changes.

²³ Robertson, I./Callinan, M. (1998): Personality and Work Behaviour. *European Journal of Work and Organizational Psychology*, Vol. 7, Issue 3, p. 336, DOI: <http://dx.doi.org/10.1080/135943298398736>.

²⁴ Hauschildt, J./Salomo, S./Schultz, C./Kock, A. (2016): *Innovationsmanagement*. 6., vollständig aktualisierte und überarbeitete Auflage, Franz Vahlen, München, p. 3.

²⁵ Bünting, K.-D. (1996): *Deutsches Wörterbuch*. Mit der neuen Rechtschreibung. Isis Verlag, Chur, p. 569.

²⁶ Disselkamp, M. (2012): *Innovationsmanagement*. Instrumente und Methoden zur Umsetzung im Unternehmen. 2., überarbeitete Auflage, Springer Gabler, Wiesbaden, p. 13.

²⁷ Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management*. Context, strategies, systems and processes. Pearson Education, Essex, p. 5.

- Process: Innovation includes a series of activities that need to be executed by a company.
- Context: From this perspective, innovations are perceived as an act beyond the boundaries of organizations and are embedded in certain contexts (region, nation).

Drucker (1985) defines innovation as a „*specific tool of entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service. It is capable of being presented as a discipline, capable of being learned, capable of being practiced*“.²⁸ Porter (1990) emphasizes that innovations emerge in cases where competitors fail to identify novel approaches or are unable to respond to the markets. Therefore, innovations result from organizational learning and research and development (R&D), and they require investments in developing skills, expertise and physical assets. The opportunity for gaining competitive advantages increases in the case of market discontinuities or changes in the industry structure.²⁹ Resulting from these insights, Porter (1990) describes five causes of innovations that shift competitive advantages:³⁰

1. New technologies: Technological developments allow entrepreneurs to design new products, marketing approaches, production methods and modes of distribution.
2. New or shifting buyer needs: The opportunity for gaining competitive advantages may also occur when customers develop new needs or change their priorities. Well-established rivals may fail to react to these changes or be unable to respond quickly due to their existing business processes.
3. Emergence of new industry segments: The likelihood of generating competitive advantages increases when new industry segments emerge or are being reallocated. This development not only allows the company to gain new clients but also offers opportunities for producing goods for this target group.
4. Shifting input costs or availability: Competitive advantages may arise when absolute or relative costs of inputs change. By optimizing costs while other rivals are saddled with their assets, companies can improve their competitiveness.
5. Government regulations: Finally, changes in government regulations such as environmental controls, restrictions on entries and trade barriers are a further

²⁸ Drucker, P. F. (1985): Innovation and Entrepreneurship. Harper, New York, p. 19.

²⁹ Porter, M. E. (1990): The Competitive Advantage of Nations. The Free Press, New York, p. 45.

³⁰ Porter, M. E. (1990): The Competitive Advantage of Nations. The Free Press, New York, pp. 45-47.

stimulus to innovations as organizations must adjust their operations to those regulations and are unable to respond to these changes quickly.

In 2002 a survey carried out by the Innovation Exchange showed that firms that have a positive attitude towards innovation management performed significantly better in crises than rivals, which reduced costs on innovations. In addition these companies could extend their market shares and profitability in the financial year.³¹ Therefore, companies must be aware that the ability to be innovative on a regular basis is essential for the success of the entire firm.³² Based on the emergence of new expertise, fierce competition and technological developments, innovation can be seen as crucial factor for the success of organizations.³³ For du Plessis (2007) knowledge management represents a key factor in the innovation process, as it facilitates competitive advantages in organizations.³⁴ The above mentioned developments are summarized in Figure 2.

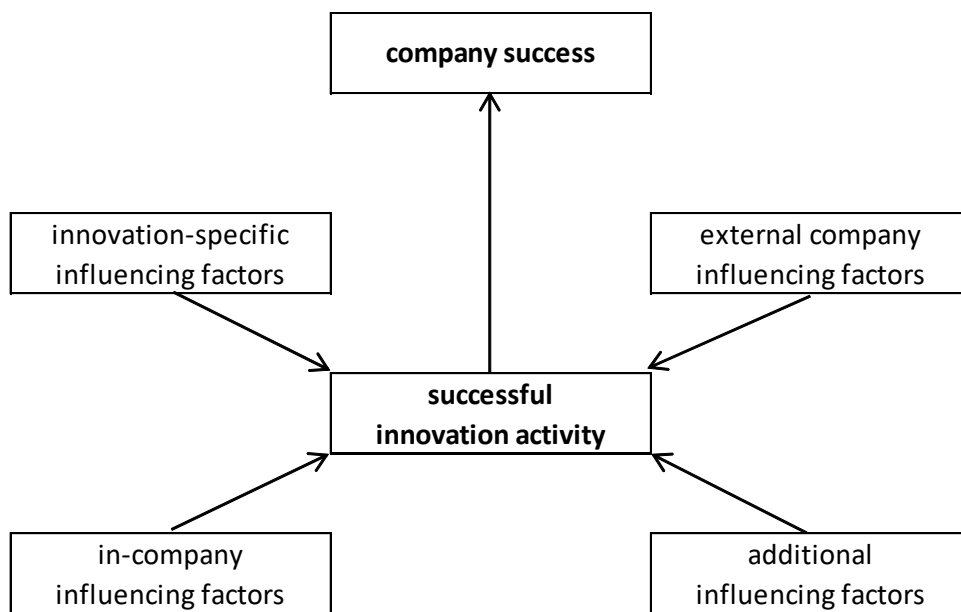


Figure 2: Influencing factors of innovation and company success

Source: modified by author based on Vahs/Brem, 2013, p. 72.

³¹ Von Stamm, B. (2008): *Managing innovation, design and creativity*. second edition, John Wiley & Sons, West Sussex, p. 480.

³² Metz, I./Terziovski, M./Samson, D. (2007): Development of an Integrated Innovation Capability Model. In: Terziovski, M. (Eds.): *Building innovation capability in organizations: An International Cross-Case Perspective*. Imperial College Press, London, p. 19.

³³ Mehta, M./Chandani, A./Neeraja, B. (2014): Creativity and Innovation: Assurance for growth. *Procedia Economics and Finance*, Vol. 11, p. 805, DOI: [https://doi.org/10.1016/S2212-5671\(14\)00244-5](https://doi.org/10.1016/S2212-5671(14)00244-5).

³⁴ Du Plessis, M. (2007): The role of knowledge management in innovation. *Journal of Knowledge Management*, Vol. 11, Issue 4, p. 28, DOI: <https://doi.org/10.1108/13673270710762684>.

According to Vahs/Brem (2013), the current literature divides innovations into different categories.³⁵ In general innovations underlie different meanings, and thus a variety of ascribed forms exist.³⁶ Read (2000) and Gopalakrishnan/Damanpour (1997) describe the dimensions of innovation as multifaceted.^{37 38} With the revision of the Oslo-Manual in 2005, the Organisation for Economic Cooperation and Development (OECD) together with Eurostat added marketing innovations for a comprehensive consideration.^{39 40} According to the definition of the OECD (2005), product innovation „*is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics*“.⁴¹ Moreover, product innovation takes feedback and solutions into account to fulfil the individual needs and expectations of clients. Additionally, product innovation needs contributions from different areas such as engineering, marketing, finance, supply networks and distribution channels.⁴² In practice innovations are often interpreted as product innovations because they are the most visible ones.⁴³ Vakola/Rezgui (2000) consider that innovations in the construction industry occur in three domains, namely product, process and organizational innovation.⁴⁴ This narrow view of the current literature assumes that

³⁵ Vahs, D./Brem, A. (2013): Innovationsmanagement. Von der Idee zur erfolgreichen Vermarktung. 4., überarbeitete und erweiterte Auflage, Schäffer Poeschel Verlag, Stuttgart, p. 52.

³⁶ Ahmed, P. K./Shepherd, C. D. (2010): Innovation Management. Context, strategies, systems and processes. Pearson Education, Essex, p. 7.

³⁷ Read, A. (2000): Determinants of successful organizational innovation: A review of current research. Journal of Management Practice, Vol. 3, Issue 1, p. 97.

³⁸ Gopalakrishnan, S./Damanpour, F. (1997): A Review of Innovation Research in Economics, Sociology and Technology Management. Omega, Vol. 25, Issue 1, p. 25, DOI: [https://doi.org/10.1016/S0305-0483\(96\)00043-6](https://doi.org/10.1016/S0305-0483(96)00043-6).

³⁹ Vahs, D./Brem, A. (2013): Innovationsmanagement. Von der Idee zur erfolgreichen Vermarktung. 4., überarbeitete und erweiterte Auflage, Schäffer Poeschel Verlag, Stuttgart, p. 61.

⁴⁰ OECD (2005): Oslo Manual. Guidelines for collecting and interpreting innovation data. 3rd edition, oecd publishing, Paris, pp. 49-51.

⁴¹ OECD (2005): Oslo Manual. Guidelines for collecting and interpreting innovation data. 3rd edition, oecd publishing, Paris, p. 149.

⁴² Rainey, D. (2005): Production Innovation. Leading Change through Integrated Product Development. Cambridge University Press, Cambridge, p. 5.

⁴³ Ahmed, P. K./Shepherd, C. D. (2010): Innovation Management. Context, strategies, systems and processes. Pearson Education, Essex, p. 7.

⁴⁴ Vakola, M./Rezgui, Y. (2000): Organisational learning and innovation in the construction industry. The Learning Organization, Vol. 7, Issue 4, p. 177, DOI: <https://doi.org/10.1108/09696470010342324>.

innovations are limited due to physical restraints.⁴⁵ Process innovations are described by Vahs/Brem (2013) as closed procedures that are caused by a certain event with a defined input and output in common.⁴⁶ Additionally, the OECD (2005) suggests that process innovations are often aimed at decreasing the unit costs of production, improving quality or launching substantially enhanced products.⁴⁷ Lendel/Hittmár/Siantová (2015) describe process innovations as organized and controlled sets of steps ranging from the development of innovative ideas (input) to the finalized innovation itself (output).⁴⁸ However, process innovations are less tangible and visible and thus are often not recognized by the clients. Process innovation fosters a company's efficiency by developing a new product or service, which may lead to improved quality standards and higher reliability.⁴⁹ In contrast marketing innovation describes the introduction of novel marketing approaches that have a substantial impact on the product design, product placement, advertisement or price policy. This type of innovation focuses on better addressing new clients, customer needs, breaking into new markets and product positioning. The difference between marketing innovation and other changes in the firm's marketing policy can be found in a marketing approach that has not been applied before. Finally, organizational innovations consist of novel organizational approaches regarding business activities, workplace organizations and external interactions. They are aimed at increasing the organizational performance by lowering administrative or transaction costs. In addition this type of innovation includes fostering employee satisfaction. In this context the distinctive element of organizational innovation can be found in one of the previously mentioned approaches that have not been applied before and can be traced back to management decision-making.⁵⁰

⁴⁵ Stewart, I./Fenn, P. (2006): Strategy: the motivation for innovation. *Construction Innovation*, Vol. 6, Issue 3, p. 174, DOI: <https://doi.org/10.1108/14714170610710703>.

⁴⁶ Vahs, D./Brem, A. (2013): *Innovationsmanagement. Von der Idee zur erfolgreichen Vermarktung*. 4., überarbeitete und erweiterte Auflage, Schäffer Poeschel Verlag, Stuttgart, p. 56.

⁴⁷ OECD (2005): *Oslo Manual. Guidelines for collecting and interpreting innovation data*. 3rd edition, oecd publishing, Paris, p. 49.

⁴⁸ Lendel, V./Hittmár, Š./Siantová, E. (2015): Management of Innovation Processes in Company. *Procedia Economics and Finance*, Vol. 23, p. 862, DOI: [https://doi.org/10.1016/S2212-5671\(15\)00382-2](https://doi.org/10.1016/S2212-5671(15)00382-2).

⁴⁹ Gopalakrishnan, S./Bierly, P./Kessler, E. H. (1999): A reexamination of product and process innovations using a knowledge-based view. *The Journal of High Technology Management Research*, Vol. 10, Issue 1, p. 148, DOI: [https://doi.org/10.1016/S1047-8310\(99\)80007-8](https://doi.org/10.1016/S1047-8310(99)80007-8).

⁵⁰ OECD (2005): *Oslo Manual. Guidelines for collecting and interpreting innovation data*. 3rd edition, oecd publishing, Paris, pp. 49-51.

Tidd/Bessant (2013) emphasize that a major topic in managing innovations is the differentiation in the degree of novelty.⁵¹ Figure 3 describes the spectrum of innovations.

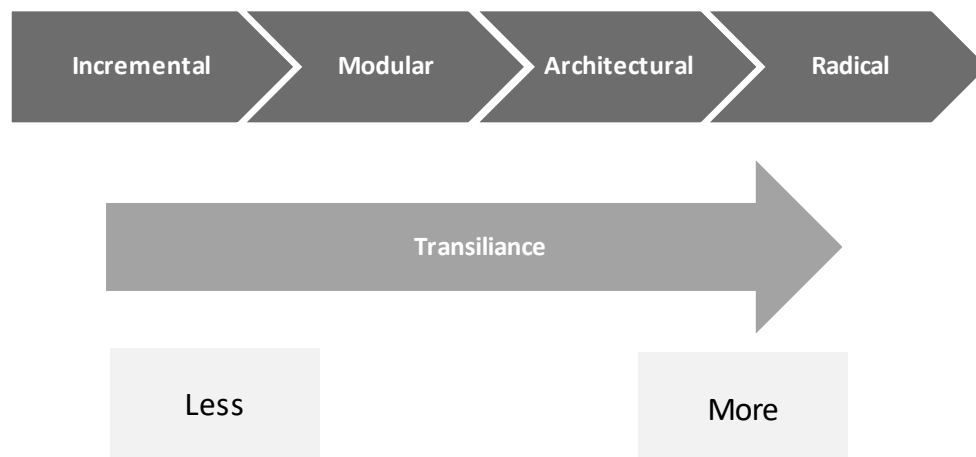


Figure 3: Spectrum of innovations

Source: modified by author based on De Lancer Julnes, 2016, p. 17.

Incremental innovations can be characterized as minor improvements⁵² and are exposed to less risk and thus offer less potential for profits for the company. However, this type of innovation requires less effort, which makes them much easier to execute. If companies are able to implement numerous incremental innovations, this can also lead to company growth and competitive advantages.⁵³ Radical innovations, on the other hand, cause substantial growth and profitability in organizations,⁵⁴ which is mostly visible in revenue or efficiency. The majority of companies are involved, to a certain extent, in the development of radical innovations over their lifetime.⁵⁵ Modular innovations deal with changes in the elements and do not substantially affect the product architecture.⁵⁶ Finally, architectural

⁵¹ Tidd, J./Bessant, J. (2013): *Managing Innovation. Integrating Technological, Market and Organizational Change*. Fifth Edition, Wiley, West Sussex, p. 30.

⁵² Tidd, J./Bessant, J. (2013): *Managing Innovation. Integrating Technological, Market and Organizational Change*. Fifth Edition, Wiley, West Sussex, p. 30.

⁵³ O'Sullivan, D./Dooley, L. (2009): *Applying Innovation*. Sage Publications, Thousand Oaks, p. 24.

⁵⁴ Di Benedetto, C. A./DeSarbo, W. S./Song, M. (2008): Strategic Capabilities and Radical Innovation: An Empirical Study in Three Countries. *IEEE transactions on engineering management*, Vol. 55, Issue 3, p. 429, DOI: <https://doi.org/10.1109/TEM.2008.922645>.

⁵⁵ O'Sullivan, D./Dooley, L. (2009): *Applying Innovation*. Sage Publications, Thousand Oaks, p. 23.

⁵⁶ Frenken, K. (2006): *Innovation, Evolution and Complexity Theory*. Edward Elgar Publishing, Cheltenham, p. 41.

innovations restructure existing components in a novel way while leaving the main concept behind them untouched.⁵⁷

This subchapter shows that innovation is generally grounded in different definitions, viewpoints and categorizations. Based on these insights, the wide research field of innovation becomes visible and illustrates the difficulty of a uniform research framework. In general companies are facing a significant innovation pressure to remain competitive on the market. The following subchapter establishes and examines the relationship between innovation and creativity in organizations.

1.2 The relationship between creativity and innovation

The current business environment is becoming more volatile and complex, and the number of issues organizations must deal with seem to be increasing substantially. In all business areas, rivals quickly develop new products, strategic moves and practices. To contend with this competition, companies are increasingly focusing on creativity to develop new products, improve organizational structures or support decision-making efficiency. Without creativity companies lose competitiveness and thus descend to an ordinary standard of company practices.⁵⁸ A research study of executives by IBM revealed that creativity is the dominant leadership competency for dealing with difficult issues.⁵⁹ ⁶⁰ Creativity can be considered from different viewpoints, depending on which it is being examined with.⁶¹ In view of an organizational perspective, creativity „*is the ability to consistently produce different and valuable results*“⁶² and is derived from the Latin word „*creare*“ meaning „*to make*“ or „*to create*“.⁶³ According to Woodman/Sawyer/Griffin (1993), creativity in organizations is

⁵⁷ Henderson, R. M./Clark, K. B. (1990): Architectural Innovation: The Reconfiguration of Existing Product Technologies and the Failure of Established Firms. *Administrative Science Quarterly*, Vol. 35, Issue 1 p. 12, <https://www.jstor.org/stable/2393549>.

⁵⁸ Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management. Context, strategies, systems and processes*. Pearson Education, Essex, p. 42.

⁵⁹ Hieronymi, A. (2013): Creativity from a systems perspective: bridging theory and practice. *Kybernetes*, Vol. 42, Issue 9/10, p. 1413, DOI: <https://doi.org/10.1108/K-10-2012-0081>.

⁶⁰ IBM (2010): IBM 2010 Global CEO Study: Creativity Selected as Most Crucial Factor for Future Success. retrieved on 19.04.2018 from <http://www-03.ibm.com/press/us/en/pressrelease/31670.wss>.

⁶¹ Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management. Context, strategies, systems and processes*. Pearson Education, Essex, p. 43.

⁶² Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management. Context, strategies, systems and processes*. Pearson Education, Essex, p. 43.

⁶³ Hieronymi, A. (2013): Creativity from a systems perspective: bridging theory and practice. *Kybernetes*, Vol. 42, Issue 9/10, p. 1413, DOI: <https://doi.org/10.1108/K-10-2012-0081>.

considered under-researched and consists of staff members working in a complex social system.⁶⁴ According to Amabile (1996), creativity is the development of new and beneficial ideas. Derived from this definition, a product or an idea needs to differ from previous developments. Amabile (1996) further states that innovation is the result of a successful realization of creative ideas in an organizational context. Creativity represents the point of departure for innovation but is not the key factor. In this context innovation also depends on other influencing factors and cannot be solely derived from creative ideas.⁶⁵ Anderson/Potočnik/Zhou (2014) consider creativity and innovation in one context and propose a more integrative definition: „*Creativity and innovation at work are the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things. The creativity stage of this process refers to idea generation, and innovation refers to the subsequent stage of implementing ideas toward better procedures, practices, or products. Creativity and innovation can occur at the level of the individual, work team, organization, or at more than one of these levels combined but will invariably result in identifiable benefits at one or more of these levels of analysis*“.⁶⁶ In this respect Hughes et al. (2018) emphasize that the definition by Anderson/Potočnik/Zhou (2014) clearly describes and combines creativity and innovation, but at the same time it limits the view on this topic as the definition solely focuses on the results gained through innovation and creativity.⁶⁷

However, approaches in creativity research are diverse.⁶⁸ Gundry et al. (1994) examined creativity by dividing the different interpretations into four major categories. First and foremost the attribute theory of creativity centres the argument that individuals must possess certain characteristics and traits to be creative. Supporters of this approach highlight that the majority of creative individuals demonstrate specific attributes,⁶⁹ such as openness,

⁶⁴ Woodman, R. W./Sawyer, J. E./Griffin, R. W. (1993): Toward a theory of organizational creativity. *Academy of Management Review*, Vol. 18, No. 2, p. 293, DOI: <https://doi.org/10.2307/258761>.

⁶⁵ Amabile, T. M. (1996): Creativity and Innovation in Organizations. *Harvard Business School Background Note* 396-239, January 1996, p. 1.

⁶⁶ Anderson, N./Potočnik, K./Zhou, J. (2014): Innovation and Creativity in Organizations: A State-of-the-Science Review, Prospective Commentary, and Guiding Framework. *Journal of Management*, Vol. 40 Issue 5, p. 1298, DOI: <https://doi.org/10.1177/0149206314527128>.

⁶⁷ Hughes, D. J./Lee, A./Tian, A. W./Newman, A./Legood, A. (2018): Leadership, creativity, and innovation: A critical review and practical recommendations. *The Leadership Quarterly*, Vol. 29, Issue 5, p. 550, DOI: <https://doi.org/10.1016/j.leaqua.2018.03.001>.

⁶⁸ Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management. Context, strategies, systems and processes*. Pearson Education, Essex, p. 50.

⁶⁹ The terms "attribute" and "attitude" are used synonymously.

independence, autonomy, intuitiveness and spontaneity. Proponents of the conceptual-skills theory understand creativity as a collection of skills in which people combine existing knowledge to develop new ideas and paradigms. According to these scholars, informal thinking and visualizing ideas or models and customizing them fosters problem-solving. The behavioural theory of creativity, on the other hand, focuses on the activities and actions that lead to new knowledge.⁷⁰ Ahmed/Shepherd (2010) maintain that the behavioural approach fosters specific types of creative behaviour, which is based on the deployment of creative behaviour reinforcements such as rewards and communication.⁷¹ Hence Gundry et al. (1994) consider this theory as the most familiar one to executives as behaviours can directly be perceived. Additionally, the process theory considers creativity as a complex and multidimensional process and construct that is grounded in several determinants such as talents, skills, actions and organizational environment. All these dimensions contribute to creativity and thus foster innovation.⁷² Derived from the insights of various creativity theories, Gundry et. al (1994) developed the following model for innovation through creative behaviour.^{73 74}

⁷⁰ Gundry, L. K./Kickul, J. R./Prather, C. W. (1994): Building the creative organization. *Organizational Dynamics*, Vol. 22, Issue 4, p. 23, DOI: [https://doi.org/10.1016/0090-2616\(94\)90076-0](https://doi.org/10.1016/0090-2616(94)90076-0).

⁷¹ Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management. Context, strategies, systems and processes*. Pearson Education, Essex, p. 50.

⁷² Gundry, L. K./Kickul, J. R./Prather, C. W. (1994): Building the creative organization. *Organizational Dynamics*, Vol. 22, Issue 4, p. 24, DOI: [https://doi.org/10.1016/0090-2616\(94\)90076-0](https://doi.org/10.1016/0090-2616(94)90076-0).

⁷³ Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management. Context, strategies, systems and processes*. Pearson Education, Essex, pp. 50-51.

⁷⁴ Gundry, L. K./Kickul, J. R./Prather, C. W. (1994): Building the creative organization. *Organizational Dynamics*, Vol. 22, Issue 4, p. 29, DOI: [https://doi.org/10.1016/0090-2616\(94\)90076-0](https://doi.org/10.1016/0090-2616(94)90076-0).

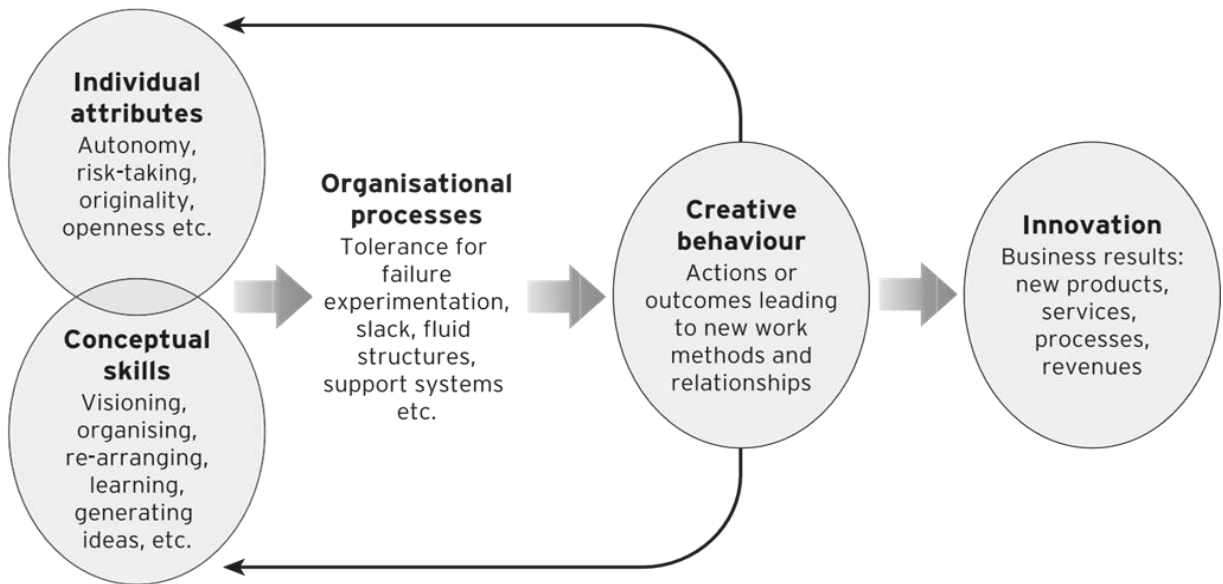


Figure 4: Creativity for innovation

Source: Gundry et al., 1994, p. 29; modified by Ahmed/Shepherd, 2010, p. 51.

More specifically, to develop a creative organization three domains need to be considered,^{75 76} as illustrated in Figure 5.

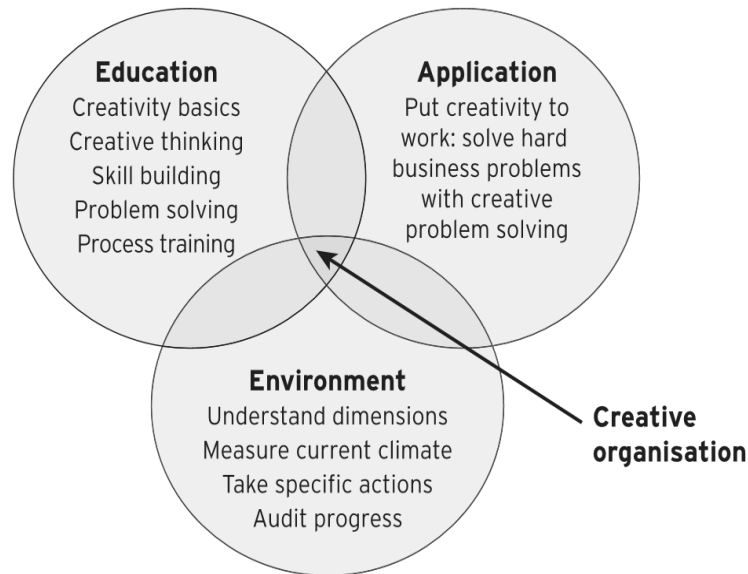


Figure 5: Domains for creative action

Source: Gundry et al., 1994, p. 30; modified by Ahmed/Shepherd, 2010, p. 51.

The first dimension describes and demonstrates the education and development of the individual’s creativity abilities. Individuals must be trained to develop creative features. In

⁷⁵ Gundry, L. K./Kickul, J. R./Prather, C. W. (1994): Building the creative organization. *Organizational Dynamics*, Vol. 22, Issue 4, p. 30, DOI: [https://doi.org/10.1016/0090-2616\(94\)90076-0](https://doi.org/10.1016/0090-2616(94)90076-0).

⁷⁶ Ahmed, P. K./Shepherd, C. D. (2010): *Innovation Management. Context, strategies, systems and processes*. Pearson Education, Essex, pp. 50-51.

this context it is vital to receive an understanding of the necessity of creativity and problem-solving skills. The second upper cycle examines the application of creativity competence to tackle business issues. Employees must be aware that creativity supports decision-making and problem-solving. Finally, the organization should assess its internal and external business environment to determine possibilities for creative performance enhancements.⁷⁷ In this context Amabile (1996) developed a componential theory, as shown in Figure 6, which is considered a holistic approach to analyse the impact of organizational environment on creativity.⁷⁸ The three upper cycles of the figure capture the organizational components required for innovation in general, whereas the three lower cycles represent individual or team creativity. The central feature of the theory is the assertion that work environment influences creativity. Amabile (1996) further stresses that the impact of the work environment on task motivation appears to have the most significant effect.⁷⁹

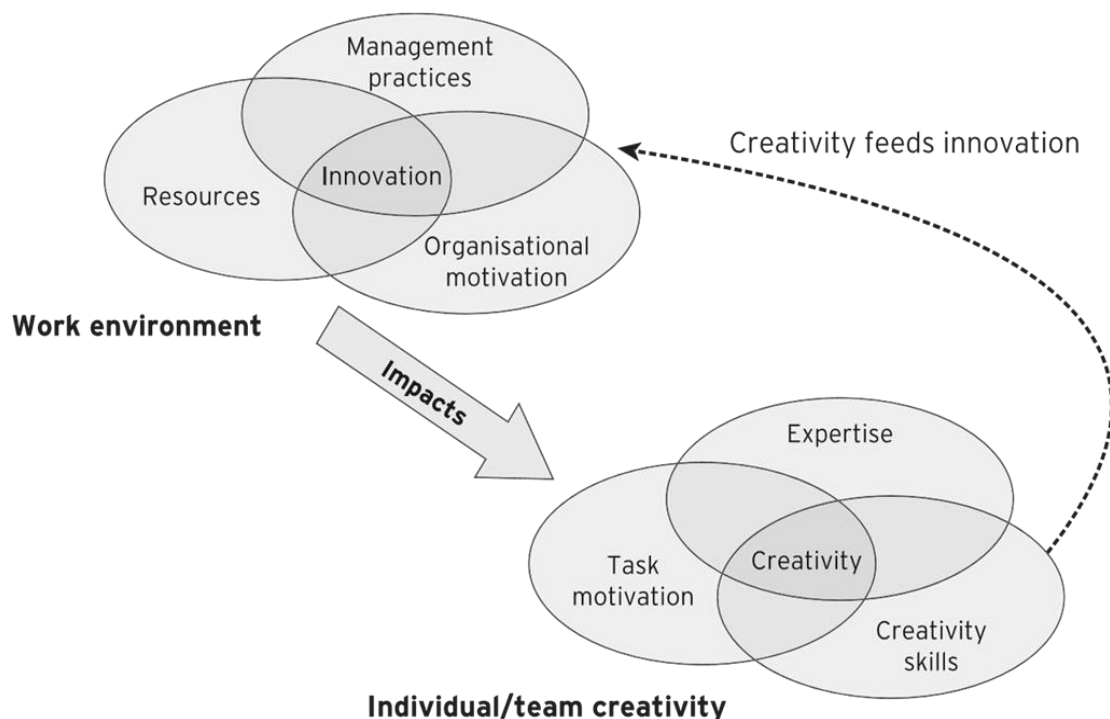


Figure 6: Componential theory of creativity and innovation
 Source: Amabile, 1996, p. 9; modified by Ahmed/Shepherd, 2010, p. 52.

⁷⁷ Ahmed, P. K./Shepherd, C. D. (2010): Innovation Management. Context, strategies, systems and processes. Pearson Education, Essex, pp. 50-51.

⁷⁸ Amabile, T. M. (1996): Creativity and Innovation in Organizations. Harvard Business School Background Note 396-239, January 1996, pp. 8-9.

⁷⁹ Amabile, T. M. (1996): Creativity and Innovation in Organizations. Harvard Business School Background Note 396-239, January 1996, p. 8.

This theory embodies a comprehensive consideration based on social and psychological factors essential for being creative. In general four components are crucial. Creativity of individuals is strongest when:

1. an intrinsically motivated staff member with
2. highly established knowledge and a
3. high ability of thinking in creative ways
4. operates in a business environment that fosters creativity⁸⁰

By comparing the previous three figures it becomes obvious that creativity is a precondition of innovation. In particular Figure 5 demonstrates that creative organizations need to provide proper education for developing novel ideas to their staff members who are embedded in an environment in which staff members can flourish. It is not sufficient to equip staff members with education and a proper environment, as creativity needs to be executed to boost the overall innovativeness of the entire organization, as summarized in Figure 6.

From the organizational perspective, innovation strategies need to be formulated to define the direction of the company. The strategy consists of decisions that determine plans and targets. Ahmed/Shepherd (2010) differentiate between formulation and implementation. Formulation focuses on decision-making, whereas implementation involves devising plans for target achievements.⁸¹ Due to the various dimensions and views of innovations, Karabulut (2015) derived and collected the following classifications of innovation strategies from previous research, which gives an overview of possible approaches (Table 1).⁸²

⁸⁰ Amabile, T. M. (2012): Componential Theory of Creativity. Working paper summaries, retrieved on 19.04.2018 from <https://hbswk.hbs.edu/item/componential-theory-of-creativity>.

⁸¹ Ahmed, P. K./Shepherd, C. D. (2010): Innovation Management. Context, strategies, systems and processes. Pearson Education, Essex, p. 82.

⁸² Karabulut, A. T. (2015): Effects of Innovation Strategy on Firm Performance: A Study Conducted on Manufacturing Firms in Turkey. *Procedia - Social and Behavioral Sciences*, Vol. 195, pp. 1338-1339, DOI: <https://doi.org/10.1016/j.sbspro.2015.06.314>.

Author(s)	Classification
Ansoff and Stewart (1967)	First to market, follow the market leader, applied engineering, develop me-too products
Miles and Snow (1978)	Prospector, defender, analyser, reactor
Porter (1980)	Cost leadership (innovation follower) product differentiation based on innovations (innovation leadership)
Lambkin (1988); Hultink and Robben (1995)	Technological innovator, rapid copier, cost reducer
Venkatraman (1989); Morgan and Strong (1998), Akman and Yilmaz (2008)	Aggressiveness, analysis, defensiveness, futurity, proactiveness, risikiness
Wright et al., 1990; Parnel et al. (2000)	Prospector, defender, analyser, balancer
Manu (1992); Manu and Sriram (1996)	Product innovator, process innovator, late enterer, non-innovator, original initiators
Gilbert (1994)	Proactive innovation strategy, reactive innovation strategy
Hultink and Robben (1995)	Technological innovator, rapid copier, cost reducer
Lynn and Mazzuca (1998)	Customer oriented, process oriented, initiator oriented, learning oriented
Roger (2001)	First to market, rapid follower, niche player, response to changing market needs and wants
Burgelman, Maidique, and Wheelwright (2001)	Technological leadership or followership, market position, timing of market entry
Massini, Lewin, and Greve (2005)	Innovators, imitators
Guan, Yam, Tang, and Lau (2009)	Leading innovator, follower, imitator, defender, technology importer
Kylaheiko, Jantunen, Puumalainen, Saarenketo, and Tuppuru (2011)	Domestic and international innovator, domestic and international replicator

Table 1: Classification of innovation strategies

Source: modified by author compiled by Karabulut, 2015, p. 1339.

Concluding this subchapter, it can be emphasized that numerous studies produced evidence that creativity is one major driver for innovation in companies. In addition a corporate culture that allows employees to develop new ideas is essential to creativity that results in innovative behaviour at work. After having discussed the current research on creativity and the main drivers for innovation, it is worth focusing on the sources of innovation.

1.3 Sources of innovation

Several theorists, applying different research approaches, have tried to broaden the understanding of creativity and innovation. While these research attempts have fostered knowledge in this field, several disagreements exist in the academic literature. Adams (2005) traces these inconsistencies in research back to the nature and definition of creativity. Creativity and innovation are complex, multi-faceted constructs and can be found in different contexts and relationships.⁸³ Empirical research by Skibiński/Sipa (2015) was conducted to identify changes in the sources of innovations for small-sized companies. Comparing the results, customer needs and opinions ranked first. In contrast research shows

⁸³ Adams, K. (2005): The Sources of Innovation and Creativity. National Center on Education and the Economy (NCEE), p. 3, retrieved on 27.04.2018 from <https://files.eric.ed.gov/fulltext/ED522111.pdf>.

that entrepreneurs as the main initiator for developing innovations ranked lowest. Figure 7 illustrates the full research results.⁸⁴

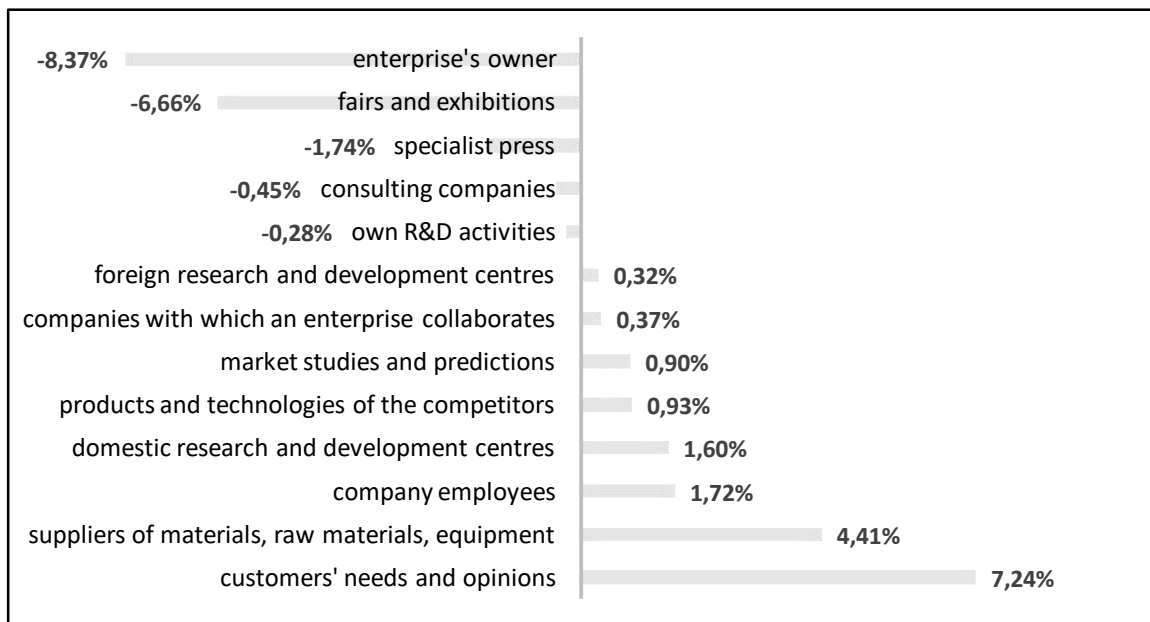


Figure 7: Changes in the sources of innovation

Source: modified by author based on Skibiński/Sipa, 2015, p. 434.

Tidd/Bessant (2013) propose a more general categorization of sources of innovation in which they distinguish between knowledge push and need pull. Knowledge push is described as a source of innovation that emerges as an outcome of scientific studies, whereas need pull is about recognizing the needs of potential customers.⁸⁵ In Figure 8, Tidd/Bessant (2013) summarize the sources of innovations.

⁸⁴ Skibiński, A./Sipa, M. (2015): Sources of Innovation of Small Businesses: Polish Perspective. *Procedia Economics and Finance*, Vol. 27, pp. 433-434, DOI: [https://doi.org/10.1016/S2212-5671\(15\)01017-5](https://doi.org/10.1016/S2212-5671(15)01017-5).

⁸⁵ Tidd, J./Bessant, J. (2013): *Managing Innovation. Integrating Technological, Market and Organizational Change*. Fifth Edition, Wiley, West Sussex, pp. 234-237.

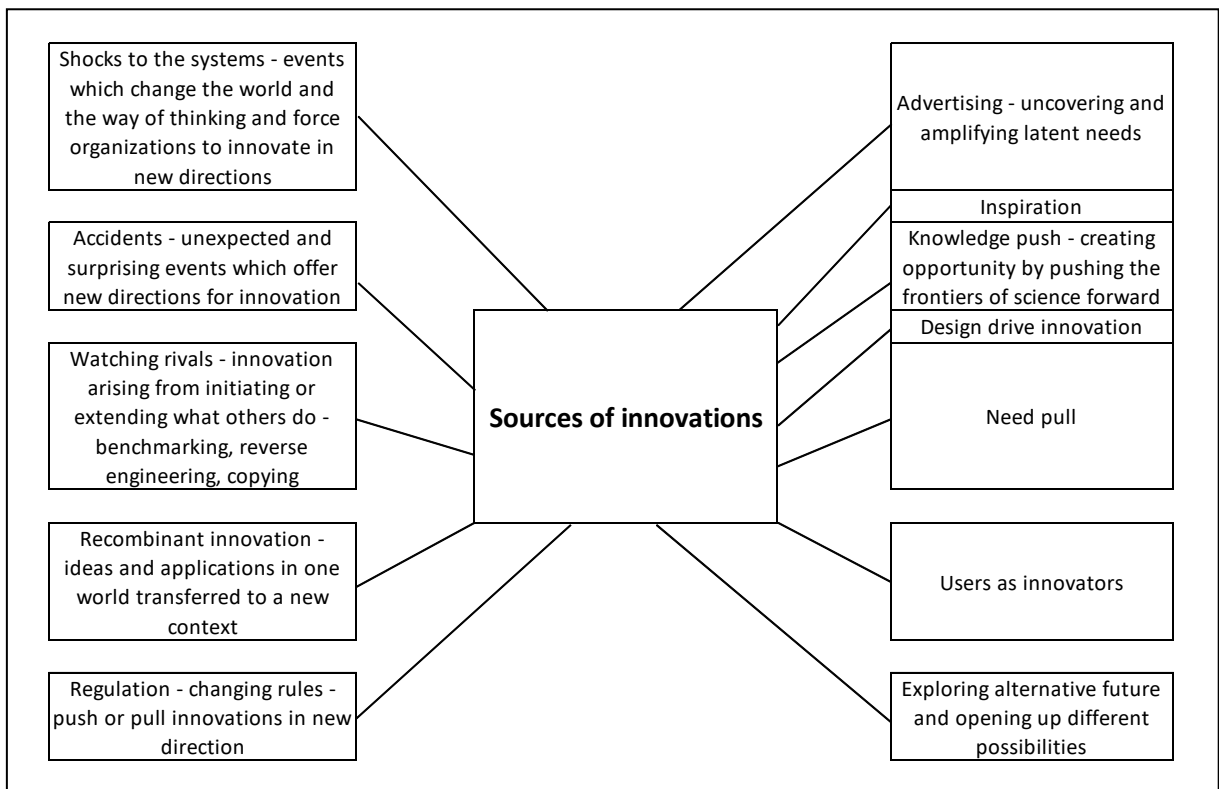


Figure 8: Sources of innovations

Source: modified by author based on Tidd/Bessant, 2013, p. 234.

Additionally, Drucker (1985) describes seven basic sources of innovations. Drucker (1985) highlights that internal sources include unexpected events, incongruities, process needs, industry and market structures, whereas external sources of innovations comprise demographics, changes in perception and new knowledge.⁸⁶ In detail Kippenberger (1997) comments that unexpected events are changing patterns of demand that occur outside an organization. Therefore, companies need to adjust their operations without fundamentally changing their business processes.⁸⁷ Additionally, Drucker (1985) describes incongruities as a deviation between the current status and what ought to be. Incongruity can be characterized as sign of change that has already taken place.⁸⁸ If both supply and demand are not in balance, incongruities may occur and offer rivals possibilities to penetrate the market.⁸⁹ Drucker (1985) describes four types of incongruities:⁹⁰

⁸⁶ Drucker, P. F. (1985): Innovation and Entrepreneurship. Harper, New York, p. 35.

⁸⁷ Kippenberger, T. (1997): Opportunities to innovate: the seven sources. The Antidote, Vol. 2, Issue 2, p. 10, DOI: <https://doi.org/10.1108/EUM0000000006409>.

⁸⁸ Drucker, P. F. (1985): Innovation and Entrepreneurship. Harper, New York, p. 57.

⁸⁹ Martinez, M. C./Wolverton, M. (2009): Innovative Strategy Making in Higher Education. Information Age Publishing, Charlotte, p. 126.

1. Incongruities in the economic realities of a sector
2. Incongruities in the reality and its assumption about an industry
3. Incongruities in the efforts, values and expectations of its clients within a sector
4. Internal incongruities in the rhythm or the logic of a process

Incongruities between the economic realities of an industry occur if the need for a novel product or service increases, and the firm starts strengthening the production, which should lead to an increase in profits. If this does not occur, it shows a flaw in the industry.⁹¹ These incongruities are typically macro-phenomena that affect the entire industry. In this case, however, small and highly specialized companies can take advantage of this incongruity and become new competitors.⁹² Incongruities between the reality of an industry and assumptions about it take place when managers have an incorrect perception about the reality in their industry sector and thus derive incorrect assumptions causing erroneous work. Following that the company focuses on business fields in which profits will not be generated and consequently offers new rivals possibilities to take advantage of this situation.⁹³ Thirdly, incongruities between the efforts of an industry and the values and expectations of its customers are described as the inability of producers or manufacturers to identify features that are appreciated by their clients. If this incongruity occurs, customers are often said to be irrational or unwilling to pay for adequate quality. Such developments allow rivals to catch up and provide solutions. Finally, internal incongruities within the rhythm or the logic of a process may be sources of innovation in which entrepreneurs improve processes that are not new to the industry, as the problem is well known, and several practitioners talk about it. Entrepreneurs who listen carefully and tackle this issue can gain competitive advantages in the market.⁹⁴ Process needs describe a task-focused development to perfect or redesign an existing process.⁹⁵ Drucker's final internal source of innovation can be found in fast expansions of markets in which customer needs are not

⁹⁰ Drucker, P. F. (1985): *Innovation and Entrepreneurship*. Harper, New York, pp. 57-58.

⁹¹ Kippenberger, T. (1997): Opportunities to innovate: the seven sources. *The Antidote*, Vol. 2, Issue 2, p. 10, DOI: <https://doi.org/10.1108/EUM0000000006409>.

⁹² Drucker, P. F. (1985): *Innovation and Entrepreneurship*. Harper, New York, p. 58.

⁹³ Swaim, R. W. (2010): *The Strategic Drucker. Growth Strategies and Marketing Insights from the Works of Peter Drucker*. Wiley & Sons, Clementi Loop, p. 89.

⁹⁴ Kippenberger, T. (1997): Opportunities to innovate: the seven sources. *The Antidote*, Vol. 2, Issue 2, p. 10, DOI: <https://doi.org/10.1108/EUM0000000006409>.

⁹⁵ Drucker, P. F. (1985): *Innovation and Entrepreneurship*. Harper, New York, p. 69.

addressed properly. In this case, however, competitors can focus on the new needs of the fast-growing industry, which may remain unconsidered by well-established companies that only focus on traditional ways of doing business.⁹⁶

After having discussed the internal sources of innovation, Drucker mentions demographics as the first external source. Demographic changes are the most promising sources of innovation but remain frequently unconsidered by managers. Companies that pay close attention to demographic changes can focus their operations on developments with low-risk exposure.⁹⁷ Moreover, changes in the perceptions of clients may represent an opportunity for innovations. These changes are frequently inexplicable and may sometimes be seen as contradictory.⁹⁸ The final external source of innovation is defined as knowledge. Knowledge-based innovations can be distinguished from all other types of innovations. This can be traced back to several characteristics such as timespan, casualty rate and predictability. Drucker (1985) highlights that knowledge-based innovations have a long timespan between idea development and useable technology. Furthermore, an additional timespan occurs before the new technology is available to stakeholders.⁹⁹ Kippenberger (1997) adds that knowledge-based innovations are usually grounded in existing knowledge, though not all of them necessarily arise from scientific or technological expertise.¹⁰⁰

Overall, this subchapter shows that innovation can be divided into internal and external sources. Additionally, the literature review revealed that leaders should not focus solely on one source of innovation if they want to diversify the possibility of gaining competitive advantages. To examine how real estate development companies operate, the following subchapter critically analyses organizational concepts applicable to real estate development companies and examines the dimensions of innovative work behaviour.

⁹⁶ Adams, K. (2005): *The Sources of Innovation and Creativity*. National Center on Education and the Economy (NCEE), p. 37, retrieved on 27.04.2018 from <https://files.eric.ed.gov/fulltext/ED522111.pdf>.

⁹⁷ Emblemsvåg, J. (2016): *Reengineering Capitalism. From Industrial Revolution towards Sustainable Development*. Springer International Publishing, Switzerland, p. 210.

⁹⁸ Kippenberger, T. (1997): Opportunities to innovate: the seven sources. *The Antidote*, Vol. 2, Issue 2, p. 11, DOI: <https://doi.org/10.1108/EUM0000000006409>.

⁹⁹ Drucker, P. F. (1985): *Innovation and Entrepreneurship*. Harper, New York, p. 107.

¹⁰⁰ Kippenberger, T. (1997): Opportunities to innovate: the seven sources. *The Antidote*, Vol. 2, Issue 2, p. 11, DOI: <https://doi.org/10.1108/EUM0000000006409>.

1.4 Organizational theory, concepts of real estate development companies and dimensions of innovative work behaviour

To begin with, Von Bertalanffy (1971) describes the characteristics of organizations as „wholeness, growth, differentiation, hierarchical order, dominance, control, competition [...]“.¹⁰¹ Similarly, Daft (2016) considers organizations as „social entities that are goal-directed, are designed as deliberately structured and coordinated activity systems, and are linked to the external environment“.¹⁰² According to Dietrich (2005) the development of real estate consists of technical, economical and legal procedures that range from idea development to the finalization of the property. Therefore, the aim of real estate developments can be found in gaining revenue surpluses and value increases.¹⁰³ In this respect Von Bertalanffy (1971) further stresses that system theory is an approach to deal with these features.¹⁰⁴ Katz/Kahn (2016) point out that system theory mainly examines issues of relationships, structures and interdependences and does not put emphasis on consistent features of objects.¹⁰⁵ For Cole/Kelly (2011), systems in the organizational context are interrelated parts that shape the entire organization. Overall Cole/Kelly (2011) distinguish between open and closed systems. Closed systems are organizations that are fully self-supporting and do not communicate with the external environment. In contrast open systems exchange information with the environment by using inputs to be converted to outputs.¹⁰⁶ Furthermore, open systems are selective, self regulating and complex, and they usually grow and expand. Open systems are dynamic, which makes the entire entity understandable only over a certain period of time.¹⁰⁷ Figure 9 illustrates the organization as an open system with subsystems.

¹⁰¹ Von Bertalanffy, L. (1971): General System Theory. Foundations-Development-Applications. Allen Lane The Penguin Press, London, p. 46.

¹⁰² Daft, R. L. (2016): Organization Theory & Design. Twelfth Edition, Cengage Learning, Boston, p. 13.

¹⁰³ Dietrich, R. (2005): Entwicklung werthaltiger Immobilien. Einflussgrößen – Methoden – Werkzeuge. Teubner Verlag, Wiesbaden, p. 129.

¹⁰⁴ Von Bertalanffy, L. (1971): General System Theory. Foundations-Development-Applications. Allen Lane The Penguin Press, London, p. 46.

¹⁰⁵ Katz, D./Kahn, R. L. (2016): Organizations and the System Concept. In: Shafritz, J. M./Ott, J. S./Jang, Y. S. (Eds.): Classics of Organization Theory. Eighth Edition, Cengage Learning, Boston, p. 349.

¹⁰⁶ Cole, G. A./Kelly, P. (2011): Management Theory and Practice. Seventh Edition, Cengage Learning EMEA, Hampshire, p. 96.

¹⁰⁷ Skyttner, L. (2005): General Systems Theory. Problems – Perspectives – Practice. World Scientific Publishing, Singapore, p. 62.

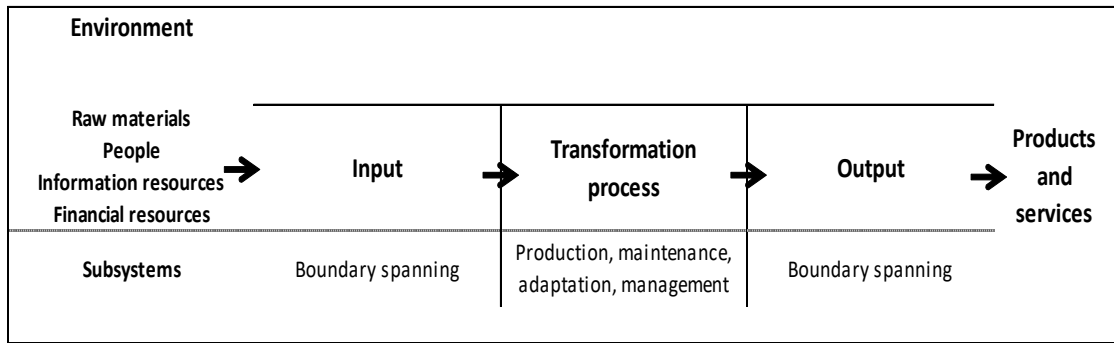


Figure 9: Organizations as open systems with subsystems

Source: modified by author based on Daft/Murphy/Willmott, 2017, p. 23.

Additionally, a major characteristic of open systems can be found in their interaction with the environment, which can be stable or varying.¹⁰⁸ Moreover, systems can have subsystems or be subsystems in large systems by themselves.¹⁰⁹ Cummings/Worley (2015) stress that systems aim at contributing to the function of the entire unit. In particular, organization systems include departments or subsystems, for example sales, operations and finance. Based on that, the overall organization coordinates and organizes the interactions of its departments to work together and achieve the defined targets.¹¹⁰ Overall, Katz/Kahn (2016) highlight that open systems have certain characteristics in common. The following characteristics describe all open systems:¹¹¹

1. Importation of energy
2. The through-put
3. The output
4. Systems of cycles of events
5. Negative entropy
6. Information input, negative feedback and the coding process
7. The steady state and dynamic homeostasis
8. Differentiation
9. Equifinality

¹⁰⁸ Cole, G. A./Kelly, P. (2011): Management Theory and Practice. Seventh Edition, Cengage Learning EMEA, Hampshire, p. 97.

¹⁰⁹ Scott, W. R./Davis, G. F. (2007): Organizations and Organizing: Rational, Natural, and Open System Perspectives. Routledge Taylor & Francis Group, New York, p. 96.

¹¹⁰ Cummings, T. G./Worley, C. G. (2015): Organization Development & Change. Tenth Edition, Cengage Learning, Stamford, p. 92.

¹¹¹ Katz, D./Kahn, R. L. (2016): Organizations and the System Concept. In: Shafritz, J. M./Ott, J. S./Jang, Y. S. (Eds.): Classics of Organization Theory. Eighth Edition, Cengage Learning, Boston, pp. 350-355.

Referring to real estate development companies, these types of companies can be considered as open systems as inputs such as raw materials, knowledge from staff members, external information and properties are combined to develop and finalize real estate over a certain period of time. The process of planning, analysing, calculating and advertising the entire project represents the conversion and requires a thorough environmental analysis. The outputs are the developed real estate products to be rented or sold to the target group.

An approach to fostering the innovativeness of companies is to capitalize on the employees' individual abilities to innovate. The scientific literature has mainly focused on creativity, but how and when creative ideas are carried out by individuals in the innovation process remains broadly under-researched.¹¹² Similarly, Wolfe (1994) holds the view that the construct of innovative behaviour in organizations remains under-researched.¹¹³ Meyer/Goes (1988) highlight that from both theoretical and practical aspects, the understanding of how companies introduce innovations is substantially under-explored in science.¹¹⁴ Innovative behaviour by staff members has long been considered inappropriate, disrespectful or subversive.¹¹⁵ Real estate developments usually combine the factors of capital, idea and site, and include investigations, entrepreneurial decisions, planning and construction measures that are essential to put the land to a new use. Consequently, real estate developments rarely show the same content-related accomplishments.¹¹⁶ Similarly, Rottke (2017) highlights that real estate is heterogeneous due to the different sites, number of levels, light conditions and floor plans. Moreover, buildings are developed for a particular reason, which increases the heterogeneity, as every building has its own purpose and construction. Based on those reasons, Rottke (2017) concludes that real estate is not

¹¹² De Jong, J. P. J./Den Hartog, D. N. (2007): How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, Vol. 10, Issue 1, pp. 41-42, DOI: <https://doi.org/10.1108/14601060710720546>.

¹¹³ Wolfe, R. A. (1994): Organizational Innovation: Review, Critique and Suggested Research Directions. *Journal of Management Studies*, Vol. 31, Issue 3, p. 405, DOI: <https://doi.org/10.1111/j.1467-6486.1994.tb00624.x>.

¹¹⁴ Meyer, A. D./Goes, J. B. (1988): Organizational Assimilation of Innovations: A Multilevel Contextual Analysis. *Academy of Management Journal*, Vol. 31, Issue 4, p. 897, <https://www.jstor.org/stable/256344>.

¹¹⁵ Anderson, N./De Dreu, C. K. W./Nijstad, B. A. (2004): The Routinization of Innovation Research: A Constructively Critical Review of the State-of-the-Science. *Journal of Organizational Behavior*, Vol. 25, Issue 2, p. 149, <https://www.jstor.org/stable/4093823>.

¹¹⁶ Vornholz, G. (2019): *Digitalisierung der Immobilienwirtschaft*. De Gruyter Oldenbourg, Berlin/Boston, p. 79.

comparable to other assets and the fungibility is quite low.¹¹⁷ Moreover, the fast changes of technologies and emergence of new rivals lead to constant changes on the real estate market. In this respect properties are suitable for a broad spectrum of innovations such as technical innovations as well as the novel services and products that come along with the development.¹¹⁸ For Blayse/Manley (2004), innovations in the construction sector are diverse.¹¹⁹ A major development that has received growing interest in the construction industry can be found in 3D printers,¹²⁰ which allow the production of building parts on-site.¹²¹ The popularity of 3D printers is grounded in their high-precision printing with a broad range of materials, which facilitates the planning and designing of complex patterns and leads to less waste production.¹²² In addition Perkins/Skitmore (2015) emphasize that 3D printing techniques allow the developer to foster safety, improve quality standards and simplify the work. In particular this technique is recommended for nonstandard buildings at low costs.¹²³ The complex nature of constructions and engineering technologies requires exchanges with information technologies. Novel approaches in visualization technologies offer solutions to these issues.¹²⁴ In particular virtual reality and augmented reality have contributed to the advancement of construction management in recent years.¹²⁵ Virtual reality is a technology that generates interactive and three-dimensional effects in which objects gain a spatial presence. The development of an artificial environment replaces the world and merges reality with virtuality. The advantages of this technology for the real

¹¹⁷ Rottke, N. B. (2017): Immobilienarten. In: Rottke, N. B./Thomas, M. (Eds): Immobilienwirtschaftslehre – Management. Springer Gabler, Wiesbaden, p. 144.

¹¹⁸ Vornholz, G. (2019): Digitalisierung der Immobilienwirtschaft. De Gruyter Oldenbourg, Berlin/Boston, p. 1.

¹¹⁹ Blayse, A. M./Manley, K. (2004): Key influences on construction innovation. *Construction Innovation*, Vol. 4, Issue 3, p. 144, DOI: <https://doi.org/10.1108/14714170410815060>.

¹²⁰ Hossain, M. A./Zhumabekova, A./Paul, S. C./Kim, J. R. (2020): A Review of 3D Printing in Construction and its Impact on the Labor Market. *Sustainability*, Vol. 12, Issue 20, p. 15, DOI: <https://doi.org/10.3390/su12208492>.

¹²¹ Vornholz, G. (2019): Digitalisierung der Immobilienwirtschaft. De Gruyter Oldenbourg, Berlin/Boston, p. 89.

¹²² Siddika, A./Al Mamun, M. A./Ferdous, W./Saha, A. K./Alyousef, R. (2020): 3D-printed concrete: applications, performance, and challenges. *Journal of Sustainable Cement-Based Materials*, Vol. 9, Issue 3, p. 157, DOI: <http://dx.doi.org/10.1080/21650373.2019.1705199>.

¹²³ Perkins, I./Skitmore, M. (2015): Three-dimensional printing in the construction industry: A review. *International Journal of Construction Management*, Vol. 15, Issue 1, pp. 8-9, DOI: <https://doi.org/10.1080/15623599.2015.1012136>.

¹²⁴ Rankohi, S./Waugh, L. (2013): Review and analysis of augmented reality literature for construction industry. *Visualization in Engineering*, Vol. 1, Issue 9, p. 1, DOI: <https://doi.org/10.1186/2213-7459-1-9>.

¹²⁵ Shakil, A. (2019): A Review on Using Opportunities of Augmented Reality and Virtual Reality in Construction Project Management. *Organization, Technology and Management in Construction*, Vol. 11, Issue 1, p. 1839, DOI: <https://doi.org/10.2478/otmcj-2018-0012>.

estate sector are diverse. Before the construction starts, architects have the opportunity to design the property and make it visible. In addition this technology facilitates commercialization and allows a presentation to potential customers, as virtual tours are possible. In contrast Vornholz (2019) outlines that augmented reality is a technology that combines the real world with data from the virtual environment. Additional buyer information such as purchasing price, market and location information are visible by using applications on mobile phones or special glasses. Real estate development companies benefit from this technology in different fields, such as project planning, commercialization and facility management.¹²⁶ Additionally, Shakil (2019) outlines that from recent research activities virtual and augmented realities are representing future technologies in construction management.¹²⁷ Consequently, it can be derived that staff members need to demonstrate innovative behaviours in a variety of settings to implement and maintain novel approaches and facilitate the overall organizational competitiveness.

To trigger innovations in organizations, staff members can develop novel ideas by being involved in behaviours that allow employees to identify opportunities and performance gaps or generate solution approaches for current issues. In particular possibilities for the development of ideas can be found in incongruities and discontinuities. Moreover, when implementing novel ideas, employees embody a crucial role and contribute to the innovation phase by showing application-based behaviours.¹²⁸ According to Janssen (2000), innovative work behaviour (IWB) is defined as „*the intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization*“.¹²⁹ Considering innovative behaviour from the organizational perspective, Katz (1964) highlights that innovative employees are those who go beyond specified role prescriptions. In this respect the paradox of social organizations is that these systems are characterized by rigid structures to ensure role performance, but

¹²⁶ Vornholz, G. (2019): Digitalisierung der Immobilienwirtschaft. De Gruyter Oldenbourg, Berlin/Boston, pp. 52-54.

¹²⁷ Shakil, A. (2019): A Review on Using Opportunities of Augmented Reality and Virtual Reality in Construction Project Management. *Organization, Technology and Management in Construction*, Vol. 11, Issue 1, p. 1848, DOI: <https://doi.org/10.2478/otmcj-2018-0012>.

¹²⁸ De Jong, J. P. J./Den Hartog, D. N. (2007): How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, Vol. 10, Issue 1, p. 43, DOI: <https://doi.org/10.1108/14601060710720546>.

¹²⁹ Janssen, O. (2000): Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, Vol. 73, Issue 3, p. 288, DOI: <https://doi.org/10.1348/096317900167038>.

simultaneously organizations must offer their employees sufficient room for variability. Therefore, the opportunity for employees to be spontaneous in co-operation and in protective and creative behaviour is essential for an organization to be effective.¹³⁰ In this respect the social exchange theory by Blau draws attention to interpersonal relations and social interactions. This theory holds that an individual for whom another individual has done a service expects a service in return if the need emerges.¹³¹ Therefore, the decision of staff members to apply innovative work behaviour in response to job demands is based on the individual perception of effort-reward fairness. Employees who observe a balance between work effort and reward will generate motivation and deal well with increased job demands by showing innovative work behaviour. In contrast staff members who perceive an imbalance in effort-reward fairness are likely to reduce their innovative work behaviour, as they feel exploited.¹³² Surprisingly, a study conducted by Bunce/West (1994) shows that innovativeness is a mechanism to deal with stress in different occupational groups. Thus, individuals go beyond themselves to cope with challenging working environments.¹³³ Consequently, Janssen (2000) concludes that innovative work behaviour may support employees dealing with higher job demands by developing, fostering and realizing novel ideas.¹³⁴

Additionally, individual innovation has been measured differently by different researchers.¹³⁵ For Scott/Bruce (1994) and Janssen (2000), individual innovation consists of three different behavioural tasks that include idea generation (either novel or adopted), idea promotion in which the individuals seek support and finally idea implementation.¹³⁶ ¹³⁷ Galbraith (1982)

¹³⁰ Katz, D. (1964): The motivational basis of organizational behavior. *Behavioral Science*, Vol. 9, Issue 2, p. 132, DOI: <https://doi.org/10.1002/bs.3830090206>.

¹³¹ Blau, P. M. (1964): *Exchange and Power in Social Life*. John Wiley & Sons, New York, p. 4.

¹³² Janssen, O. (2000): Job demands, perceptions of effort–reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, Vol. 73, Issue 3, p. 290, DOI: <https://doi.org/10.1348/096317900167038>.

¹³³ Bunce, D./West, M. (1994): Changing work environments: Innovative coping responses to occupational stress. *Work & Stress*, Vol. 8, Issue 4, p. 329, DOI: <https://doi.org/10.1080/02678379408256539>.

¹³⁴ Janssen, O. (2000): Job demands, perceptions of effort–reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, Vol. 73, Issue 3, p. 289, DOI: <https://doi.org/10.1348/096317900167038>.

¹³⁵ De Jong, J. P. J./Den Hartog, D. N. (2007): How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, Vol. 10, Issue 1, p. 42, DOI: <https://doi.org/10.1108/14601060710720546>.

¹³⁶ Scott, S. G./Bruce, R. A. (1994): Determinants of Innovative Behavior: A Path Model of Individual Innovation in the Workplace. *The Academy of Management Journal*, Vol. 37, Issue 3, pp. 581-582, <https://www.jstor.org/stable/256701>.

specifies that the initial process of idea generation requires a dedicated individual who is usually a lower-level person that detects a problem. Based on the low hierarchical level of the idea generator, the individual requires at least one supporter who promotes the idea. It is further stated by Galbraith (1982) that someone has to financially support the development and test it. Therefore, idea generators must gain sponsors to perfect the idea. Finally, the innovation process requires an orchestrator who is necessary because novel ideas may destroy previous capital investments and other people's careers. Overall, the creation and introduction of ideas and innovations may be considered a political process. In this respect it is vital to overcome the political struggle towards those individuals who have power and control in organizations.¹³⁸ In contrast de Jong/den Hartog (2010) apply a more thorough differentiation and describe four dimensions of innovative work behaviour, namely idea exploration, idea generation, idea championing and idea implementation. In particular de Jong/den Hartog (2010) consider idea generation too general, as it may include both exploration and the generation of new ideas.¹³⁹ Figure 10 demonstrates the latent variable innovative work behaviour.

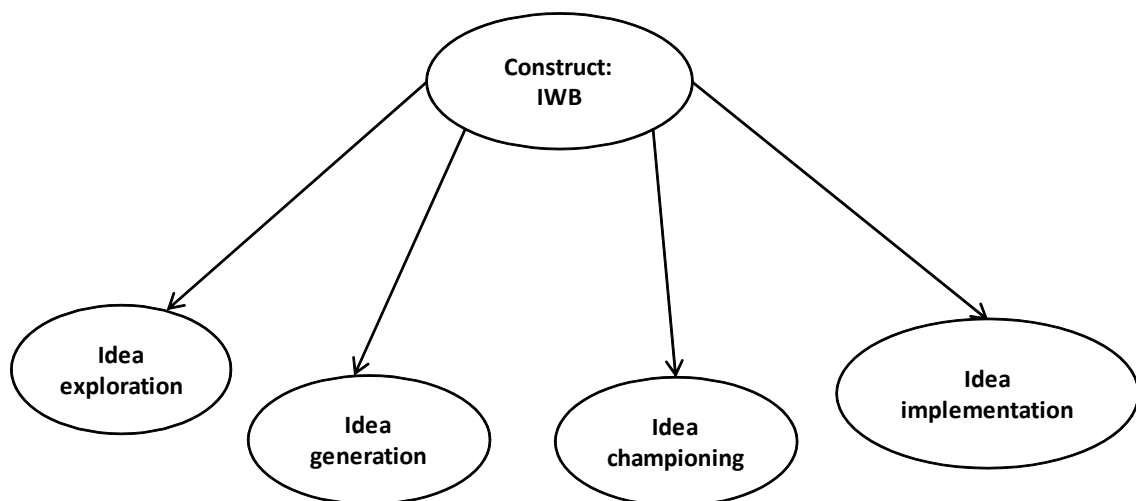


Figure 10: Construct of innovative work behaviour

Source: modified by author based on de Jong/den Hartog, 2010, p. 30.

¹³⁷ Janssen, O. (2000): Job demands, perceptions of effort–reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, Vol. 73, Issue 3, p. 288, DOI: <https://doi.org/10.1348/096317900167038>.

¹³⁸ Galbraith, J. R. (1982): Designing the Innovating Organization. *Organizational Dynamics*, Vol. 10, Issue 3, pp. 9-11, DOI: [https://doi.org/10.1016/0090-2616\(82\)90033-X](https://doi.org/10.1016/0090-2616(82)90033-X).

¹³⁹ De Jong, J./den Hartog, D. (2010): Measuring Innovative Work Behaviour. *Creativity and Innovation Management*, Vol. 19, Issue 1, p. 24, DOI: <https://doi.org/10.1111/j.1467-8691.2010.00547.x>.

Thus, de Jong/den Hartog (2007) consider innovative work behaviour as a multi-dimensional latent variable that includes all behaviours essential for being an innovative employee.¹⁴⁰ Considering this construct from the personality perspective, Woods et al. (2018) refer to Anderson et al. (2014) to outline that personality traits represent crucial influencing factors for innovative work behaviour. In particular the current literature shows that the nature of these relationships is not fully understood, as it depends on contextual variables and the scope of work.^{141 142} Nevertheless, Niu (2014) states that innovative behaviour in general is in accordance with the foundations of behavioural theory and can be fostered by staff members through training and learning.¹⁴³

In conclusion this subchapter describes organizational theories applicable to real estate development companies. From the systems theory perspective, real estate development companies can be considered open systems, as these organizations use inputs such as raw materials, expertise from staff members and information from the markets and customers to convert the resources required to develop properties. In line with this procedural viewpoint, the construct of innovative work behaviour can be described as a complex process depending on external and internal factors. Staff members need an organizational environment in which they receive acceptance and appreciation for being innovative. In this respect researchers offer a variety of measurements for innovative work behaviours, which reflects the complexity of this research topic. For real estate development organizations, innovative work behaviour is indispensable for competing in a vibrant business environment. Developing and building properties requires individual considerations by staff members, as real estate is unique and built for special purposes, and developers face different laws depending on the site of the building. Thus, innovative work behaviour consists of an interrelated process between different departments (e.g., legal department, construction department, marketing department and accounting and controlling department) and

¹⁴⁰ De Jong, J. P. J./Den Hartog, D. N. (2007): How leaders influence employees' innovative behaviour. *European Journal of Innovation Management*, Vol. 10, Issue 1, p. 43, DOI: <https://doi.org/10.1108/14601060710720546>.

¹⁴¹ Woods, S. A./Mustafa, M. J./Anderson, N./Sayer, B. (2018): Innovative work behavior and personality traits: Examining the moderating effects of organizational tenure. *Journal of Managerial Psychology*, Vol. 33, Issue 1, p. 30, DOI: <https://doi.org/10.1108/JMP-01-2017-0016>.

¹⁴² Anderson, N./Potočník, K./Zhou, J. (2014): Innovation and Creativity in Organizations: A State-of-the-Science Review, Prospective Commentary, and Guiding Framework. *Journal of Management*, Vol. 40, Issue 5, p. 1303, DOI: <https://doi.org/10.1177/0149206314527128>.

¹⁴³ Niu, H.-J. (2014): Is innovation behaviour congenital? Enhancing job satisfaction as a moderator. *Personnel Review*, Vol. 43, Issue 2, p. 291, DOI: <https://doi.org/10.1108/PR-12-2012-0200>.

depends on the individuals involved in this process establishing a sustainable and successful business to differentiate it from rivals.

The next subchapter critically analyses the trait approach to leadership and offers in-depth insights into previous studies.

1.5 Relevance of the trait approach to leadership

Social scientists have been conducting substantial research to identify which traits, abilities, behaviours and types of situations affect how well leaders are able to lead their employees to achieve the organizational targets.¹⁴⁴ Overall, literature dealing with the topic of leadership, creativity and innovation shows that studies are fragmented and do not refer to a consistent research framework.¹⁴⁵ In general the emphasis of previous research is grounded in factors of leadership effectiveness. According to Yukl (2013) scientists mainly describe the term leadership in accordance with their individual research, and hence their terminologies have very little in common with each other.¹⁴⁶ From Schein's (2004) point of view, leadership is defined as „*the ability to step outside the culture that created the leader and to start evolutionary change processes that are more adaptive*“.¹⁴⁷ The majority of definitions describe leadership as a process in which power is exerted over individuals to direct, organize and support tasks and relations in companies.¹⁴⁸ Derived from these insights, Yukl (2013) provides the following working definition: „*Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives*“.¹⁴⁹ Hogan/Curphy/Hogan (1994) clarify that leadership takes place solely when other individuals willingly adopt, at least for a certain time span, the targets of others as their own. Therefore, the foundation of leadership is persuasion and not domination.¹⁵⁰

¹⁴⁴ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 18.

¹⁴⁵ Hughes, D. J./Lee, A./Tian, A. W./Newman, A./Legood, A. (2018): Leadership, creativity, and innovation: A critical review and practical recommendations. The Leadership Quarterly, Vol. 29, Issue 5, p. 549, DOI: <https://doi.org/10.1016/j.leaqua.2018.03.001>.

¹⁴⁶ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 18.

¹⁴⁷ Schein, E. H. (2004): Organizational Culture and Leadership. Third Edition, Jossey-Bass, San Francisco, p. 2.

¹⁴⁸ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 18.

¹⁴⁹ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 23.

¹⁵⁰ Hogan, R./Curphy, G. J./Hogan, J. (1994): What We Know About Leadership: Effectiveness and Personality. American Psychologist, Vol. 49, Issue 6, p. 493, DOI: <https://doi.org/10.1037//0003-066x.49.6.493>.

Alvesson/Sveningsson (2003) emphasize that it is therefore challenging to maintain that leadership is a collective term. Furthermore, the diversity of leadership definitions demonstrates the inconsistencies between leadership and something more specific to organizational settings. In general Alvesson/Sveningsson (2003) state that most individuals agree that leadership is a real phenomenon. In contrast some researches consider leadership to be an assumed empirical reality¹⁵¹ or even question if leadership exists.¹⁵² In this context Denti/Hemlin (2012) argue that leadership is a key factor for innovative organizational performance.¹⁵³ ¹⁵⁴ Similarly, Yukl (2013) highlights that leaders can foster the conditions necessary for innovation and increase organizational learning.¹⁵⁵ Hence, leadership can be described as complex,¹⁵⁶ consisting of several interactions between leaders and followers embedded in situational contexts.¹⁵⁷ The first approach in leadership research can be found in the trait approach.¹⁵⁸ This theory examines the traits of executives focusing on personality, motives, values and skills, and supports the assumption that certain individuals do have particular qualities and characteristics in common that make them born leaders.¹⁵⁹ Yukl (2013) defines the term trait as „*a variety of individual attributes, including aspects of personality, temperament, needs, motives, and values*“.¹⁶⁰ For Treviño/Hartman/Brown (2000), traits „*are stable personal characteristics, meaning that individuals behave in fairly predictable ways across time and situations [...]*“.¹⁶¹ To broaden the understanding of the

¹⁵¹ Alvesson, M./Sveningsson, S. (2003): The great disappearing act: difficulties in doing "leadership". The Leadership Quarterly, Vol. 14, Issue 3, pp. 360, 363, DOI: [https://doi.org/10.1016/S1048-9843\(03\)00031-6](https://doi.org/10.1016/S1048-9843(03)00031-6).

¹⁵² Fiedler, F. E. (1996): Research on Leadership Selection and Training: One View of the Future. Administrative Science Quarterly, Vol. 41, Issue 2, p. 241, DOI: <http://dx.doi.org/10.2307/2393716>.

¹⁵³ Denti, L./Hemlin, S. (2012): Leadership and innovation in organizations: A systematic review of factors that mediate or moderate the relationship. International Journal of Innovation Management, Vol. 16, Issue 3, p. 2, DOI: <https://doi.org/10.1142/S1363919612400075>.

¹⁵⁴ Shalley, C. E./Gilson, L. L. (2004): What leaders need to know. A review of social and contextual factors that can foster or hinder creativity. The Leadership Quarterly, Vol. 15, Issue 1, p. 47, DOI: <https://doi.org/10.1016/j.leaqua.2003.12.004>.

¹⁵⁵ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 109.

¹⁵⁶ Riggio, R. E./Riggio, H. R./Salinas, C./Cole, E. J. (2003): The Role of Social and Emotional Communication Skills in Leader Emergence and Effectiveness. Group Dynamics: Theory, Research, and Practice, Vol. 7, Issue 2, p. 100, DOI: <http://dx.doi.org/10.1037/1089-2699.7.2.83>.

¹⁵⁷ Wren, J. T. (1995): The Leader's Companion. Insights on Leadership Through the Ages. The Free Press, New York, p. 125.

¹⁵⁸ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 142.

¹⁵⁹ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 28.

¹⁶⁰ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 143.

¹⁶¹ Treviño, L. K./Hartman, L. P./Brown, M. (2000): Moral Person and Moral Manager: How Executives Develop a Reputation for Ethical Leadership. California Management Review, Vol. 42, Issue 4, p. 130, DOI: <https://doi.org/10.2307%2F41166057>.

trait approach, several scholars have performed extensive research. In the mid-20th century, research focused on the identification of universal leadership traits.¹⁶² Along these lines Stogdill (1948) performed extensive research to identify personal factors that are associated with leadership. Stogdill (1948) came to the conclusion that leadership depends on the social situation. Thus, a leader might perform well in one situation but not necessarily in other settings.¹⁶³ Similarly, research by Mann (1959) aimed to investigate the relationship between traits and leadership in small groups where less focus is placed on situational variables. Mann (1959) identified six traits of leaders namely, intelligence, masculinity, adjustment, dominance, extraversion and conservatism.^{164 165} Lord/De Vader/Alliger (1986) highlight that research by Mann (1959) and Stogdill (1948) gives rise to a frequent misinterpretation in both theoretical and methodological aspects and thus further analysis is required of the relationship between the traits of leaders and their tendency to be recognized as leaders by subordinates.¹⁶⁶ For example Lord/De Vader/Alliger (1986) emphasize that research results indicate that intelligence explains four times as much variance in leadership perception compared to research by Mann (1959). Additionally, the traits intelligence, dominance and masculinity-femininity demonstrate a significant relationship with leadership perception.¹⁶⁷ Kirkpatrick/Locke (1991) continued research on leadership traits and strongly highlighted that research on trait theory benefits from a diversity of methods that provide evidence that leaders are different. Kirkpatrick/Locke (1991) further state that there are certain core traits that substantially affect the success of leaders. It is further outlined that traits alone do not cause leadership success, because they only embody preconditions. Therefore, leaders must take actions such as setting goals or role modelling. It is further highlighted that appropriate traits increase the likelihood that

¹⁶² Northouse, P. G. (2016): *Leadership. Theory and Practice*. Seventh Edition, Sage Publications, Thousand Oaks, p. 19.

¹⁶³ Stogdill, R. M. (1948): *Personal Factors Associated with Leadership: A Survey of the Literature*. *The Journal of Psychology*, Vol. 25, Issue 1, pp. 35, 65, DOI: <https://doi.org/10.1080/00223980.1948.9917362>.

¹⁶⁴ Mann, R. D. (1959): *A Review of the Relationships between Personality and Performance in Small Groups*. *Psychological Bulletin*, Vol. 56, Issue 4, pp. 241, 264-266, DOI: <http://dx.doi.org/10.1037/h0044587>.

¹⁶⁵ Northouse, P. G. (2016): *Leadership. Theory and Practice*. Seventh Edition, Sage Publications, Thousand Oaks, p. 21.

¹⁶⁶ Lord, R. G./De Vader, C. L./Alliger G. M. (1986): *A Meta-Analysis of the Relation Between Personality Traits and Leadership Perceptions: An Application of Validity Generalization Procedures*. *Journal of Applied Psychology*, Vol. 71, Issue 3, p. 402, DOI: <http://dx.doi.org/10.1037/0021-9010.71.3.402>.

¹⁶⁷ Lord, R. G./De Vader, C. L./Alliger G. M. (1986): *A Meta-Analysis of the Relation Between Personality Traits and Leadership Perceptions: An Application of Validity Generalization Procedures*. *Journal of Applied Psychology*, Vol. 71, Issue 3, pp. 405-406, DOI: <http://dx.doi.org/10.1037/0021-9010.71.3.402>.

actions will be executed. In particular Kirkpatrick/Locke (1991) postulate that leaders can be differentiated from non-leaders in the following traits: drive, leadership motivation, honesty and integrity, self-confidence, cognitive ability and business expertise.¹⁶⁸ A more recent study by Zaccaro/Kemp/Bader (2004) postulates that leadership is influenced by a set of attributes including cognitive capacities, personality dispositions, motives, values and abilities and competencies depending on concrete leadership situations.¹⁶⁹ Figure 11 illustrates the empirical review of Zaccaro/Kemp/Bader (2004).

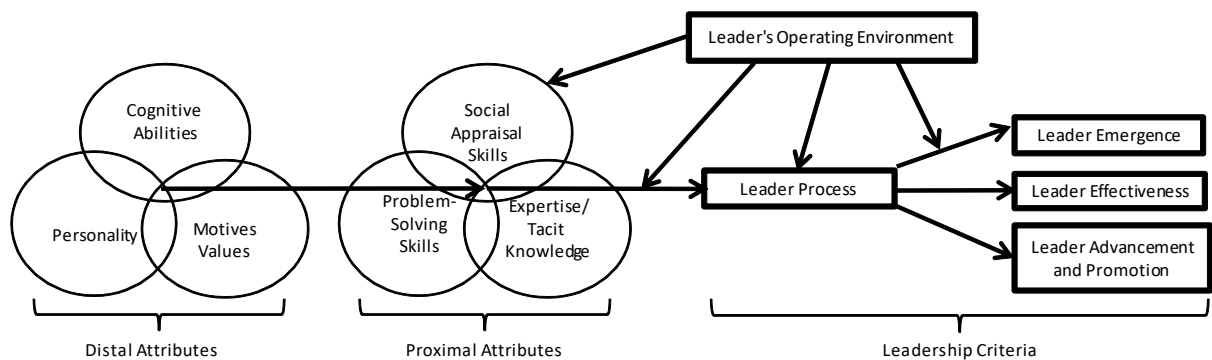


Figure 11: Model of leader attributes and leader performance

Source: modified by author based on Zaccaro/Kemp/Bader, 2004, p. 122.

In this respect few attempts have been made to design a multidimensional model of leadership qualities and performance. The model shown in Figure 11 generally describes cognitive abilities, motives/values and personality as distal factors and considers problem-solving, social appraisal and expertise to be proximal attributes predicted by distal characteristics. In addition it states that the three indicators of distal attributes and those of proximal attributes partly overlap. This is based on the assumption that each collection of predictors works with other predictors together to affect the result. Generally, each set of predictors is essential but not sufficient for the outlook of the desired goals. Therefore, abilities and knowledge stem from the common influence of cognitive skills, personality and motives. Finally, Zaccaro/Kemp/Bader (2004) point out that based on both conceptual and empirical research new prepositions were formulated; they recommend conducting further conceptual and methodological studies to improve the understanding of leadership traits.¹⁷⁰

¹⁶⁸ Kirkpatrick, S. A./Locke, E. A. (1991): Leadership: do traits matter? *Academy of Management Executive*, Vol. 5, Issue 2, p. 49, DOI: <https://doi.org/10.5465/ame.1991.4274679>.

¹⁶⁹ Zaccaro, S. J./Kemp, C./Bader, P. (2004): Leader traits and attributes. In: Antonakis, J./Cianciolo, A. T./Sternberg, R. J. (Eds.): *The nature of leadership*. Sage Publications, Thousand Oaks, p. 120.

¹⁷⁰ Zaccaro, S. J./Kemp, C./Bader, P. (2004): Leader traits and attributes. In: Antonakis, John/Cianciolo, Anna T./Sternberg, Robert J. (Eds.): *The nature of leadership*. Sage Publications, Thousand Oaks, pp. 120-124.

Referring to personality traits and leadership, Judge et al. (2002) point out that results from earlier reviews are inconsistent and disappointing, which might result from a lack of taxonomic structure for categorizing traits.¹⁷¹ Moreover, Block (1995) stresses that an understanding of personality requires more specific examinations than the big five personality traits.¹⁷² Similarly, Ones/Viswesvaran (1996) maintain that analysing the personality of individuals depends on the research aim. Thus, the adequate level of abstractness is affected by the researcher.¹⁷³ Additionally, Judge et al. (2002) strongly highlight that a major issue in previous studies examining personality and leadership is a lack of structure for analysing personality. In particular researchers examined traits and attributed different labels to them, which caused confusion in the academic literature and made it nearly impossible to compare studies.¹⁷⁴

Although the trait approach still faces fierce criticism, it has regained considerable attention from many researchers.¹⁷⁵ According to Northouse (2016) it started with an examination of leader traits followed by a consideration of situational variables; currently, research is shifting back to the sole-trait perspective. Northouse (2016) further highlights that the trait theory is still alive.¹⁷⁶ For example research by Nadler/Tushman (1990) on charismatic leadership demonstrates that traits such as envisioning, energizing and enabling are attributed to charismatic leaders.¹⁷⁷ Jung/Sosik (2006) identified traits that are generally connected with charismatic leadership, namely self-monitoring, self-actualization, motive to attain social power and self-enhancement. The results from the study support the

¹⁷¹ Judge, T. A./Bono, J. E./Ilies, R./Gerhardt, M. W. (2002): Personality and Leadership: A Qualitative and Quantitative Review. *Journal of Applied Psychology*, Vol. 87, Issue 4, p. 766, DOI: <https://doi.org/10.1037/0021-9010.87.4.765>.

¹⁷² Block, J. (1995): A Contrarian View of the Five-Factor Approach to Personality Description. *Psychological Bulletin*, Vol. 117, Issue 2, p. 208, DOI: <https://doi.org/10.1037/0033-2909.117.2.187>.

¹⁷³ Ones, D. S./Viswesvaran, C. (1996): Bandwidth-Fidelity Dilemma in Personality Measurement for Personnel Selection. *Journal of Organizational Behavior*, Vol. 17, Issue 6, p. 622, <https://www.jstor.org/stable/2488579>.

¹⁷⁴ Judge, T. A./Bono, J. E./Ilies, R./Gerhardt, M. W. (2002): Personality and Leadership: A Qualitative and Quantitative Review. *Journal of Applied Psychology*, Vol. 87, Issue 4, p. 766, DOI: <https://doi.org/10.1037/0021-9010.87.4.765>.

¹⁷⁵ Jex, S. M./Britt, T. W. (2014): *Organizational Psychology. A Scientist-Practitioner Approach*. Third Edition, John Wiley & Sons, New Jersey, p. 375.

¹⁷⁶ Northouse, P. G. (2016): *Leadership. Theory and Practice*. Seventh Edition, Sage Publications, Thousand Oaks, p. 20.

¹⁷⁷ Nadler, D. A./Tushman, M. L. (1990): Beyond the Charismatic Leader: Leadership and Organizational Change. *California Management Review*, Vol. 32, Issue 2, p. 82, DOI: <https://doi.org/10.2307/41166606>.

assumption that charismatic leaders do possess certain leadership traits.¹⁷⁸ Similarly, this is valid for the transformational and transactional leadership theory.¹⁷⁹ For Bass (1999) transformational leadership „refers to the leader moving the follower beyond immediate self-interests through idealized influence (charisma), inspiration, intellectual stimulation, or individualized consideration“¹⁸⁰, which leads to the circumstance of followers being highly motivated and thus increasing their work performance.¹⁸¹ Bass (1990) highlights that attaining charisma is fundamental to succeeding, as subordinates want to identify with the leader, which leads to trust and confidence.¹⁸²

In contrast transactional leadership consists of an exchange relationship between executives and subordinates where the staff members' self-interests are appealed to.¹⁸³ Bass (1997) describes three components of transactional leadership in detail. First, contingent reward behaviour includes agreements between the leader and the follower on what is essential to be executed to meet individual needs. Leaders therefore offer rewards to subordinates in exchange for their work performance. Secondly, management-by-exceptions is used by superiors who can take both forms actively or passively. If active management-by-exceptions is used, leaders supervise their employees' work performance and intervene immediately if necessary. In contrast, applying passive management-by-exceptions means that leaders wait for errors to take place before intervening.¹⁸⁴

Thus, leadership in general is a complex phenomenon influenced by numerous determinants. In particular a variety of leadership approaches have emerged, but a theory that fully explains leadership does not exist. One prominent theory that sheds light on leadership is the trait approach, which follows the assumption that leaders possess certain

¹⁷⁸ Jung, D./Sosik, J. J. (2006): Who Are the Spellbinders? Identifying Personal Attributes of Charismatic Leaders. *Journal of Leadership and Organizational Studies*, Vol. 12, Issue 4, p. 22, DOI: <https://doi.org/10.1177%2F107179190601200402>.

¹⁷⁹ Iszatt-White, M./Saunders, C. (2017): *Leadership*. Second Edition, Oxford University Press, Oxford, p. 64.

¹⁸⁰ Bass, B. M. (1999): Two Decades of Research and Development in Transformational Leadership. *European Journal of Work and Organizational Psychology*, Vol. 8, Issue 1, p. 11, DOI: <https://doi.org/10.1080/135943299398410>.

¹⁸¹ Yukl, G. (1999): An evaluation of conceptual weaknesses in transformational and charismatic leadership theories. *The Leadership Quarterly*, Vol. 10, Issue 2, p. 286, DOI: [https://doi.org/10.1016/S1048-9843\(99\)00013-2](https://doi.org/10.1016/S1048-9843(99)00013-2).

¹⁸² Bass, B. M. (1990): From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics*, Vol. 18, Issue 3, p. 21, DOI: [https://doi.org/10.1016/0090-2616\(90\)90061-S](https://doi.org/10.1016/0090-2616(90)90061-S).

¹⁸³ Yukl, G. (2013): *Leadership in Organizations*. Eighth Edition, Pearson Education, Essex, p. 312.

¹⁸⁴ Bass, B. M. (1997): Personal Selling And Transactional/Transformational Leadership. *The Journal of Personal Selling and Sales Management*, Vol. 17, Issue 3, p. 21, <http://www.jstor.org/stable/20832520>.

traits. Research on the trait approach offers inconsistent results and has a labelling dilemma. Finally, this approach does not consider cause-effect relations, and thus further research is required.

1.6 Summary and conclusion of the first chapter

The aim of the first chapter was to examine the current state of science in the disciplines of leadership and innovation management. The author highlighted that innovations embody a key factor for remaining competitive. Moreover, the author discussed the spectrum of innovations ranging from incremental to radical innovations and stressed the importance for organizations to constantly improve their innovativeness. In this respect creativity is a crucial antecedent of innovation. Therefore, various theoretical models were discussed that focus on the relationship between creativity and innovation. Moreover, different sources for innovations were analyzed. It can be demonstrated that sources of innovations are based on internal and external determinants and offer employees impulses to generate new ideas and simultaneously boost their innovativeness. From the organizational perspective, companies are required to concentrate on employees' individual innovative capabilities. In this respect the construct of innovative work behaviour was explained, and the different phases were outlined. Furthermore, it can be shown that innovative work behaviour is a multidimensional latent variable. To be innovative employees need an environment in which they can flourish, and one major influence factor for generating innovative work behaviour in staff members can be found in leadership. In addition the literature analysis demonstrates that real estate development organizations benefit from innovative work behaviour in several ways. First, real estate development projects consist of heterogeneous tasks in which different departments (e.g., legal, construction, marketing, accounting and controlling) are involved. Those staff members need to detect opportunities and solutions for the development of the building. Amongst others these tasks include idea development, the consideration of technical aspects, the identification and solution of legal issues, the consideration of financial resources and the calculation of the entire project. All these topics need to be considered when developing real estate projects. Novel ideas and solutions to existing problems are core elements of innovative work behaviour and help companies remain competitive in a vibrant business environment. Second, this issue is reinforced by the fact that property developments have different purposes and goals. Consequently, staff members need to be innovative in various settings and phases to detect incongruities and

discontinuities. Moreover, real estate development organizations are open systems and need constant exchanges with the business environment to identify the needs of their clients in a timely manner. Consequently, innovative staff members need to consider internal as well as external factors to develop and execute real estate projects.

Based on these findings, the current academic literature does not reveal which and to what extent leader attitudes affect the innovative work behaviour of employees in real estate development companies (research gap). In particular the trait approach to leadership suffers from a labelling dilemma, meaning that researchers have defined traits differently or combined traits and subsumed them on a higher abstraction level. Moreover, the literature review shows that trait theory lacks an examination of cause-effect relationships. Researchers frequently focus on identifying traits, but how leader traits affect a specific outcome remains under-developed in the academic literature. In addition some researchers even call for an application of more diverse research methods. Due to inconsistent research in the past, the second chapter is aimed at identifying leader attitudes that are considered fundamental in leadership by the academic literature.

2. DETERMINATION OF LEADER ATTITUDES

The previous chapter outlined the main theoretical principles of innovations, innovative work behaviour and leadership (the trait approach). In general it can be noted that innovations are complex and consist of numerous determinants. Management science considers leadership to be one major driver for innovation enhancement. Although substantial leadership research has been performed, science has not revealed which and to what extent leader attitudes affect innovative work behaviour in real estate development companies.

The following chapters of this thesis use Kant's epistemology that only a combination of rationalism and empiricism allow an author to gain new findings.¹⁸⁵ Kant combines both approaches, rationalism and empiricism, and describes this combination as follows: „*Thoughts without contents are empty, intuitions without concepts are blind*“.¹⁸⁶ Based on the theoretical background in Chapter 1, the second chapter serves as a basis for the empirical studies in Chapter 3 and seeks to identify fundamental attitudes in leadership.

The following subchapters examine 91 publications on leader attitudes over a period from 1948 to 2020. In detail 31 sources are based on a literature review and 60 used empirical research methods. Moreover, 85 sources are grounded in journals whereas six can be traced back to scientific books. The aim of this chapter is to carry out in-depth content analyses to identify leader attitudes. In the following subchapter, the methodical procedure will be outlined.

2.1 Content analyses of leader attitudes: selection and research procedure description

After having discussed the theoretical principles of innovation management and leadership, the content analysis performed in Chapter 2 represents the first empirical research method and the basis for researching the causal relationship between leader attitudes (independent

¹⁸⁵ Kant, I. (1922): Critique of Pure Reason. Translated into English by F. Max Müller. Second Edition revised, The Macmillan Company, New York, pp. 40-41.

¹⁸⁶ Kant, I. (1922): Critique of Pure Reason. Translated into English by F. Max Müller. Second Edition revised, The Macmillan Company, New York, p. 41.

variables) affecting the innovative work behaviour (dependent variable) of staff members working in real estate development companies.

Bryman/Bell (2015) describe a content analysis as „*an approach to the analysis of documents and texts that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner*“.¹⁸⁷ Döring/Bortz (2016) emphasize that quantitative content analysis allows the researcher a consistent approach to analysing the material.¹⁸⁸ Regarding leadership research Yukl (2013) considers content analysis to be a useful research instrument for determining behaviours, traits and the influence processes of leaders that helps to better understand how leaders influence subordinates.¹⁸⁹ Similarly, Insch/Moore/Murphy (1997) highlight the relevance of content analyses in leadership research. In particular content analyses allow the researcher to complement quantitative research and identify novel viewpoints on leadership that may be challenging to detect by solely applying the usual research methods.¹⁹⁰ Figure 12 illustrates the research-specific approach for conducting the quantitative content analysis to determine the independent variables (leader attitudes) for this research work.

¹⁸⁷ Bryman, A./Bell, E. (2015): Business Research Methods. Fourth Edition, Oxford University Press, Oxford, p. 300.

¹⁸⁸ Döring, N./Bortz, J. (2016): Forschungsmethoden und Evaluation in den Sozial- und Humanwissenschaften. 5. vollständig überarbeitete, aktualisierte und erweiterte Auflage, Springer Verlag, Berlin Heidelberg, p. 553.

¹⁸⁹ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 317.

¹⁹⁰ Insch, G. S./Moore, J. E./Murphy, L. D. (1997): Content analysis in leadership research: Examples, procedures, and suggestions for future use. The Leadership Quarterly, Vol. 8, Issue 1, p. 1, DOI: [https://doi.org/10.1016/S1048-9843\(97\)90028-X](https://doi.org/10.1016/S1048-9843(97)90028-X).

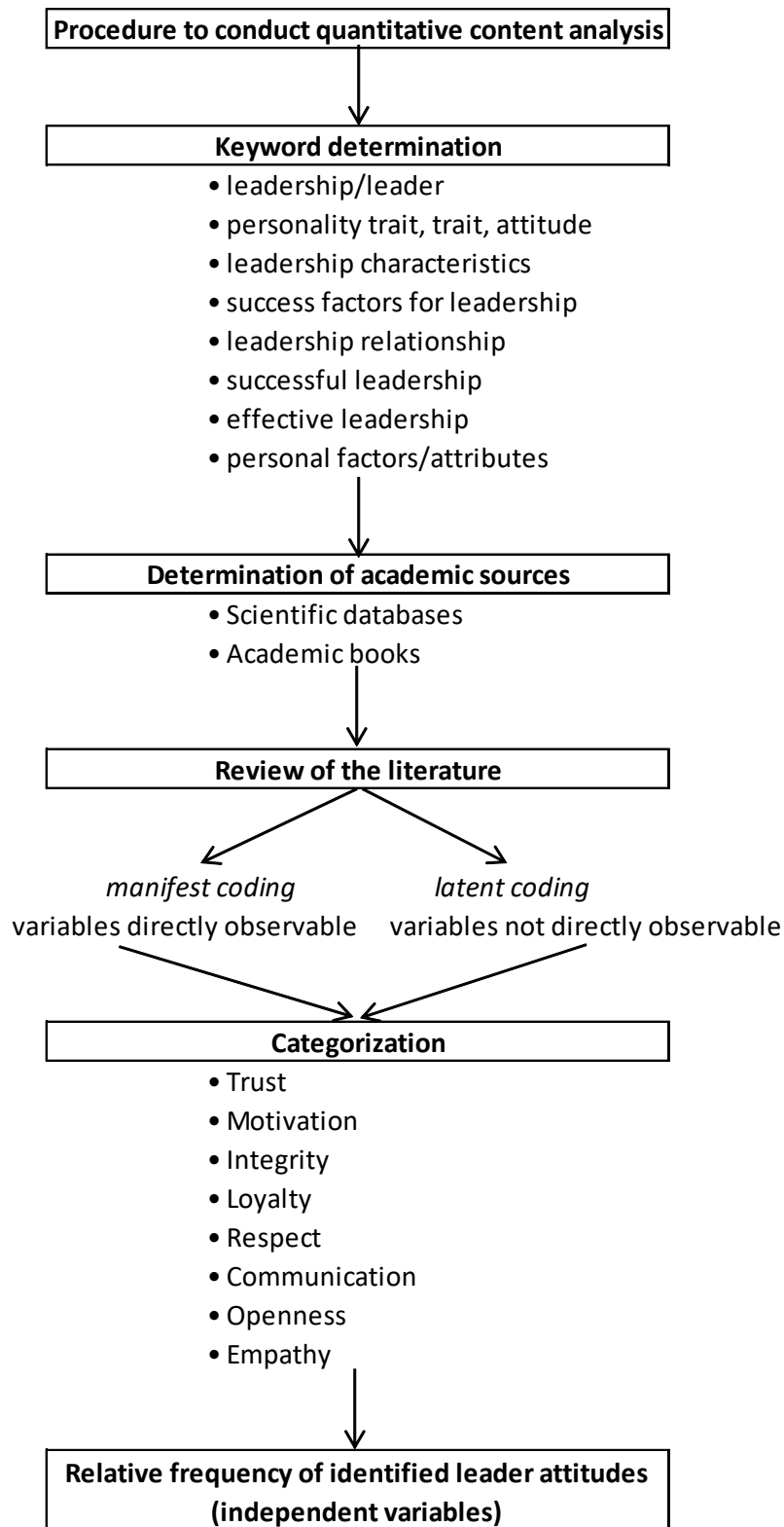


Figure 12: Research-specific approach for content analysis procedure
Source: author's compilation

To select relevant literature for the content analyses, scientific publications with the following wordings in the title, abstract or keywords were used:

- leadership/leader
- personality trait, trait, attitude
- leadership characteristics
- success factors for leadership
- leadership relationship
- successful leadership
- effective leadership
- personal factors/attributes

To obtain a comprehensive consideration of the scientific literature, academic books and international databases such as EBSCO, Emerald Insight, ScienceDirect, SpringerLink, SAGE Journals, JSTOR and Taylor & Francis were used for the content analyses. When the pre-defined keywords emerged in the source, the author read the entire publication. Otherwise, the source was rejected.

In particular, the author used a frequency analysis to count how frequently the terms were used in the target material¹⁹¹ so the relevance of leader attitudes discussed in the academic literature could be demonstrated.

Berg (2007) distinguishes in the analysis between manifest and latent content. Manifest analyses consider those units of analyses that are directly physical and countable in the material. In contrast latent analyses depend on the researcher's interpretation and the structural meaning of the material.¹⁹² To gain comprehensive results, the author has carried out both manifest and latent analyses.

To provide transparency the author has summarized and illustrated the sources used for the content analyses in Appendix 1 and shown the relative frequency of the independent variables in Figure 13.

¹⁹¹ Schnell, R./Hill, P. B./Esser, E. (2018): Methoden der empirischen Sozialforschung. 11., überarbeitete Auflage, De Gruyter Oldenbourg, Berlin/Boston, pp. 371-372.

¹⁹² Berg, B. L. (2007): Qualitative Research Methods for the Social Sciences. Sixth Edition, Pearson, Boston, p. 308.

2.2 Analysis and discussion of identified leader attitudes

The previous subchapter outlined the content analysis procedure for identifying the independent variables for the research model. Again the aim of this doctoral thesis is to investigate the impact of leader attitudes on the innovative work behaviour of staff members working in real estate development companies. The following subchapters 2.2.1 through 2.2.8 demonstrate the identified leader attitudes and include a thorough analysis of the actual state of research; they also offer insights into the variables to be further statistically examined in Chapter 3 of this doctoral thesis.

2.2.1 Leader attitude: integrity

The notion of integrity has been a major topic in business ethics research in recent years, as this trait is often perceived as ideal or considered a virtue of character and credited with morally positive dispositions. For Audi/Murphy (2006), the concept of integrity, both in general and in business contexts, remains broadly unclear.¹⁹³ Palanski/Yammarino (2007) argue that the meaning of integrity varies substantially in research, and thus its precise meaning remains unclear¹⁹⁴ and theoretical and empirical studies carried out are disparate.¹⁹⁵ Likewise, Becker (1998) perceives the concept of integrity as underdeveloped in the literature, as interpretations vary within research disciplines.¹⁹⁶ In particular Parry/Proctor-Thomson (2002) emphasize that the relationship between behavioural integrity and leadership has not been examined adequately in empirical studies.¹⁹⁷ Moreover, Becker (1998) and Parry/Proctor-Thomson (2002) point out that the word „integrity“ is frequently used synonymously with „honesty“ and

¹⁹³ Audi, R./Murphy, P. E. (2006): The Many Faces of Integrity. *Business Ethics Quarterly*, Vol. 16, Issue 1, p. 3, <https://www.jstor.org/stable/3857724>.

¹⁹⁴ Palanski, M. E./Yammarino, F. J. (2007): Integrity and Leadership: Clearing the Conceptual Confusion. *European Management Journal*, Vol. 25, Issue 3, p. 181, DOI: <https://doi.org/10.1016/j.emj.2007.04.006>.

¹⁹⁵ Palanski, M. E./Yammarino, F. J. (2007): Integrity and Leadership: Clearing the Conceptual Confusion. *European Management Journal*, Vol. 25, Issue 3, p. 172, DOI: <https://doi.org/10.1016/j.emj.2007.04.006>.

¹⁹⁶ Becker, T. E. (1998): Integrity in organizations: Beyond honesty and conscientiousness. *Academy of Management Review*, Vol. 23, Issue 1, p. 154, <https://www.jstor.org/stable/259104>.

¹⁹⁷ Parry, K. W./Proctor-Thomson, S. B. (2002): Perceived Integrity of Transformational Leaders in Organisational Settings. *Journal of Business Ethics*, Vol. 35, Issue 2, p. 77, <https://www.jstor.org/stable/25074659>.

„conscientiousness“.¹⁹⁸ ¹⁹⁹ Simons (2002) analysed the term „integrity“ to broaden the understanding of the nature of the construct and understands it as „*a subjectively ascribed trait that may be unitary or domain-specific, may be ascribed to individuals or groups, and that exhibits asymmetry between its enhancement and diminishment*“.²⁰⁰ In the context of leadership, Northouse (2016) describes integrity as a further key trait and defines it as the „*quality of honesty and trustworthiness*“.²⁰¹ Individuals show integrity when they have a pool of fixed principles and take full responsibility for their behaviours. Moreover, leaders with high integrity can inspire other individuals due to their trustworthiness. Northouse (2016) further highlights that integrity conveys a feeling of believability.²⁰² In contrast Simons (1999) uses a more comprehensive definition and describes behavioural integrity as the „*perceived degree of congruence between the values expressed by words and those expressed through action. It is the perceived level of match or mismatch between the espoused and the enacted*“.²⁰³ In a more recent publication, Simons (2002) states that behavioural integrity is „*the extent to which employees perceive that their managers tend to represent themselves and their motivating values accurately in their communications with employees*“.²⁰⁴ In general Morrison (2001) emphasizes that without integrity effective leadership is not possible²⁰⁵ and is undermined.²⁰⁶ A study conducted by Storr (2004) reveals that the integrity of leaders positively affects organizational effectiveness. Moreover, the study shows that the relevance of integrity and ethical leadership is related to organizational

¹⁹⁸ Parry, K. W./Proctor-Thomson, S. B. (2002): Perceived Integrity of Transformational Leaders in Organisational Settings. *Journal of Business Ethics*, Vol. 35, Issue 2, p. 76, <https://www.jstor.org/stable/25074659>.

¹⁹⁹ Becker, T. E. (1998): Integrity in organizations: Beyond honesty and conscientiousness. *Academy of Management Review*, Vol. 23, Issue 1, p. 155, <https://www.jstor.org/stable/259104>.

²⁰⁰ Simons, T. (2002): Behavioral Integrity: The Perceived Alignment between Managers' Words and Deeds as a Research Focus. *Organization Science*, Vol. 13, Issue 1, p. 24, <https://www.jstor.org/stable/3086064>.

²⁰¹ Northouse, P. G. (2016): *Leadership. Theory and Practice*. Seventh Edition, Sage Publications, Thousand Oaks, p. 25.

²⁰² Northouse, P. G. (2016): *Leadership. Theory and Practice*. Seventh Edition, Sage Publications, Thousand Oaks, p. 25.

²⁰³ Simons, T. L. (1999): Behavioral integrity as a critical ingredient for transformational leadership. *Journal of Organizational Change Management*, Vol. 12, Issue 2, p. 90, DOI: <https://doi.org/10.1108/09534819910263640>.

²⁰⁴ Simons, T. (2002): Behavioral Integrity: The Perceived Alignment between Managers' Words and Deeds as a Research Focus. *Organization Science*, Vol. 13, Issue 1, p. 19, <https://www.jstor.org/stable/3086064>.

²⁰⁵ Morrison, A. (2001): Integrity and Global Leadership. *Journal of Business Ethics*, Vol. 31, Issue 1, p. 65, <https://www.jstor.org/stable/25074517>.

²⁰⁶ Kirkpatrick, S. A./Locke, E. A. (1991): Leadership: do traits matter? *Academy of Management Executive*, Vol. 5, Issue 2, p. 53, DOI: <https://doi.org/10.5465/ame.1991.4274679>.

hierarchy.²⁰⁷ Similarly, Petrick/Quinn (2001) consider integrity an intangible organizational asset for which leaders are responsible. A high awareness of integrity can foster the competitive advantage of organizations, whereas a low awareness can cause dysfunctional consequences.²⁰⁸ According to the study performed by Posner/Schmidt (1984), integrity is the most valued trait of subordinates and leaders.²⁰⁹ Similarly, Treviño/Hartmann/Brown (2000) show that integrity was mentioned most frequently by leaders as a personal characteristic that is essential for ethical leadership.²¹⁰ Numerous established leadership theories show a conceptual relationship between integrity and leadership.²¹¹ Consequently, it becomes obvious that a consideration of ethical standards in organizations is essential for long-term success.²¹² Research by Morgan (1993) found that ethical behaviour may foster the leader's reputation from the employee perspective.²¹³ However, though managers frequently claim to support organizational values, their actions fall short.²¹⁴ For Simons (2002) behavioural integrity is significantly affected by hierarchical relationships. Subordinates are more likely to perceive behavioural integrity and its underrepresentation in leaders than leaders in their subordinates.²¹⁵ It is argued by Berscheid et al. (1976) that with an increase in a person's dependency upon another, the employee is likely to devote more

²⁰⁷ Storr, L. (2004): Leading with integrity: a qualitative research study. *Journal of Health Organization and Management*, Vol. 18, Issue 6, p. 430, DOI: <https://doi.org/10.1108/14777260410569984>.

²⁰⁸ Petrick, J. A./Quinn, J. F. (2001): The Challenge of Leadership Accountability for Integrity Capacity as a Strategic Asset. *Journal of Business Ethics*, Vol. 34, Issue 3/4, p. 340, DOI: <https://doi.org/10.1023/A:1012597201948>.

²⁰⁹ Posner, B. Z./Schmidt, W. H. (1984): Values and the American Manager: An Update. *California Management Review*, Vol. 26, Issue 3, pp. 208-210, 215, DOI: <https://doi.org/10.2307/41165090>.

²¹⁰ Treviño, L. K./Hartman, L. P./Brown, M. (2000): Moral Person and Moral Manager: How Executives Develop a Reputation for Ethical Leadership. *California Management Review*, Vol. 42, Issue 4, p. 130, <https://doi.org/10.2307/41166057>.

²¹¹ Palanski, M. E./Yammarino, F. J. (2011): Impact of behavioral integrity on follower job performance: A three-study examination. *The Leadership Quarterly*, Vol. 22, Issue 4, p. 765, DOI: <https://doi.org/10.1016/j.leaqua.2011.05.014>.

²¹² Parry, K. W./Proctor-Thomson, S. B. (2002): Perceived Integrity of Transformational Leaders in Organisational Settings. *Journal of Business Ethics*, Vol. 35, Issue 2, p. 76, <https://www.jstor.org/stable/25074659>.

²¹³ Morgan, R. B. (1993): Self- and Co-Worker Perceptions of Ethics and Their Relationships to Leadership and Salary. *The Academy of Management Journal*, Vol. 36, Issue 1, p. 210, <https://www.jstor.org/stable/256519>.

²¹⁴ Simons, T./Friedman, R./Liu, L. A./McLean Parks, J. (2007): Racial Differences in Sensitivity to Behavioral Integrity: Attitudinal Consequences, In-Group Effects, and "Trickle Down" Among Black and Non-Black Employees. *Journal of Applied Psychology*, Vol. 92, Issue 3, p. 651, DOI: <https://doi.org/10.1037/0021-9010.92.3.650>.

²¹⁵ Simons, T. (2002): Behavioral Integrity: The Perceived Alignment between Managers' Words and Deeds as a Research Focus. *Organization Science*, Vol. 13, Issue 1, p. 26, <https://www.jstor.org/stable/3086064>.

attention to their leader and evaluate them more extremely and more confidently.²¹⁶ Simons (2002) further stresses that behavioural integrity seems to be highly problematic in the current business environment, an issue that can be traced back to strong competition or technological and organizational changes that significantly affect staff member retention and performance. Behavioural integrity includes a multifaceted procedure which is grounded in an objective reality but may be influenced by several determinants.²¹⁷ Therefore, it is essential for leaders to be aware of personal values, ethics and morals, as these qualities affect decisions and behaviours in which they are involved. Executives who do not highly appreciate ethics and values will convey less relevance of these qualities to their employees.²¹⁸

In conclusion the leader attitude „integrity“ has inspired a vivid debate about its precise nature, but it is considered one of the most important leader attitudes by several researchers. The literature review shows that integrity is a key trait for ethical leadership and frequently undeveloped in business practice. Overall, research on integrity can be considered scarce, and thus further research is required. The following subchapter focuses on respect and offers in-depth discussions of this leader attitude.

2.2.2 Leader attitude: respect

Respect is considered to be a key trait in leadership.²¹⁹ According to DeLellis (2000) respect is comprised of complex structures and is challenging to define. In particular literature on respect is limited, which can be traced back to its multifaceted concepts.²²⁰ Van Quaquebeke/Eckloff (2010) define respect *„as a person's attitude towards other people, in whom he/she sees a reason that, in itself, justifies a degree of attention and a type of behavior that in return engenders in the target a feeling of being appreciated in importance*

²¹⁶ Berscheid, E./Graziano, W./Monson, T./Dermer, M. (1976): Outcome Dependency: Attention, Attribution, and Attraction. *Journal of Personality and Social Psychology*, Vol. 34, Issue 5, p. 987, DOI: <http://dx.doi.org/10.1037/0022-3514.34.5.978>.

²¹⁷ Simons, T. (2002): Behavioral Integrity: The Perceived Alignment between Managers' Words and Deeds as a Research Focus. *Organization Science*, Vol. 13, Issue 1, p. 32, <https://www.jstor.org/stable/3086064>.

²¹⁸ Grojean, M. W./Resick, C. J./Dickson, M. W./Smith, D. B. (2004): Leaders, Values, and Organizational Climate: Examining Leadership Strategies for Establishing an Organizational Climate regarding Ethics. *Journal of Business Ethics*, Vol. 55, Issue 3, p. 226, <https://www.jstor.org/stable/25123388>.

²¹⁹ Clarke, N. (2011): An integrated conceptual model of respect in leadership. *The Leadership Quarterly*, Vol. 22, Issue 2, p. 323, DOI: <https://doi.org/10.1016/j.leaqua.2011.02.007>.

²²⁰ DeLellis, A. J. (2000): Clarifying the Concept of Respect: Implications for Leadership. *The Journal of Leadership Studies*, Vol. 7, Issue 2, p. 36, DOI: <https://doi.org/10.1177/107179190000700203>.

and worth as a person".²²¹ Northouse (2016) highlights that respect is complex and, referring to leadership, describes „that a leader listens closely to followers, is empathic, and is tolerant of opposing points of view“.²²² It is further argued that respect means „treating followers in ways that confirm their beliefs, attitudes, and values“.²²³ Similarly, Cranor (1975) describes the attitude of respect as a multifaceted relationship consisting of four factors: „a person who respects (a respector), a respected object, some characteristic in virtue of which the object is respected (the basis of respect), and some evaluative point of view from which the object is respected“.²²⁴ For Kant, respect „is always directed only to persons, never to things“.²²⁵ Darwell (1977) distinguishes between two forms of respect. Recognition respect consists of granting consideration or recognition to persons that should be owed to all individuals equally. Darwell (1977) mentions that the feelings of other persons and social situations are examples of recognition respect. In particular recognition respect is not a matter of general agreement; it focuses on moral obligations or duties towards other individuals. In contrast appraisal respect consists of a person's quality or merit and lies in the appraisal itself.²²⁶ In leadership research, the trait „respect“ has been solely considered as an extension of leader characteristics, meaning that leaders are respected by nature.²²⁷ Some studies in the field of leader-member exchange theories, such as Liden/Maslyn (1998), use the term „professional respect“ in which they draw attention to respect in leadership research.²²⁸ ²²⁹ Moreover, research has found that respect varies with gender. For example Wolfram/Mohr/Schyns (2007) found in their empirical study that female executives obtain

²²¹ Van Quaquebeke, N./Eckloff, T. (2010): Defining Respectful Leadership: What It Is, How It Can Be Measured, and Another Glimpse at What It Is Related to. *Journal of Business Ethics*, Vol. 91, Issue 3, p. 344, DOI: <https://doi.org/10.1007/s10551-009-0087-z>.

²²² Northouse, P. G. (2016): *Leadership. Theory and Practice*. Seventh Edition, Sage Publications, Thousand Oaks, p. 342.

²²³ Northouse, P. G. (2016): *Leadership. Theory and Practice*. Seventh Edition, Sage Publications, Thousand Oaks, p. 342.

²²⁴ Cranor, C. (1975): Towards a theory of respect for persons. *American Philosophical Quarterly*, Vol. 12, Issue 4, p. 310, <https://www.jstor.org/stable/20009589>.

²²⁵ Kant, I. (1997): *Critique of Practical Reason*. Translated and Edited by Mary Gregor with an Introduction by Andrews Reath. Cambridge University Press, Cambridge, p. 66.

²²⁶ Darwell, S. L. (1977): Two Kinds of Respect. *Ethics*, Vol. 88, Issue 1, pp. 38-39, <https://www.jstor.org/stable/2379993>.

²²⁷ Clarke, N. (2011): An integrated conceptual model of respect in leadership. *The Leadership Quarterly*, Vol. 22, Issue 2, p. 317, DOI: <https://doi.org/10.1016/j.leaqua.2011.02.007>.

²²⁸ Liden, R. C./Maslyn, J. M. (1998): Multidimensionality of Leader-Member Exchange: An Empirical Assessment through Scale Development. *Journal of Management*, Vol. 24, Issue 1, p. 49, DOI: <https://doi.org/10.1177/014920639802400105>.

²²⁹ Clarke, N. (2011): An integrated conceptual model of respect in leadership. *The Leadership Quarterly*, Vol. 22, Issue 2, p. 318, DOI: <https://doi.org/10.1016/j.leaqua.2011.02.007>.

less work-related respect from subordinates compared to their male counterparts and thus have more issues being accepted in the organization.²³⁰ Additionally, the study from Laschinger/Finegan (2005) shows that empowerment affects employee perception of fair management practices and the feelings staff members have of being respected in the organization, and it leads to trust in the management, which ultimately affects job satisfaction and organizational commitment. Thus, employees who experience empowering conditions perceive that leaders show respect towards them, which fosters trust in the management and leads to higher levels of job satisfaction and commitment towards the company.²³¹ Referring to leadership research in groups, Lipponen/Koivisto/Olkkonen (2005) found that a leader's perceived justice significantly influences employees' feelings of pride and respect, especially when leaders are perceived to represent the in-group.²³² The study performed by Glasø/Einarsen (2006) confirms that leader-member relations are substantially based on moods, emotions and emotion-laden judgements. The study clearly demonstrates that leadership is highly emotional for all individuals involved in the leadership process.²³³ Dasborough (2006) found that executives who demonstrate awareness and respect towards their employees will foster positive emotions at work.²³⁴ For Yukl (2013) ideal leader-member relationships are grounded on mutual respect, trust, cooperation, loyalty and openness.²³⁵ Mason (1994) found that treating staff members respectfully came first in the value ranks of their study.²³⁶ According to Clarke (2011) respect is a crucial factor that describes the nature of leadership; therefore, it is worth examining how respect relates to other concepts found to be of significant relevance in leadership. Clarke (2011) outlines that the presence of trust is limited without respect. In particular higher levels of trust may foster the development of leader-member relationships, which causes leaders and

²³⁰ Wolfram, H.-J./Mohr, G./Schyns, B. (2007): Professional respect for female and male leaders: influential gender-relevant factors. *Women in Management Review*, Vol. 22, Issue 1, p. 29, DOI: <https://doi.org/10.1108/09649420710726201>.

²³¹ Laschinger, H. K. S./Finegan, J. (2005): Using Empowerment to Build Trust and Respect in the Workplace: A Strategy for Addressing the Nursing Shortage. *Nursing Economics*, Vol. 23, Issue 1, p. 11.

²³² Lipponen, J./Koivisto, S./Olkkonen, M.-E. (2005): Procedural justice and status judgements: The moderating role of leader ingroup prototypicality. *The Leadership Quarterly*, Vol. 16, Issue 4, p. 524, DOI: <https://doi.org/10.1016/j.leaqua.2005.06.004>.

²³³ Glasø, L./Einarsen, S. (2006): Experienced affects in leader-subordinate relationships. *Scandinavian Journal of Management*, Vol. 22, Issue 1, p. 65, DOI: <https://doi.org/10.1016/j.scaman.2005.09.003>.

²³⁴ Dasborough, M. T. (2006): Cognitive asymmetry in employee emotional reactions to leadership behaviors. *The Leadership Quarterly*, Vol. 17, Issue 2, p. 171, DOI: <https://doi.org/10.1016/j.leaqua.2005.12.004>.

²³⁵ Yukl, G. (2013): *Leadership in Organizations*. Eighth Edition, Pearson Education, Essex, p. 345.

²³⁶ Mason, E. S. (1994): Work values: A gender comparison and implications for practice. *Psychological Reports*, Vol. 74, Issue 2, p. 416, DOI: <http://dx.doi.org/10.2466/pr0.1994.74.2.415>.

employees to respect each other. However, this would mean that respect may be an antecedent of trust especially in leader-member relationships.²³⁷ The study by De Cremer (2002) suggested that respect conveyed by the group increases the motivation level of individual group members and raises the group welfare. De Cremer (2002) explains this result by noting that individual group members feel more included and appreciated when respect is displayed.²³⁸ Research conducted by Boezeman/Ellemer (2007) found that respect was one of the factors in volunteer organizations that significantly affected commitment to the organization.²³⁹

Finally, it can be concluded that respect has long been considered a leader attitude implicitly. More recent studies deal with respect explicitly and consider this trait a basic human right. Moreover, the literature analysis shows that respect consists of two forms and varies with gender. Respect is accompanied by mutual appreciation, whereas a level of respect that is too high may lead to distance in organizational relationships. In the following subchapter, the author examines the leader attitude „communication“ in organizational settings and performs a literature analysis of how communication affects leadership.

2.2.3 Leader attitude: communication

A further essential leadership trait can be found in communication.^{240 241 242} Jablin (1979) highlights that the process of communication between superiors and followers to achieve both personal and organizational targets has been of academic interest since the 20th century. Empirical studies researching the communication between leaders and subordinates are diverse and have not received appropriate review and interpretation in the

²³⁷ Clarke, N. (2011): An integrated conceptual model of respect in leadership. *The Leadership Quarterly*, Vol. 22, Issue 2, p. 322, DOI: <https://doi.org/10.1016/j.leaqua.2011.02.007>.

²³⁸ De Cremer, D. (2002): Respect and Cooperation in Social Dilemmas: The Importance of Feeling Included. *Personality and Social Psychology Bulletin*, Vol. 28, Issue 10, p. 1339, DOI: <https://doi.org/10.1177/014616702236830>.

²³⁹ Boezeman, E. J. /Ellemer, N. (2007): Volunteering for Charity: Pride, Respect, and the Commitment of Volunteers. *Journal of Applied Psychology*, Vol. 92, Issue 3, p. 783, DOI: <https://doi.org/10.1037/0021-9010.92.3.771>.

²⁴⁰ Clutterbuck, D./Hirst, S. (2002): Leadership communication: A status report. *Journal of Communication Management*, Vol. 6, Issue 4, p. 351, p. 353, DOI: <https://doi.org/10.1108/13632540210807170>.

²⁴¹ Awamleh, R./Gardner, W. L. (1999): Perceptions of leader charisma and effectiveness: The effects of vision content, delivery, and organizational performance. *The Leadership Quarterly*, Vol. 10, Issue 3, p. 365, DOI: [https://doi.org/10.1016/S1048-9843\(99\)00022-3](https://doi.org/10.1016/S1048-9843(99)00022-3).

²⁴² Riggio, R. E./Riggio, H. R./Salinas, C./Cole, E. J. (2003): The Role of Social and Emotional Communication Skills in Leader Emergence and Effectiveness. *Group Dynamics: Theory, Research, and Practice*, Vol. 7, Issue 2, p. 83, DOI: <http://dx.doi.org/10.1037/1089-2699.7.2.83>.

literature.²⁴³ Luthra/Dahiya (2015) define leadership communication „*as inspiring and encouraging an individual or a group by systematic and meaningful sharing of information by using excellent communication skills*“.²⁴⁴ It is further highlighted that leadership communication is based on a complex interaction ranging from communication strategy development to writing until speaking effectively in challenging business environments.²⁴⁵ For Ruben/Gigliotti (2016), communication is an event of social influence that is based on a verbal and nonverbal exchange.²⁴⁶ According to Ruben/Gigliotti (2016), leadership communication is „*the relationship between leader(s), follower(s), message(s), and context(s) and the interpretive activities of those involved*“.²⁴⁷ From the systemic constructionist principle theory, Barge/Fairhurst (2008) consider leadership as a volatile evolutionary process focusing on the living unity of individuals, communication, action, meaning and context.²⁴⁸ In general communication research is often referred to by leadership, but the relationship is frequently reduced to its mechanisms and techniques applied by leaders to reach certain targets.²⁴⁹ In the organizational context, communication between individuals is executed to disseminate and gain information adequately, to finish tasks, to make proper decisions and to reduce conflicts and uncertainties. Thus, communication within the organization serves as a basis for understanding other individuals.²⁵⁰ Additionally, the current business environment is facing powerful communication technologies, regular changes, a diverse workforce and increasing globalization, which significantly affect the way

²⁴³ Jablin, F. M. (1979): Superior-Subordinate Communication: The State of Art. Psychological Bulletin, Vol. 86, Issue 6, p. 1201, DOI: <http://dx.doi.org/10.1037/0033-2909.86.6.1201>.

²⁴⁴ Luthra, A./Dahiya, R. (2015): Effective Leadership is all About Communicating Effectively: Connecting Leadership and Communication. International Journal of Management & Business Studies, Vol. 5, Issue 3, p. 44.

²⁴⁵ Luthra, A./Dahiya, R. (2015): Effective Leadership is all About Communicating Effectively: Connecting Leadership and Communication. International Journal of Management & Business Studies, Vol. 5, Issue 3, p. 44.

²⁴⁶ Ruben, B. D./Gigliotti, R. A. (2016): Leadership as Social Influence: An Expanded View of Leadership Communication Theory and Practice. Journal of Leadership & Organizational Studies, Vol. 23, Issue 4, p. 477, DOI: <http://dx.doi.org/10.1177/1548051816641876>.

²⁴⁷ Ruben, B. D./Gigliotti, R. A. (2016): Leadership as Social Influence: An Expanded View of Leadership Communication Theory and Practice. Journal of Leadership & Organizational Studies, Vol. 23, Issue 4, p. 471, DOI: <http://dx.doi.org/10.1177/1548051816641876>.

²⁴⁸ Barge, J. K./Fairhurst, G. T. (2008): Living Leadership: A Systemic Constructionist Approach. Leadership, Vol. 4, Issue 3, p. 244, DOI: <https://doi.org/10.1177%2F1742715008092360>.

²⁴⁹ Ruben, B. D./Gigliotti, R. A. (2016): Leadership as Social Influence: An Expanded View of Leadership Communication Theory and Practice. Journal of Leadership & Organizational Studies, Vol. 23, Issue 4, p. 467, DOI: <http://dx.doi.org/10.1177/1548051816641876>.

²⁵⁰ Ayub, S. H./Manaf, N. A./Hamzah, M. R. (2014): Leadership: Communicating Strategically in the 21st Century. Procedia - Social and Behavioral Sciences, Vol. 155, p. 503, DOI: <https://doi.org/10.1016/j.sbspro.2014.10.330>.

individuals communicate.²⁵¹ Recent research conducted by Solaja/Idowu/James (2016) found a significant relation between leadership communication style and traits of leaders. Consequently, the way leaders supply their subordinates with information and feedback can either increase or decrease the staff members' performance, attitudes and organizational productivity. Therefore, leaders who do not attach importance to strong communication with their employees foster, amongst other things, poor commitment, low working performance, dissatisfaction, reluctance about organizational change and poor attitudes towards work, which negatively influence organizational productivity.²⁵² Similarly, Mikkelson/York/Arritola (2015) found in their empirical study that communication affects job satisfaction, motivation and organizational commitment. Moreover, Mikkelson/York/Arritola (2015) argue that clear and efficient communication is essential for maintaining focus on organizational targets and duties.²⁵³ Richmond/McCroskey (2000) claim that supervisor immediacy has significant positive relationships between perceived credibility and interpersonal attraction. Thus, leaders who are considered strong in nonverbal immediacy are described as credible and attractive. Furthermore, a high level of credibility and attractiveness leads to better work motivation and job satisfaction in employees.²⁵⁴ Neufeld/Wan/Fang (2010) empirically established that communication effectiveness is positively related to leadership performance. This means that leaders who show effective communication behaviours are also considered to perform well in their work.²⁵⁵ Additionally, Riggio et al. (2003) found that leaders who demonstrate both emotional and social communication abilities obtained positive feedback regarding their leadership effectiveness from their team members and third-party participants. Nevertheless, Riggio et al. (2003) point out that these leaders did not

²⁵¹ Waldeck, J./Durante, C./Helmuth, B./Marcia, B. (2012): Communication in a Changing World: Contemporary Perspectives on Business Communication Competence. *Journal of Education for Business*, Vol. 87, Issue 4, p. 230, DOI: <http://doi.org/10.1080/08832323.2011.608388>.

²⁵² Solaja, O. M./Idowu, F. E./James, A. E. (2016): Exploring the relationship between leadership communication style, personality trait and organizational productivity. *Serbian Journal of Management*, Vol. 11, Issue 1, pp. 112-113, DOI: <https://doi.org/10.5937/sjm11-8480>.

²⁵³ Mikkelson, A. C./York, J. A./Arritola, J. (2015): Communication Competence, Leadership Behaviors, and Employee Outcomes in Supervisor-Employee Relationships. *Business and Professional Communication Quarterly*, Vol. 78, Issue 3, p. 347, DOI: <http://doi.org/10.1177/2329490615588542>.

²⁵⁴ Richmond, V. P./McCroskey, J. C. (2000): The Impact of Supervisor and Subordinate Immediacy on Relational and Organizational Outcomes. *Communication Monographs*, Vol. 67, Issue 1, p. 93, DOI: <http://doi.org/10.1080/03637750009376496>.

²⁵⁵ Neufeld, D. J./Wan, Z./Fang, Y. (2010): Remote Leadership, Communication Effectiveness and Leader Performance. *Group Decision and Negotiation*, Vol. 19, Issue 3, p. 241, DOI: <http://doi.org/10.1007/s10726-008-9142-x>.

necessarily perform better. Therefore, Riggio et al. (2003) conclude that communication skills are effective qualities for leading employees across different leadership situations.²⁵⁶ For Zerfass/Huck (2007), communication can facilitate the innovation performance of companies. This may be attained by better understanding how leadership communication works. It is further emphasized that the relationship between leadership communication and innovation needs to be further researched. Zerfass/Huck (2007) therefore recommend conducting empirical studies to scientifically research the relations between innovation journalism, institutionalized innovation communication and leadership communication.²⁵⁷

In sum leadership communication is an indispensable trait that significantly affects company and employee efficiency. Verbal and non-verbal communication is a fundamental skill in every organization and is essential to understanding and setting clear goals to be achieved by staff members. Individuals who communicate regularly are perceived as trustworthy and convey a feeling of credibility. The next subchapter analyses the leader trait „empathy“ and explains the construct and previous research.

2.2.4 Leader attitude: empathy

The trait of empathy is broadly found in leaders.²⁵⁸ Empathy is defined by Polychroniou (2009) as *„one's ability to understand the feelings transmitted through verbal and nonverbal messages, to provide emotional support to people when needed, and to understand the links between others' emotions and behaviour“*.²⁵⁹ Yukl (2013) defines empathy as *„the ability to understand another person's motives, values, and emotions [...]“*.²⁶⁰ Thus, Yukl (2013) argues that empathy is essential for better appreciating the needs and feelings of individuals. Moreover, it is highlighted that empathy is a trait helpful for problem-solving.²⁶¹

²⁵⁶ Riggio, R. E./Riggio, H. R./Salinas, C./Cole, E. J. (2003): The Role of Social and Emotional Communication Skills in Leader Emergence and Effectiveness. *Group Dynamics: Theory, Research, and Practice*, Vol. 7, Issue 2, p. 99, DOI: <http://dx.doi.org/10.1037/1089-2699.7.2.83>.

²⁵⁷ Zerfass, A./Huck, S. (2007): Innovation, Communication, and Leadership: New Developments in Strategic Communication. *International Journal of Strategic Communication*, Vol. 1, Issue 2, pp. 119-120, DOI: <https://doi.org/10.1080/15531180701298908>.

²⁵⁸ Mostovicz, E. I./Kakabadse, N. K./Kakabadse, A. P. (2009): A dynamic theory of leadership development. *Leadership & Organization*, Vol. 30, Issue 6, p. 567, DOI: <http://doi.org/10.1108/01437730910981935>.

²⁵⁹ Polychroniou, P. V. (2009): Relationship between emotional intelligence and transformational leadership of supervisors: The impact on team effectiveness. *Team Performance Management*, Vol. 15, Issue 7/8, p. 345, DOI: <http://doi.org/10.1108/13527590911002122>.

²⁶⁰ Yukl, G. (2013): *Leadership in Organizations*. Eighth Edition, Pearson Education, Essex, p. 157.

²⁶¹ Yukl, G. (2013): *Leadership in Organizations*. Eighth Edition, Pearson Education, Essex, pp. 157-158.

Similarly, Northouse (2016) describes empathetic leaders as individuals who truly seek to understand what subordinates are thinking and feeling, which additionally gives the staff members a feeling of being unique and appreciated in the organization.²⁶² Ciulla (2010) emphasizes that moral feelings such as empathy and compassion are vital ethical qualities. Subordinates appreciate superiors who demonstrate moral principles and moral feelings.²⁶³ Mahsud/Yukl/Prussia (2010) specify that ethical leadership includes qualities such as caring, protecting, helping and empowering employees. Moreover, executives with these qualities are more likely to establish a cooperative exchange with followers.²⁶⁴ For Kock et al. (2019) leaders can show empathy through their actions and statements. In particular words are the initial signal that superiors are interested in followers, and they arouse positive feelings. Additionally, leaders must affirm their statements by showing actions.²⁶⁵ Research by Cornelis et al. (2013) reveals that leaders who show a high level of empathy address their follower's needs and adjust their behaviour accordingly.²⁶⁶ The study results from Kellelt/Humphrey/Sleeth (2006) indicate that empathy may be a key trait not only in developing relationships with subordinates but also in effective communication, problem-solving, decision-making and performance enhancements.²⁶⁷ For Karnes (2009) empathy and social skills are weakly present in many companies. Moreover, employers who appreciate the needs and wants of their staff members tend to be more successful.²⁶⁸ A study performed by Polychroniou (2009) found that leaders' emotional intelligence competencies - including social skills, motivation and empathy - are positively related to transformational leadership, which simultaneously boosts the effectiveness in

²⁶² Northouse, P. G. (2016): *Leadership. Theory and Practice*. Seventh Edition, Sage Publications, Thousand Oaks, p. 227.

²⁶³ Ciulla, J. B. (2010): Being There: Why Leaders Should Not "Fiddle" While Rome Burns. *Presidential Studies Quarterly*, Vol. 40, Issue 1, p. 52, <https://www.jstor.org/stable/23044894>.

²⁶⁴ Mahsud, R./Yukl, G./Prussia, G. (2010): Leader empathy, ethical leadership, and relations-oriented behaviors as antecedents of leader-member exchange quality. *Journal of Managerial Psychology*, Vol. 25, Issue 6, p. 563, DOI: <http://doi.org/10.1108/02683941011056932>.

²⁶⁵ Kock, N./Mayfield, M./Mayfield, J./Sexton, S./De La Garza, L. M. (2019): Empathetic Leadership: How Leader Emotional Support and Understanding Influences Follower Performance. *Journal of Leadership & Organizational Studies*, Vol. 26, Issue 2, p. 220, DOI: <https://doi.org/10.1177/1548051818806290>.

²⁶⁶ Cornelis, I./Van Hiel, A./De Cremer, D./Mayer, D. M. (2013): When leaders choose to be fair: Follower belongingness needs and leader empathy influences leaders' adherence to procedural fairness rules. *Journal of Experimental Social Psychology*, Vol. 49, Issue 4, p. 611, DOI: <https://doi.org/10.1016/j.jesp.2013.02.016>.

²⁶⁷ Kellelt, J. B./Humphrey, R. H./Sleeth, R. G. (2006): Empathy and the emergence of task and relations leaders. *The Leadership Quarterly*, Vol. 17, Issue 2, p. 157, DOI: <https://doi.org/10.1016/j.leaqua.2005.12.003>.

²⁶⁸ Karnes, R. E. (2009): A Change in Business Ethics: The Impact on Employer-Employee Relations. *Journal of Business Ethics*, Vol. 87, Issue 2, p. 189, DOI: <https://doi.org/10.1007/s10551-008-9878-x>.

teams. Moreover, empathy enables executives to better understand staff members' feelings, show interest in them and offer emotional support to achieve the organizational targets.²⁶⁹ Brown et al. (2010) found that personality traits such as empathy and narcissism are crucial qualities in making ethical decisions.²⁷⁰ Mahsud/Yukl/Prussia (2010) suggest that relations-oriented behaviour mediates leader empathy on leader-member exchange quality and partially mediates ethical leadership.²⁷¹ Research conducted by Wolff/Pescosolido/Druskat (2002) shows that empathy is the basis for cognitions and behaviours that foster leader emergence.²⁷² Kock et al. (2019) found that empathetic leaders significantly affect job satisfaction. The research shows that leaders who support psychological safety and understand the emotional needs of employees can increase the innovativeness of staff members.²⁷³ For Edmondson/Lei (2014), psychological safety is fundamental for workplace effectiveness and is highly important for the understanding of organizational learning.²⁷⁴ According to Holt/Marques (2012), the topic of empathy can no longer be ignored in organizations. It is highlighted that several companies are still conveying a picture that narcissism is required to be a successful leader in a vibrant business environment. Nevertheless, literature-based reflections show that individuals can learn empathy through formal and informal training, which will continue to be of the highest relevance in leadership throughout the 21st century.²⁷⁵

²⁶⁹ Polychroniou, P. V. (2009): Relationship between emotional intelligence and transformational leadership of supervisors: The impact on team effectiveness. *Team Performance Management*, Vol. 15, Issue 7/8, p. 352, DOI: <http://doi.org/10.1108/13527590911002122>.

²⁷⁰ Brown, T. A./Sautter, J. A./Littvay, L./Sautter, A. C./Bearnese, B. (2010): Ethics and Personality: Empathy and Narcissism as Moderators of Ethical Decision Making in Business Students. *Journal of Education for Business*, Vol. 85, Issue 4, p. 207, DOI: <https://doi.org/10.1080/08832320903449501>.

²⁷¹ Mahsud, R./Yukl, G./Prussia, G. (2010): Leader empathy, ethical leadership, and relations-oriented behaviors as antecedents of leader-member exchange quality. *Journal of Managerial Psychology*, Vol. 25, Issue 6, p. 571, DOI: <http://doi.org/10.1108/02683941011056932>.

²⁷² Wolff, S. B./Pescosolido, A. T./Druskat, V. U. (2002): Emotional intelligence as the basis of leadership emergence in self-managing teams. *The Leadership Quarterly*, Vol. 13, Issue 5, p. 518, DOI: [https://doi.org/10.1016/S1048-9843\(02\)00141-8](https://doi.org/10.1016/S1048-9843(02)00141-8).

²⁷³ Kock, N./Mayfield, M./Mayfield, J./Sexton, S./De La Garza, L. M. (2019): Empathetic Leadership: How Leader Emotional Support and Understanding Influences Follower Performance. *Journal of Leadership & Organizational Studies*, Vol. 26, Issue 2, pp. 228-229, DOI: <https://doi.org/10.1177/1548051818806290>.

²⁷⁴ Edmondson, A. C./Lei, Z. (2014): Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior*, Vol. 1, p. 36, DOI: <https://doi.org/10.1146/annurev-orgpsych-031413-091305>.

²⁷⁵ Holt, S./Marques, J. (2012): Empathy in Leadership: Appropriate or Misplaced? An Empirical Study on a Topic that is Asking for Attention. *Journal of Business Ethics*, Vol. 105, Issue 1, p. 104, DOI: <https://doi.org/10.1007/s10551-011-0951-5>.

Finally, empathy is a leader attitude that represents an essential interpersonal skill and conveys a feeling of being appreciated by the leader. Moreover, leaders who are highly empathetic demonstrate a high level of emotional intelligence. Empathy is seen as part of ethical leadership, as leaders aim at understanding individual needs. Leaders who show empathy towards their staff members convey a feeling that they are appreciated.

2.2.5 Leader attitude: trust

Literature highlights that trust is crucial in leadership.²⁷⁶ Research on trust between executives and subordinates originated in the 1970s when management science started examining how leaders can create good working relationships.²⁷⁷ However, definitions vary substantially depending on the concrete research field.²⁷⁸ From the theoretical point of view, Bligh (2017) mentions that trust is based on a dynamic and interpersonal relationship between individuals and defines the term „*as an expectation or belief that one can rely on another person's actions and words [...]*“.²⁷⁹ Similarly, Sabel (1993) describes trust as reciprocal confidence that all individuals involved within the exchange process will not take advantage of each other.²⁸⁰ For Zand (1997) trust is mainly based on information, influence and control. Specifically, executives convey trust towards their staff members by how they deal with information, share influence and exercise power.²⁸¹ Lewis/Weigert (1985) consider trust as essential in social relationships, which always contain risk and doubt.²⁸² Rotter (1967) highlights that trust represents a fundamental factor that embodies the basis for organizational efficiency, adjustment and the survival of social groups.²⁸³ From the trait

²⁷⁶ Bligh, M. C. (2017): Leadership and Trust. In: Marques, J./Dhiman, S. (Eds.): Leadership Today. Practices for Personal and Professional Performance. Springer International Publishing, Switzerland, p. 34.

²⁷⁷ Bligh, M. C. (2017): Leadership and Trust. In: Marques, J./Dhiman, S. (Eds.): Leadership Today. Practices for Personal and Professional Performance. Springer International Publishing, Switzerland, p. 23.

²⁷⁸ Simons, T. L. (1999): Behavioral integrity as a critical ingredient for transformational leadership. Journal of Organizational Change Management, Vol. 12, Issue 2, p. 92, DOI: <https://doi.org/10.1108/09534819910263640>.

²⁷⁹ Bligh, M. C. (2017): Leadership and Trust. In: Marques, J./Dhiman, S. (Eds.): Leadership Today. Practices for Personal and Professional Performance. Springer International Publishing, Switzerland, p. 22.

²⁸⁰ Sabel, C. F. (1993): Studied Trust: Building New Forms of Cooperation in a Volatile Economy. Human Relations, Vol. 46, Issue 9, p. 1133, DOI: <https://doi.org/10.1177%2F001872679304600907>.

²⁸¹ Zand, D. E. (1997): The Leadership Triad. Knowledge, Trust, and Power. Oxford University Press, New York, p. 91.

²⁸² Lewis, J. D./Weigert, A. (1985): Trust as a Social Reality. Social Forces, Vol. 63, Issue 4, p. 968, <https://www.jstor.org/stable/2578601>.

²⁸³ Rotter, J. B. (1967): A new scale for the measurement of interpersonal trust. Journal of Personality, Vol. 35, Issue 4, p. 651, DOI: <https://doi.org/10.1111/j.1467-6494.1967.tb01454.x>.

approach perspective, Martin (1998) emphasizes that leaders must possess certain characteristics to be able to develop a relationship with staff members and highlights that leaders must make the first move to give trust towards their staff members.²⁸⁴ Considering trust from the economic view, Ring/Van de Ven (1992) point out that trust is essential in every transaction in which a concurrent exchange is not possible for the involved parties.²⁸⁵ Blau (1964) holds the same view that social exchanges require trust and that trust is essential for transactions.²⁸⁶ Farris/Senner/Butterfield (1973) describe trust as an essential trait of individuals who communicate with the environment of a company.²⁸⁷ According to Bijlsma/Koopman (2003) the authors Dirks/Ferrin offered a first systematic attempt to examine the antecedents of trust in leadership.²⁸⁸ In this respect Dirks/Ferrin (2002) distinguish two major aspects that explain trust in the leadership process.²⁸⁹ On the one hand, scholars such as Konovsky/Pugh (1994) or Whitener et al. (1998) consider trust in leadership as a social exchange process.²⁹⁰ ²⁹¹ ²⁹² Burke et al. (2007) describe trust as an emergent state. It is stated that trust can be seen as input to communication or as the result of the interaction between leaders and followers. Consequently, Burke et al. (2007) highlight that trust can be developed or split based on certain interactions and connected to particular situations.²⁹³ In contrast another group of researchers describe trust as character

²⁸⁴ Martin, M. M. (1998): Trust Leadership. *The Journal of Leadership Studies*, Vol. 5, Issue 3, p. 43, DOI: <https://doi.org/10.1177%2F107179199900500304>.

²⁸⁵ Ring, P. S./Van de Ven, A. H. (1992): Structuring Cooperative Relationships between Organizations. *Strategic Management Journal*, Vol. 13, Issue 7, p. 488, <https://www.jstor.org/stable/2486599>.

²⁸⁶ Blau, P. M. (1964): *Exchange and Power in Social Life*. John Wiley & Sons, New York, p. 315.

²⁸⁷ Farris, G. F./Senner, E. E./Butterfield, D. A. (1973): Trust, Culture, and Organizational Behavior. *Industrial Relations: A Journal of Economy and Society*, Vol. 12, Issue 2, p. 145, DOI: <https://doi.org/10.1111/j.1468-232X.1973.tb00544.x>.

²⁸⁸ Bijlsma, K./Koopman, P. (2003): Introduction: trust within organisations. *Personnel Review*, Vol. 32, Issue 5, p. 548, DOI: <https://doi.org/10.1108/00483480310488324>.

²⁸⁹ Dirks, K. T./Ferrin, D. L. (2002): Trust in Leadership: Meta-Analytic Findings and Implications for Research and Practice. *Journal of Applied Psychology*, Vol. 87, Issue 4, p. 612, DOI: <https://doi.org/10.1037/0021-9010.87.4.611>.

²⁹⁰ Konovsky, M. A./Pugh, S. D. (1994): Citizenship behavior and social exchange. *Academy of Management Journal*, Vol. 37, Issue 3, pp. 657-658, <https://www.jstor.org/stable/256704>.

²⁹¹ Whitener, E. M./Brodt, S. E./Korsgaard, M. A./Werner, J. M. (1998): Managers as Initiators of Trust: An Exchange Relationship Framework for Understanding Managerial Trustworthy Behavior. *The Academy of Management Review*, Vol. 23, Issue 3, p. 525, <https://www.jstor.org/stable/259292>.

²⁹² Dirks, K. T./Ferrin, D. L. (2002): Trust in Leadership: Meta-Analytic Findings and Implications for Research and Practice. *Journal of Applied Psychology*, Vol. 87, Issue 4, p. 612, DOI: <https://doi.org/10.1037/0021-9010.87.4.611>.

²⁹³ Burke, C. S./Sims, D. E./Lazzara, E. H./Salas, E. (2007): Trust in leadership: A multi-level review and integration. *The Leadership Quarterly*, Vol. 18, Issue 6, p. 609, DOI: <https://doi.org/10.1016/j.leaqua.2007.09.006>.

based.²⁹⁴ For Sharkie (2009) trust can be traced back to the character of the superior, and employees derive inferences such as dependability and integrity out of their perceptions and use these characteristics as the basis for the growth of trust in their executives.²⁹⁵ Mayer/David/Schoorman (1995) developed a model that includes qualities of both the trustee and trustor. Specifically, the model separates trust from variables that contribute to trust and from its results of risk taking within relationships.²⁹⁶ Similarly, Cunningham/MacGregor (2000) divide trust in leaders into three components, namely predictability, benevolence and fairness. For Cunningham/MacGregor (2000), these three latent variables are essential for establishing a trusting working environment.²⁹⁷ From a behavioural point of view, trust and confidence were positively associated with perceived leadership behaviour.²⁹⁸ Considering further behavioural research on trust, De Cremer/Van Knippenberg (2005) found that trust by employees of their executives and identification with other individuals are essential to convert a leader's self-sacrifice into staff member cooperation.²⁹⁹ Additionally, meta-analytic findings demonstrate that trust in leadership has a positive impact on altruism, civic virtue, conscientiousness, courtesy and sportsmanship. The strongest impact of trust could be found in job satisfaction followed by organizational commitment.³⁰⁰ Management science assumed over a longer period of time that trust increases results for both employees and the organization. However, Frazier et al. (2010) found that trust in direct leaders has a stronger impact on performance achievements

²⁹⁴ Dirks, K. T./Ferrin, D. L. (2002): Trust in Leadership: Meta-Analytic Findings and Implications for Research and Practice. *Journal of Applied Psychology*, Vol. 87, Issue 4, p. 612, DOI: <https://doi.org/10.1037/0021-9010.87.4.611>.

²⁹⁵ Sharkie, R. (2009): Trust in leadership is vital for employee performance. *Management Research News*, Vol. 32, Issue 5, p. 494, DOI: <https://doi.org/10.1108/01409170910952985>.

²⁹⁶ Mayer, R. C./Davis, J. H./Schoorman, F. D. (1995): An Integrative Model of Organizational Trust. *The Academy of Management Review*, Vol. 20, Issue 3, p. 729, <https://www.jstor.org/stable/258792>.

²⁹⁷ Cunningham, J. B./MacGregor, J. (2000): Trust and the design of work: Complementary constructs in satisfaction and performance. *Human Relations*, Vol. 53, Issue 12, p. 1587, DOI: <https://doi.org/10.1177%2F00187267005312003>.

²⁹⁸ Jones, A. P./James, L. R./Bruni, J. R. (1975): Perceived Leadership Behavior and Employee Confidence in the Leader as Moderated by Job Involvement. *Journal of Applied Psychology*, Vol. 60, Issue 1, p. 148, DOI: <https://doi.org/10.1037/h0076359>.

²⁹⁹ De Cremer, D./Van Knippenberg, D. (2005): Cooperation as a function of leader self-sacrifice, trust, and identification. *Leadership & Organizational Development Journal*, Vol. 26, Issue 5, p. 363, DOI: <https://doi.org/10.1108/01437730510607853>.

³⁰⁰ Dirks, K. T./Ferrin, D. L. (2002): Trust in Leadership: Meta-Analytic Findings and Implications for Research and Practice. *Journal of Applied Psychology*, Vol. 87, Issue 4, p. 618, DOI: <https://doi.org/10.1037/0021-9010.87.4.611>.

than trust in distal authority figures.³⁰¹ From an organizational point of view, Mayer/Gavin (2005) could demonstrate that trust in management enables staff members to concentrate on duties that need to be carried out and to add further value to the company. According to Mayer/Gavin (2005), these findings support the clarification of inconsistent research studies in the past on trust and performance.³⁰² Following Chiaburu/Marinova (2006), both manager- and organization-directed trust have a positive impact on role enlargement for behaviours profiting other staff members and the company. In particular superiors who gain trust from their employees receive better role enlargement from staff members compared to superiors who are not trustworthy or who are trusted but lack interpersonal fairness competencies.³⁰³ Nichols/Cottrell (2014) postulate that individuals regularly demand particular core traits (e.g. trustworthiness) whereas other leader attitudes may depend on the leadership level.³⁰⁴

Considering trust from a general sociological perspective, Lewis/Weigert (1985) differentiate between cognitive, affective and behavioural trust. Cognitive trust is influenced by the assessment and circumstance of the individual and may vary among persons or institutions. In contrast affective trust consists of an emotional connection between all individuals who are part of the relationship,^{305 306} whereas behavioural trust is mutually related to cognitive and emotional domains. In this respect Lewis/Weigert (1985) further stress that emotional elements exist in all types of trust but are most present in interpersonal relationships.³⁰⁷ Further research conducted by McAllister (1995) focuses on

³⁰¹ Frazier, M. L./Johnson, P. D./Gavin, M./Gooty, J./Snow, D. B. (2010): Organizational Justice, Trustworthiness, and Trust: A Multifoci Examination. *Group & Organization Management*, Vol. 35, Issue 1, p. 68, DOI: <https://doi.org/10.1177%2F1059601109354801>.

³⁰² Mayer, R. C./Gavin, M. B. (2005): Trust in Management and Performance: Who Minds the Shop while the Employees Watch the Boss? *The Academy of Management Journal*, Vol. 48, Issue 5, p. 883, <https://www.jstor.org/stable/20159703>.

³⁰³ Chiaburu, D. S./Marinova, S. V. (2006): Employee role enlargement: Interactions of trust and organizational fairness. *Leadership & Organization Development Journal*, Vol. 27, Issue 3, p. 177, DOI: <https://doi.org/10.1108/01437730610657695>.

³⁰⁴ Nichols, A. L./Cottrell, C. A. (2014): What do people desire in their leaders? The role of leadership level on trait desirability. *The Leadership Quarterly*, Vol. 25, Issue 4, p. 713, DOI: <https://doi.org/10.1016/j.leaqua.2014.04.001>.

³⁰⁵ Lewis, J. D./Weigert, A. (1985): Trust as a Social Reality. *Social Forces*, Vol. 63, Issue 4, pp. 970-972, <https://www.jstor.org/stable/2578601>.

³⁰⁶ Chhetri, P. (2014): The role of cognitive and affective trust in the relationship between organizational justice and organizational citizenship behavior: A conceptual framework. *Business: Theory and Practice*, Vol. 15, Issue 2, p. 171, DOI: <http://dx.doi.org/10.3846/btp.2014.17>.

³⁰⁷ Lewis, J. D./Weigert, A. (1985): Trust as a Social Reality. *Social Forces*, Vol. 63, Issue 4, p. 971, <https://www.jstor.org/stable/2578601>.

the functioning of interpersonal trust among executives in companies. McAllister (1995) distinguishes between cognitive and affective trust. Overall, cognition-based trust revealed a greater significance than affect-based trust, which is consistent with the assumption that cognition-based trust is essential for affect-based trust to generate. Additionally, the research findings draw attention to the fact that each form of trust is based on a unique pattern and thus requires an individual consideration.³⁰⁸

To conclude this subchapter, trust is considered to be an indispensable leader attitude and a multidimensional construct. Trust represents the foundation of working relationships between leaders and followers and is essential to every business transaction. Moreover, trust conveys the feeling of being appreciated at work. Nevertheless, leaders or followers can also take advantage of trust for their own benefit and harm the human interaction. The following subchapter examines the leader attitude „motivation“ and highlights the relevance of this trait in the leadership process.

2.2.6 Leader attitude: motivation

In addition to trust, the literature considers motivation to be a key leadership trait.³⁰⁹ Research of employee motivation can be traced back to the Hawthorne experiments which took place between 1924 and 1933.³¹⁰ ³¹¹ The Hawthorne experiments made significant contributions to improving the understanding of organizational behaviour.³¹² Khuong/Hoang (2015) describe employee motivation as a major factor in gaining success and prosperity for organizations in the current competitive business environment.³¹³ For Latham (2012)

³⁰⁸ McAllister, D. J. (1995): Affect- and Cognition-Based Trust as Foundations for Interpersonal Cooperation in Organizations. *The Academy of Management Journal*, Vol. 38, Issue 1, p. 51, <https://www.jstor.org/stable/256727>.

³⁰⁹ Kirkpatrick, S. A./Locke, E. A. (1991): Leadership: do traits matter? *Academy of Management Executive*, Vol. 5, Issue 2, pp. 48-49, DOI: <https://doi.org/10.5465/ame.1991.4274679>.

³¹⁰ Sonnenfeld, J. A. (1985): Shedding Light on the Hawthorne Studies. *Journal of Occupational Behaviour*, Vol. 6, Issue 2, pp. 111-112, 114, <https://www.jstor.org/stable/3000246>.

³¹¹ Jensen, J. D. (2018): Employee Motivation: A Leadership Imperative. *International Journal of Business Administration*, Vol. 9, Issue 2, p. 93, DOI: <https://doi.org/10.5430/ijba.v9n2p93>.

³¹² Jensen, J. D. (2018): Employee Motivation: A Leadership Imperative. *International Journal of Business Administration*, Vol. 9, Issue 2, p. 93, DOI: <https://doi.org/10.5430/ijba.v9n2p93>.

³¹³ Khuong, M. N./Hoang, D. T. (2015): The Effects of Leadership Styles on Employee Motivation in Auditing Companies in Ho Chi Minh City, Vietnam. *International Journal of Trade, Economics and Finance*, Vol. 6, Issue 4, p. 210, DOI: <http://dx.doi.org/10.7763/IJTEF.2015.V6.471>.

motivation is an indispensable competency in leadership.³¹⁴ According to Pinder (2008) work motivation is defined as „*a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behavior, and to determine its form, direction, intensity, and duration.*“³¹⁵ Roßnagel (2017) considers motivating staff members to be a fundamental task of leaders and argues that motivation transfers employee expertise, skills and capabilities and facilitates work performance. The level of employee motivation affects the effort subordinates invest in their tasks.³¹⁶ For Locke/Latham (2004), motivation is mainly based on internal factors that cause action and external determinants that can be seen as incentive to actions. Locke/Latham (2004) highlight that motivation does not only influence the acquisition of new knowledge but also how and to what degree employees apply these skills.³¹⁷ In addition Latham/Locke (1991) significantly contributed to the goal-setting theory, which follows the assumption that conscious human behaviour is purposeful. The theory suggests that some staff members perform better than others due to diverse performance targets.³¹⁸ A second major perspective can be found in Vroom's expectancy theory, which is grounded in a comparison of results with preferences based on conduct. Consequently, individuals will assume a specific result if they conduct themselves in a particular way.³¹⁹ Finally, a further major motivation concept is based on Hackman and Oldham's job characteristic theory, which highlights that jobs can be divided into core dimensions, namely autonomy, variety, significance, feedback and identity. Jex/Britt (2014) mention that if employees perceive these dimensions as important, positive results such as high internal motivation will take place.³²⁰ Considering this issue from the goal-setting perspective, employees have the opportunity to reflect on their progress and adapt efforts

³¹⁴ Latham, G. P. (2012): *Work Motivation. History, Theory, Research, and Practice*. 2nd edition, Sage Publications, Thousand Oaks, p. 4.

³¹⁵ Pinder, C. C. (2008): *Work Motivation in Organizational Behavior*. Second Edition, Psychology Press, New York and Hove, p. 11.

³¹⁶ Roßnagel, C. S. (2017): *Leadership and Motivation*. In: Marques, J./Dhiman, S. (Eds.): *Leadership today. Practices for Personal and Professional Performance*. Springer, Switzerland, pp. 217-218.

³¹⁷ Locke, E. A./Latham, G. P. (2004): *What should we do about motivation theory? Six recommendations for the twenty-first century*. *Academy of Management Review*, Vol. 29, Issue 3, p. 388, <https://www.jstor.org/stable/20159050>.

³¹⁸ Latham, G. P./Locke, E. A. (1991): *Self-Regulation through Goal Setting*. *Organizational Behavior and Human Decision Processes*, Vol. 50, Issue 2, pp. 212-213, DOI: [https://doi.org/10.1016/0749-5978\(91\)90021-K](https://doi.org/10.1016/0749-5978(91)90021-K).

³¹⁹ Crowther, D./Green, M. (2004): *Organisational Theory*. Chartered Institute of Personnel and Development, London, p. 42.

³²⁰ Jex, S. M./Britt, T. W. (2014): *Organizational Psychology. A Scientist-Practitioner Approach*. Third Edition, John Wiley & Sons, New Jersey, p. 353.

and task strategies properly. Furthermore, Roßnagel (2017) highlights that systematic goal setting and feedback sessions are key tools for employee motivation. Moreover, rewards for outstanding work performance are seen as further motivation, an approach that follows from expectancy theory. Consequently, employees who have high expectancy beliefs are not sufficiently motivated if the outcome is seen as unachievable. Finally, the job characteristic theory assumes that superiors can facilitate the motivation of their staff members through the way they organize and structure work. Roßnagel (2017) concludes that leaders should take all these theories and tools into account to foster employee motivation.³²¹

A very prominent leadership style that fosters motivation can be found in transformational leadership.³²² For example Bronkhorst/Steijn/Vermeeren (2015) found that transformational leadership influences professional motivation.³²³ Additionally, research by Kim/Lee (2011) shows that transformational leadership facilitates intrinsic work motivation and the creative behaviour of staff members.³²⁴ It is further stated that transformational executives seem to intrinsically facilitate job satisfaction due to their ability to convey confidence and their value of occupational results. During the process of employee motivation, transformational leaders may support staff members in better recognizing their responsibilities and foster shared feelings.³²⁵ Similarly, Masi/Cooke (2000) conducted a study that also provides evidence that transformational leaders significantly affect employee motivation.³²⁶ For Bass (1997) inspirational motivation of leaders fosters optimism and enthusiasm in subordinates.³²⁷ More recent empirical studies, for example that conducted by Rawung (2013), show a positive relation between leadership and work motivation. It is argued that

³²¹ Roßnagel, C. S. (2017): Leadership and Motivation. In: Marques, J./Dhiman, S. (Eds.): Leadership today. Practices for Personal and Professional Performance. Springer, Switzerland, p. 219.

³²² Odumeru, J. A./Ifeanyi, G. O. (2013): Transformational vs. Transactional Leadership Theories: Evidence in Literature. International Review of Management and Business Research, Vol. 2, Issue 2, p. 356.

³²³ Bronkhorst, B./Steijn, B./Vermeeren, B. (2015): Transformational Leadership, Goal Setting, and Work Motivation: The Case of a Dutch Municipality. Review of Public Personnel Administration, Vol. 35, Issue 2, p. 139, DOI: <https://doi.org/10.1177%2F0734371X13515486>.

³²⁴ Kim, J.-G./Lee, S.-Y. (2011): Effects of transformational and transactional leadership on employees' creative behaviour: mediating effects of work motivation and job satisfaction. Asian Journal of Technology Innovation, Vol. 19, Issue 2, pp. 240-241, DOI: <https://doi.org/10.1080/19761597.2011.632590>.

³²⁵ Kim, J.-Gun/Lee, S.-Y. (2011): Effects of transformational and transactional leadership on employees' creative behaviour: mediating effects of work motivation and job satisfaction. Asian Journal of Technology Innovation, Vol. 19, Issue 2, p. 237, DOI: <https://doi.org/10.1080/19761597.2011.632590>.

³²⁶ Masi, R. J./Cooke, R. A. (2000): Effects of transformational leadership on subordinate motivation, empowering norms, and organizational productivity. The International Journal of Organizational Analysis, Vol. 8, Issue 1, p. 39, DOI: <https://doi.org/10.1108/eb028909>.

³²⁷ Bass, B. M. (1997): Personal Selling And Transactional/Transformational Leadership. The Journal of Personal Selling and Sales Management, Vol. 17, Issue 3, p. 22, <http://www.jstor.org/stable/20832520>.

leaders may have a substantial impact on individuals, groups and organizational results, and motivation is considered a crucial mechanism through which executives exercise their power. Rawung (2013) concludes that if superiors want to facilitate work-related results, they need to boost the motivation of their subordinates.³²⁸

In summary the leader trait „motivation“ is a crucial quality in numerous leadership theories (e.g., transformational leadership) and has been a topic of extensive research for decades. Leaders who motivate their staff members benefit from a higher willingness to work which also increases the working output of subordinates. Moreover, setting goals and conveying a feeling of appreciation towards staff members can boost motivation, which results in higher job satisfaction. The following subchapter deals with the leader attitude, „loyalty“, and outlines its relevance for leadership.

2.2.7 Leader attitude: loyalty

The topic of loyalty has gained significant attention in business ethics literature in the previous decades.³²⁹ Although several scholars have already focused on the concept of loyalty and its dimensions, it still remains insufficiently defined and examined by scientists.^{330 331 332 333} Therefore, it has become increasingly challenging to clearly understand what loyalty really is and how it can be determined. Specifically, results are contradictory regarding the presence or absence of this construct in companies and thus make it challenging to evaluate loyalty's conditions and consequences.³³⁴ Dienesch/Liden (1986) define loyalty as „*the expression of public support for the goals and the personal*

³²⁸ Rawung, F. H. (2013): The Effect of Leadership on the Work Motivation of Higher Education Administration Employees (Study at Manado State University). Journal of Business and Management, Vol. 15, Issue 1, p. 32.

³²⁹ Hart, D. W./Thompson, J. A. (2007): Untangling employee loyalty: A psychological contract perspective. Business Ethics Quarterly, Vol. 17, Issue 2, p. 297, DOI: <https://doi.org/10.5840/beq200717233>.

³³⁰ Coughlan, R. (2005): Employee Loyalty as Adherence to Shared Moral Values. Journal of Managerial Issues, Vol. 17, Issue 1, p. 43, <https://www.jstor.org/stable/40604474>.

³³¹ Hart, D. W./Thompson, J. A. (2007): Untangling employee loyalty: A psychological contract perspective. Business Ethics Quarterly, Vol. 17, Issue 2, p. 297, DOI: <https://doi.org/10.5840/beq200717233>.

³³² Elegido, J. M. (2013): Does It Make Sense to Be a Loyal Employee? Journal of Business Ethics, Vol. 116, Issue 3, p. 496, DOI: <https://doi.org/10.1007/s10551-012-1482-4>.

³³³ Rosans, J. M./Velilla, M. (2003): Loyalty and Trust as the Ethical Bases of Organizations. Journal of Business Ethics, Vol. 44, Issue 1, p. 50, DOI: <https://doi.org/10.1023/A:1023238525433>.

³³⁴ Coughlan, R. (2005): Employee Loyalty as Adherence to Shared Moral Values. Journal of Managerial Issues, Vol. 17, Issue 1, p. 44, <https://www.jstor.org/stable/40604474>.

character of the other member [...].³³⁵ A more comprehensive definition of the concept of loyalty is suggested by Coughlan (2005), who describes loyalty as *„reflected in behavior that can be tied to an implicit promise, voluntarily made by an individual operating in a community of interdependent others, to adhere to universalizable moral principles in pursuit of individual and collective goals“*.³³⁶ A definition of loyalty regarding the relationship between employees and employer is offered by Elegido (2013), who defines loyalty as *„a deliberate commitment to further the best interests of one's employer, even when doing so may demand sacrificing some aspects of one's self-interest beyond what would be required by one's legal and other moral duties“*.³³⁷ For Randels (2001) loyalty is frequently seen as a form of duty that staff members owe a company or is considered to be a part of virtue. It is argued that loyalty is related to both of these previously outlined issues, which means that loyal individuals carry out specific tasks and have certain virtues. Randels (2001) describes the construct as complex, encompassing passion and character traits like commitment. Regarding the applicability of loyalty in companies, contrary views can be found in the literature.³³⁸ For example Duska (2007) postulates that employees do not have to be loyal to organizations and argues that organizations are not the appropriate target objects of loyalty. To consider organizations as objects of loyalty, it is necessary to give them a moral status, which consequently leads to a reduction of the status of the employees working for and in the organization.³³⁹

In contrast Randels (2001) highlights that organizations can be objects of loyalty and refers to tasks that require loyalty.³⁴⁰ Empirical research shows that employee loyalty significantly affects the profitability of companies.³⁴¹ The complexity of the construct of „loyalty“ is

³³⁵ Dienesch, R. M./Liden, R. C. (1986): Leader-Member Exchange Model of Leadership: A Critique and Further Development. *Academy of Management Review*, Vol. 11, Issue 3, p. 625, DOI: <https://doi.org/10.2307/258314>.

³³⁶ Coughlan, R. (2005): Employee Loyalty as Adherence to Shared Moral Values. *Journal of Managerial Issues*, Vol. 17, Issue 1, pp. 46-47, <https://www.jstor.org/stable/40604474>.

³³⁷ Elegido, J. M. (2013): Does It Make Sense to Be a Loyal Employee? *Journal of Business Ethics*, Vol. 116, Issue 3, p. 496, DOI: <https://doi.org/10.1007/s10551-012-1482-4>.

³³⁸ Randels, G. D. (2001): Loyalty, Corporations, and Community. *Business Ethics Quarterly*, Vol. 11, Issue 1, pp. 28-29, DOI: <https://doi.org/10.2307/3857867>.

³³⁹ Duska, R. F. (2007): *Contemporary Reflections on Business Ethics*. Springer, Dordrecht, pp. 140-141.

³⁴⁰ Randels, G. D. (2001): Loyalty, Corporations, and Community. *Business Ethics Quarterly*, Vol. 11, Issue 1, p. 29, DOI: <https://doi.org/10.2307/3857867>.

³⁴¹ Yee, R. W. Y./Yeung, A. C. L./Cheng, T. C. E. (2010): An empirical study of employee loyalty, service quality and firm performance in the service industry. *International Journal of Production Economics*, Vol. 124, Issue 1, p. 116, DOI: <https://doi.org/10.1016/j.ijpe.2009.10.015>.

shown in the research of Kot-Radojewska/Timenko (2018). In particular it could be argued that the type of work contract affects the level of loyalty an employee has towards their employer. Employees with open-ended employment contracts showed a higher loyalty towards their employer compared to employees who have fixed-term contracts.³⁴² According to Mele (2001) the underrepresentation of loyalty within organizations is accompanied by impacts on the individuals involved. Specifically, a lack of loyalty negatively affects the cohesion of the organizational community, and thus it is concluded that loyalty is a vital quality in business contexts.³⁴³ Research by Wang/Lu/Liu (2017) found a positive relation between ethical leadership and loyalty to executives.³⁴⁴

Ultimately, loyalty between staff members and leaders is fundamental for business relationships. Nevertheless, the underlying literature review demonstrates that some researchers believe that loyalty can only be addressed to humans and not to companies. The leader attitude of loyalty is also part of ethical leadership and significantly affects the stability of working relationships and the organizational performance. Moreover, loyalty conveys the feeling of being part of a team and appreciation. In the next subchapter, the author examines the role of openness between leaders and staff members.

2.2.8 Leader attitude: openness

According to Judge et al. (2002) the leader trait „openness“ is not well examined.³⁴⁵ Judge/Bono (2000) define openness to experience as „*the tendency to be creative, imaginative, perceptive, and thoughtful*“.³⁴⁶ The result from the meta-analysis performed by Feist (1998) demonstrates that creative individuals are, amongst other qualities, more open

³⁴² Kot-Radojewska, M./Timenko, I. V. (2018): Employee loyalty to the organization in the context of the form of employment. *Oeconomia Copernicana*, Vol. 9, Issue 3, pp. 520-521, DOI: <https://doi.org/10.24136/oc.2018.026>.

³⁴³ Mele, D. (2001): Loyalty in Business: Subversive doctrine or real need? *Business Ethics Quarterly*, Vol. 11, Issue 1, p. 21, DOI: <https://doi.org/10.2307/3857866>.

³⁴⁴ Wang, H./Lu, G./Liu, Y. (2017): Ethical Leadership and Loyalty to Supervisor in China: The Roles of Interactional Justice and Collectivistic Orientation. *Journal of Business Ethics*, Vol. 146, Issue 3, p. 538, DOI: <https://doi.org/10.1007/s10551-015-2916-6>.

³⁴⁵ Judge, T. A./Bono, J. E./Ilies, R./Gerhardt, M. W. (2002): Personality and Leadership: A Qualitative and Quantitative Review. *Journal of Applied Psychology*, Vol. 87, Issue 4, p. 773, DOI: <https://doi.org/10.1037/0021-9010.87.4.765>.

³⁴⁶ Judge, T. A./Bono, J. E. (2000): Five-Factor Model of Personality and Transformational Leadership. *Journal of Applied Psychology*, Vol. 85, Issue 5, p. 752, DOI: <http://dx.doi.org/10.1037/0021-9010.85.5.751>.

to new experience, showing a large effect size.³⁴⁷ McCrae (1987) found that divergent thinking abilities are associated with openness. The results support the assumption that openness to experience and creativity are related.³⁴⁸ Similarly, Zhao/Seibert (2006) found that the variable of openness combines several traits, such as imagination, creativity, intuition and independence of judgement.³⁴⁹ Colbert/Barrick/Bradley (2014) report that leaders who show openness to experience towards their staff members are creative, visionary and open to new approaches for how to tackle tasks.³⁵⁰ The study performed by George/Zhou (2001) shows that openness to experience may foster creative behaviour.³⁵¹ Moreover, George/Zhou (2001) postulate that individuals who show a high level of openness to experience may have a wider spectrum of experience and thus demonstrate a higher potential for optimizing the status quo. On the other hand, employees who show weak characteristics of openness to experience prefer avoiding uncertainty.³⁵² Moreover, subordinates with a high level of openness to experience tend to quit their jobs more frequently than others.³⁵³ Judge/Bono (2000) found that openness to experience significantly correlates with transformational leadership.³⁵⁴ Zopiatis/Constanti (2012) came to the same research results, indicating that transformational leadership positively correlates, amongst other variables, with openness.³⁵⁵ Nieß/Zacher (2015) found that openness to experience represents a crucial factor in receiving higher work positions. It can

³⁴⁷ Feist, G. J. (1998): A Meta-Analysis of Personality in Scientific and Artistic Creativity. *Personality and Social Psychology Review*, Vol. 2, Issue 4, p. 299, DOI: https://doi.org/10.1207/s15327957pspr0204_5.

³⁴⁸ McCrae, R. R. (1987): Creativity, Divergent Thinking, and Openness to Experience. *Journal of Personality and Social Psychology*, Vol. 52, Issue 6, p. 1263, DOI: <http://dx.doi.org/10.1037/0022-3514.52.6.1258>.

³⁴⁹ Zhao, H./Seibert, S. E. (2006): The Big Five Personality Dimensions and Entrepreneurial Status: A Meta-Analytical Review. *Journal of Applied Psychology*, Vol. 91, Issue 2, p. 266, DOI: <http://dx.doi.org/10.1037/0021-9010.91.2.259>.

³⁵⁰ Colbert, A. E./Barrick, M. R./Bradley, B. H. (2014): Personality and Leadership Composition in Top Management Teams: Implications for Organizational Effectiveness. *Personnel Psychology*, Vol. 67, Issue 2, p. 364, DOI: <https://doi.org/10.1111/peps.12036>.

³⁵¹ George, J. M./Zhou, J. (2001): When Openness to Experience and Conscientiousness Are Related to Creative Behavior: An Interactional Approach. *Journal of Applied Psychology*, Vol. 86, Issue 3, p. 520, DOI: <http://doi.org/10.1037/0021-9010.86.3.513>.

³⁵² George, J. M./Zhou, J. (2001): When Openness to Experience and Conscientiousness Are Related to Creative Behavior: An Interactional Approach. *Journal of Applied Psychology*, Vol. 86, Issue 3, p. 514, DOI: <http://doi.org/10.1037/0021-9010.86.3.513>.

³⁵³ Woo, S. E. (2011): A study of Ghiselli's hobo syndrome. *Journal of Vocational Behavior*, Vol. 79, Issue 2, p. 468, DOI: <https://doi.org/10.1016/j.jvb.2011.02.003>.

³⁵⁴ Judge, T. A./Bono, J. E. (2000): Five-Factor Model of Personality and Transformational Leadership. *Journal of Applied Psychology*, Vol. 85, Issue 5, p. 761, DOI: <http://dx.doi.org/10.1037/0021-9010.85.5.751>.

³⁵⁵ Zopiatis, A./Constanti, P. (2012): Extraversion, openness and conscientiousness. The route to transformational leadership in the hotel industry. *Leadership & Organization Development Journal*, Vol. 33, Issue 1, p. 94, DOI: <http://doi.org/10.1108/01437731211193133>.

be argued that this is caused by openness to experience being related to intellectual ability and flexibility, divergent thinking and the development of novel ideas, which are beneficial qualities in leading positions.³⁵⁶ A study performed by Hachana/Berraies/Ftiti (2018) found that openness to experience is the strongest predictor of entrepreneurial success. According to Hachana/Berraies/Ftiti (2018), successful entrepreneurs need to demonstrate openness in order to perceive changing situations and to solve problems. Therefore, Hachana/Berraies/Ftiti (2018) conclude that openness is a vital trait for being a successful entrepreneur.³⁵⁷

In conclusion the leader trait „openness“ is described as a fundamental leadership quality, as it fosters creativity and innovation and allows staff members to develop a wider spectrum of ideas. Nevertheless, previous research primarily examined openness in isolation without analysing cause-effect relationships thoroughly. The literature review shows that openness of employees boosts company success and working behaviour. The following subchapter summarizes the main findings from the content analyses and gives a detailed overview of the relative frequency of the identified leader attitudes that serve as independent variables in this thesis.

2.3 Summary and concluding results of content analyses

The aim of this chapter was to identify the most frequently examined and discussed leader attitudes in the academic literature. Therefore, the author performed content analyses (frequency analyses) with manifest and latent coding. In total the author used 91 academic sources ranging from the years 1948 to 2020, of which 85 sources were academic journals and 6 sources represented academic books. This time span and the number of articles were essential to thoroughly analyse and consider the progress in research and to avoid one-sided considerations. The following figure summarizes the results from the content analyses, which serve as independent variables in this research work.

³⁵⁶ Nieß, C./Zacher, H. (2015): Openness to Experience as a Predictor and Outcome of Upward Job Changes into Managerial and Professional Positions. *PLoS ONE*, Vol. 10, Issue 6, p. 15, DOI: <https://dx.doi.org/10.1371/journal.pone.0131115>.

³⁵⁷ Hachana, R./Berraies, S./Ftiti, Z. (2018): Identifying personality traits associated with entrepreneurial success: does gender matter? *Journal of Innovation Economics & Management*, Vol. 27, Issue 3, p. 185, DOI: <http://doi.org/10.3917/jie.027.0169>.

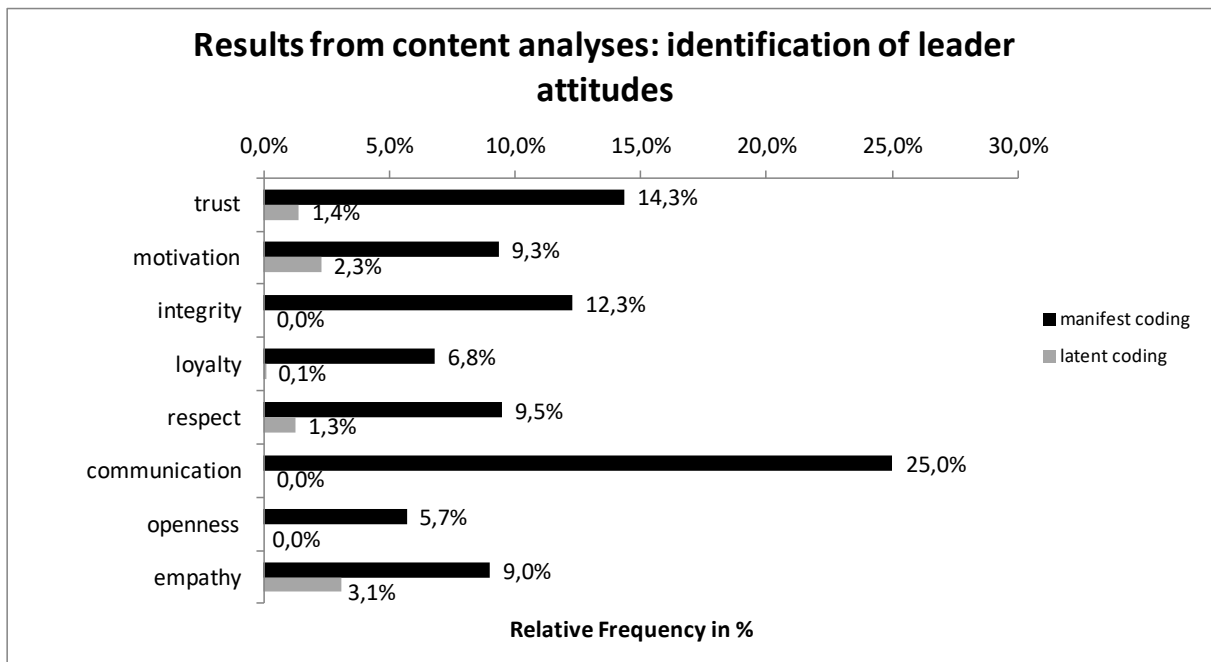


Figure 13: Results from content analyses: identification of leader attitudes (independent variables)

Source: author, based on Chapter 2 of the dissertation

The results offer the first insights into the relevance of leader attitudes and show that certain leader attitudes are mentioned and discussed more frequently than others in the academic literature. This allows the author to draw a first conclusion that certain leader attitudes are better researched. Simultaneously, the content analyses approach answers the first research question underlying this doctoral thesis, which is how leader attitudes can be identified.

According to Bono/Judge (2004), a PsycINFO request showed that 1,738 of the 15,000 publications (which accounts for 12%) contain the keywords „personality“ and „leadership“. Thus, it can be argued that researchers still have a strong interest in examining the dispositions of leaders.³⁵⁸ In this respect Judge et al. (2002) highlight that a major issue in leadership research is a lack of structure in examining concrete traits, as previous research has frequently analysed traits under different labels.³⁵⁹ Thus, research in leadership can be described as contradictory and fragmented, and it has not been conducted in a uniform framework, which represented a further reason to perform a content analysis. With the

³⁵⁸ Bono, J. E./Judge, T. A. (2004): Personality and Transformational and Transactional Leadership: A Meta-Analysis. *Journal of Applied Psychology*, Vol. 89, Issue 5, p. 901, DOI: <http://doi.org/10.1037/0021-9010.89.5.901>.

³⁵⁹ Judge, T. A./Bono, J. E./Ilies, R./Gerhardt, M. W. (2002): Personality and Leadership: A Qualitative and Quantitative Review. *Journal of Applied Psychology*, Vol. 87, Issue 4, p. 766, DOI: <https://doi.org/10.1037/0021-9010.87.4.765>.

identification of eight leader attitudes in total, the author has developed the research model to examine the impact of leader attitudes (independent variables) affecting the innovative work behaviour (dependent variable) of employees in real estate development companies.

Finally, to the knowledge of the author no previous research has examined how these eight independent variables are related to each other and how they affect the innovative work behaviour (dependent variable) of employees working in real estate development companies (research gap). Chapter 3 is therefore aimed at researching these relationships from the scientific perspective.

3. EMPIRICAL STUDIES OF LEADER ATTITUDES AFFECTING INNOVATIVE WORK BEHAVIOUR OF EMPLOYEES IN REAL ESTATE DEVELOPMENT COMPANIES

The previous chapter examined and identified leader attitudes by performing a content analysis. This chapter is aimed at analysing which and to what extent leader attitudes affect the innovative work behaviour of employees in real estate development companies. Therefore, the author develops the research model, the main hypothesis, the sub-hypotheses and the methodology and applies a variety of statistical tests. In particular the author conducts two further empirical studies to support or reject the main hypothesis.

3.1 Research model development

Figure 14 illustrates the research model and is based on the research results from Chapters 1 and 2 of this thesis. In Chapter 1, the author discussed the theoretical principles of innovation management and leadership and outlined the relevance for the trait approach. To identify leader attitudes, the author performed a content analysis (frequency analysis) in Chapter 2. Based on these results, the author has been able to develop the research model.

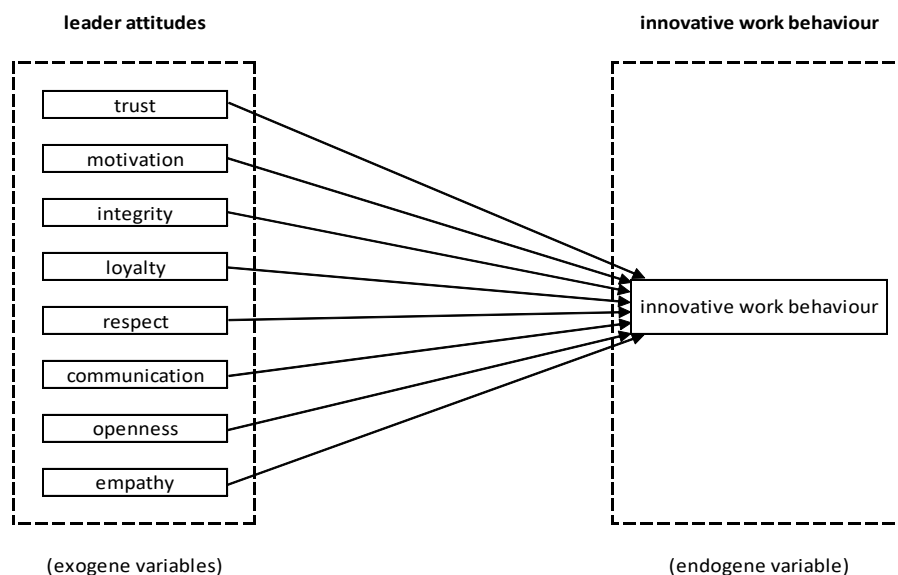


Figure 14: Research model

Source: author's development based on Chapters 1 and 2 of the dissertation

Figure 14 illustrates the relationship between leader attitudes and innovative work behaviour. The research model includes eight independent variables, which are defined as leader attitudes and one dependent variable labelled as innovative work behaviour. The following two subchapters describe and explain the main hypothesis and sub-hypotheses in detail.

3.1.1 Formulation of main hypothesis and research questions

The aim of this doctoral thesis is to investigate which and to what extent leader attitudes affect the innovative work behaviour of employees in real estate development companies. In this respect, eight independent variables were identified that will be tested statistically to determine how the dependent variable is affected.

According to Ebster/Stalzer (2017), hypotheses and research questions should always be discussed and presented simultaneously with the research gap.³⁶⁰ The research questions contribute to the exploration of new conditions and to the development of new theories.³⁶¹ Thus, research questions enable the researcher to define criteria within the research work and set the direction for research decisions.³⁶²

Consequently, the author has formulated the following research questions:

1. How can leader attitudes be identified?
2. Which leader attitudes contribute to innovative work behaviours in real estate development companies?
3. Do certain leader attitudes contribute more than others to innovative work behaviours of employees in real estate development companies?

Thus, the main hypothesis for the dissertation is formulated as follows:

H₀: Leader attitudes have an impact on the innovative work behaviour of employees in real estate development companies

³⁶⁰ Ebster, C./Stalzer, L. (2017): *Wissenschaftliches Arbeiten für Wirtschafts- und Sozialwissenschaftler*. 5., überarbeitete und erweiterte Auflage, facultas, Wien, p. 157.

³⁶¹ Döring, N./Bortz, J. (2016): *Forschungsmethoden und Evaluation in den Sozial- und Humanwissenschaften*. 5. vollständig überarbeitete, aktualisierte und erweiterte Auflage, Springer Verlag, Berlin Heidelberg, p. 146.

³⁶² Weischer, C. (2007): *Sozialforschung*. UKV Verlagsgesellschaft, Konstanz, p. 119.

The exogenous construct „leader attitudes“ consists of eight latent independent variables. The thesis examines which and to what extent the independent latent variables affect the latent endogene variable defined as innovative work behaviour.

The following subchapter explains sub-hypotheses developments with a systematic and detailed approach.

3.1.2 Formulation of sub-hypotheses

In the previous subchapter, the author formulated the main hypothesis for the overall dissertation. Based on the content analysis performed in Chapter 2, the author is now able to develop the sub-hypotheses for the research work. Subsequently, the sub-hypotheses will be formulated, explained and defined:

The first sub-hypothesis examines how trust giving from leaders affects the innovative work behaviour of employees in real estate development companies. Trust is defined „*as an expectation or belief that one can rely on another person's actions and words and that the person has good intentions to carry out their promises*“.³⁶³

H₀₁: Trust of leaders has an impact on the innovative work behaviour of employees in real estate development companies.

The second sub-hypothesis formulated in this dissertation examines how the motivation of leaders influences the innovative work behaviour of employees in real estate development companies. Here, work motivation is defined as „*a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behavior, and to determine its form, direction, intensity, and duration*“.³⁶⁴

H₀₂: Motivation of leaders has an impact on the innovative work behaviour of employees in real estate development companies.

The third sub-hypothesis explores the relationship between the integrity of leaders and the innovative work behaviour of employees working in real estate development companies.

³⁶³ Bligh, M. C. (2017): Leadership and Trust. In: Marques, J./Dhiman, S. (Eds.): Leadership Today. Practices for Personal and Professional Performance. Springer International Publishing, Switzerland, p. 22. Annotation: This definition was used for the expert surveys in English and German (see appendices 4-5).

³⁶⁴ Pinder, C. C. (2008): Work Motivation in Organizational Behavior. Second Edition, Psychology Press, New York and Hove, p. 11. Annotation: This definition was used for the expert surveys in English and German (see appendices 4-5).

A leader with integrity „communicates in an open and honest way, keeps promises and commitments, acts in ways that are consistent with espoused values, admits and accepts responsibility for mistakes, does not attempt to manipulate or deceive people“.³⁶⁵

H₀₃: Integrity of leaders has an impact on the innovative work behaviour of employees in real estate development companies.

The fourth sub-hypothesis is aimed at analysing how the loyalty of leaders affects the innovative work behaviour of employees in real estate development companies. Loyalty is „the expression of public support for the goals and the personal character of the other member [...]“.³⁶⁶

H₀₄: Loyalty of leaders has an impact on the innovative work behaviour of employees in real estate development companies.

The fifth sub-hypothesis investigates if respect of leaders influences the innovative work behaviour of employees in real estate development companies. Respect is defined „as a person's attitude towards other people, in whom he/she sees a reason that, in itself, justifies a degree of attention and a type of behavior that in return engenders in the target a feeling of being appreciated in importance and worth as a person“.³⁶⁷

H₀₅: Respect of leaders has an impact on the innovative work behaviour of employees in real estate development companies.

The sixth sub-hypothesis examines whether communication between leaders and followers affects the innovative work behaviour of employees in real estate development companies. Communication is defined here as the „interchange of thought or information between two or more persons to bring about mutual understanding and desired action“.³⁶⁸

³⁶⁵ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 336. Annotation: This definition was used for the expert surveys in English and German (see appendices 4-5).

³⁶⁶ Dienesch, R. M./Liden, R. C. (1986): Leader-Member Exchange Model of Leadership: A Critique and Further Development. Academy of Management Review, Vol. 11, Issue 3, p. 625, DOI: <https://doi.org/10.2307/258314>. Annotation: This definition was used for the expert surveys in English and German (see appendices 4-5).

³⁶⁷ Van Quaquebeke, N./Eckloff, T. (2010): Defining Respectful Leadership: What It Is, How It Can Be Measured, and Another Glimpse at What It Is Related to. Journal of Business Ethics, Vol. 91, Issue 3, p. 344, DOI: <https://doi.org/10.1007/s10551-009-0087-z>. Annotation: This definition was used for the expert surveys in English and German (see appendices 4-5).

³⁶⁸ Bisen, V./Priya (2009): Business Communication. New Age International Publishers, New Delhi, p. 2. Annotation: This definition was used for the expert surveys in English and German (see appendices 4-5).

H₀₆: Leader communication has an impact on the innovative work behaviour of employees in real estate development companies.

The seventh sub-hypothesis is aimed at analysing the relationship between openness of leaders and the innovative work behaviour of employees in real estate development companies. Openness is defined as „*the tendency to be informed, creative, insightful, and curious*“.³⁶⁹

H₀₇: Openness of leaders has an impact on the innovative work behaviour of employees in real estate development companies.

The final sub-hypothesis explores how the empathy of leaders affects the innovative work behaviour of employees in real estate development companies. Empathy is defined as the „*[...] ability to anticipate and share others' emotional states [...]*“.³⁷⁰

H₀₈: Empathy of leaders has an impact on the innovative work behaviour of employees in real estate development companies.

After having formulated the sub-hypotheses, the author has developed the research design, which explains further steps to be executed to answer the hypotheses and research questions.

3.2 Research design

According to Döring/Bortz (2016), a research design explains the methodical approach of a research work.³⁷¹ For Bryman/Bell (2015), a research design serves as framework for how to capture and evaluate data. In particular the research design demonstrates the decisions made by the researcher and outlines the research process.³⁷² Abutabenjeh/Jaradat (2018) describe the development of a research design as the foundation to conduct studies in a

³⁶⁹ Northouse, P. G. (2016): Leadership. Theory and Practice. Seventh Edition, Sage Publications, Thousand Oaks, p. 27.

Annotation: This definition was used for the expert surveys in English and German (see appendices 4-5).

³⁷⁰ Pelligra, V. (2011): Empathy, Guilt-Aversion, and Patterns of Reciprocity. Journal of Neuroscience, Psychology, and Economics, Vol. 4, Issue 3, p. 170, DOI: <http://dx.doi.org/10.1037/a0024688>.

Annotation: This definition was used for the expert surveys in English and German (see appendices 4-5).

³⁷¹ Döring, N./Bortz, J. (2016): Forschungsmethoden und Evaluation in den Sozial- und Humanwissenschaften. 5. vollständig überarbeitete, aktualisierte und erweiterte Auflage, Springer Verlag, Berlin Heidelberg, p. 182.

³⁷² Bryman, A./Bell, E. (2015): Business Research Methods. Fourth Edition, Oxford University Press, Oxford, p. 49.

variety of academic disciplines.³⁷³ Consequently, the following table illustrates and summarizes the research design for the overall empirical study.

Methodological approach	Research design
Research method	Quantitative study
Type of study	Empirical study
Data collection	Primary data
Type and scope of research	Explanatory research
Survey approach	Sample study
Degree of structuring	High

Table 2: Research design for empirical study

Source: author's compilation

Table 2 shows that the employee and expert studies underlie a quantitative paradigm. It is argued that quantitative studies allow researchers to statistically analyse the research results.³⁷⁴ The questionnaires are highly structured and allow the author to empirically gain insights into the relationship between leader attitudes and innovative work behaviour by collecting primary data from the sample.

The following subchapter outlines the method and relevance of the development and calculation of structural equation modeling (SEM) for the employee study to examine the relationship between leader attitudes and innovative work behaviour.

3.3 Research method: development and calculation of structural equation modeling

Structural equation modeling enables the researcher to test the research model statistically with latent variables to examine if the hypothesized model is consistent with the collected data. If the goodness-of-fit is sufficient, the research model can be used to explain the postulated relations of the latent variables.³⁷⁵ For Hair et al. (2014) the structural equation

³⁷³ Abutabenjeh, S./Jaradat, R. (2018): Clarification of research design, research methods, and research methodology: A guide for public administration researchers and practitioners. *Teaching Public Administration*, Vol. 36, Issue 3, p. 237, DOI: <https://doi.org/10.1177/0144739418775787>.

³⁷⁴ Bortz, J./Döring, N. (2006): *Forschungsmethoden und Evaluation für Human- und Sozialwissenschaftler*. 4., überarbeitete Auflage, Springer Medizin Verlag, Heidelberg, S. 751.

³⁷⁵ Byrne, B. M. (2010): *Structural Equation Modeling with AMOS. Basic Concepts, Applications, and Programming*. Second Edition, Taylor & Francis, New York, p. 3.

modeling has become the prevailing statistical method for assessing cause-effect relationships with constructs.³⁷⁶ In particular structural equation modeling is a statistical procedure that has been applied frequently in a variety of academic disciplines, such as psychological, social and behavioural sciences.³⁷⁷ Researchers usually analyse multifaceted constructs such as behaviours, attitudes or cognitions that can neither be perceived straightforwardly nor measured precisely with a single item. Consequently, the measurement of these latent variables generally requires a variety of indicators to examine the assumptions thoroughly. In this respect structural equation modeling is strongly advisable for analysing complex structures.³⁷⁸ Specifically, structural equation modeling is a multivariate statistical approach that examines and assesses linear and causal relations between independent and dependent variables by using an equation estimation procedure.³⁷⁹ The term „latent variable“ originates from the Latin word „present participle of lateo“ and means that the variable cannot be perceived directly and needs to be measured from directly observable and measurable variables.³⁸⁰ Moreover, structural equation modeling considers various forms of measurement errors and is able to examine theories that make these research instruments applicable for a variety of research issues.³⁸¹ Structural equation modeling contains two major elements of procedures, namely the causal relationships executed by a series of structural equations and the structural relations that provide insights into the conceptualization of the theory to be examined.³⁸² Figure 15 illustrates the developed structural equation modeling for the research.

³⁷⁶ Hair, J. F. Jr/Sarstedt, M./Hopkins, L./Kuppelwieser, V. G. (2014): Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, Vol. 26, Issue 2, p. 116, DOI: <https://doi.org/10.1108/EBR-10-2013-0128>.

³⁷⁷ Bentler, P. M./Yuan, K.-H. (1999): Structural Equation Modeling with Small Samples: Test Statistics. *Multivariate Behavioral Research*, Vol. 34, Issue 2, p. 181, DOI: <https://doi.org/10.1207/S15327906Mb340203>.

³⁷⁸ Bowen, N. K./Guo, S. (2012): *Structural Equation Modeling*. Oxford University Press, New York, p. 3.

³⁷⁹ Babin, B. J./Svensson, G. (2012): Structural equation modeling in social science research. Issues of validity and reliability in the research process. *European Business Review*, Vol. 24, Issue 4, p. 321, DOI: <https://doi.org/10.1108/09555341211242132>.

³⁸⁰ Cepeda-Carrion, G./Cegarra-Navarro, J.-G./Cillo, V. (2019): Tips to use partial least squares structural equation modelling (PLS-SEM) in knowledge management. *Journal of Knowledge Management*, Vol. 23, Issue 1, p. 67, DOI: <https://doi.org/10.1108/JKM-05-2018-0322>.

³⁸¹ Henseler, J./Hubona, G./Ray, P. A. (2016): Using PLS path modeling in new technology research: updated guidelines. *Industrial Management & Data Systems*, Vol. 116, Issue 1, p. 2, DOI: <https://doi.org/10.1108/IMDS-09-2015-0382>.

³⁸² Byrne, B. M. (2010): *Structural Equation Modeling with AMOS. Basic Concepts, Applications, and Programming*. Second Edition, Taylor & Francis, New York, p. 3.

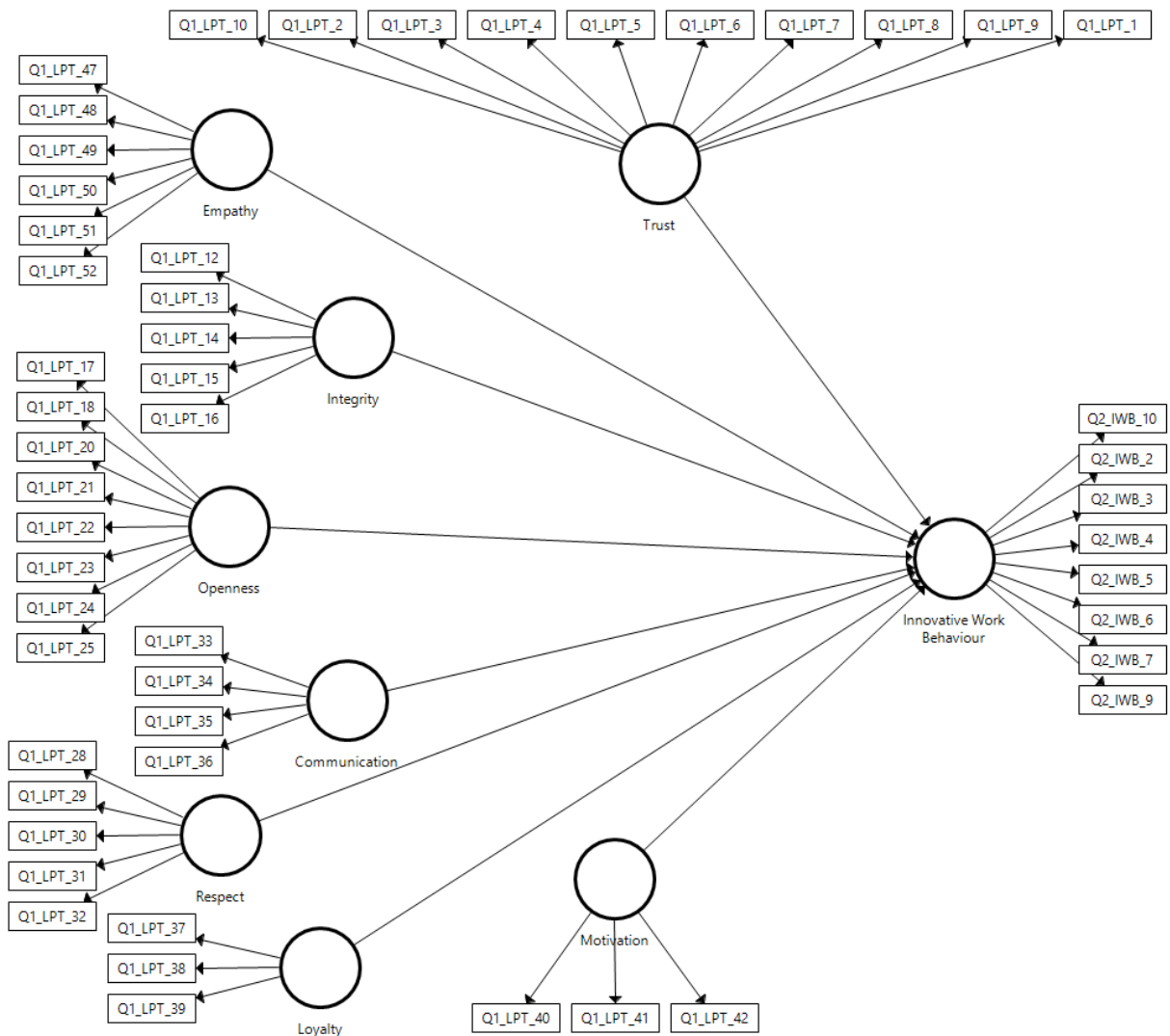


Figure 15: Structural equation modeling of the research model

Source: author's compilation developed with SmartPLS

In general two major applications for calculating a structural equation modeling can be found in the literature, namely a covariance-based SEM (CB-SEM) approach and the variance-based partial least squares SEM (PLS-SEM) method.^{383 384} For Henseler/Hubona/Ray (2016), the difference between the approaches is that covariance-based SEM assesses the parameters by applying an empirical variance-covariance matrix and is recommended for theoretical research models that include one or more common factors. The variance-based SEM, on the other hand, develops proxies that operate as linear combinations of observable variables. Consequently, the model parameters are estimated

³⁸³ Hair, J. F./Ringle, C. M./Sarstedt, M. (2011): PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, Vol. 19, Issue 2, p. 139, DOI: <https://doi.org/10.2753/MTP1069-6679190202>.

³⁸⁴ Hair, J. F. Jr/Sarstedt, M./Hopkins, L./Kuppelwieser, V. G. (2014): Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, Vol. 26, Issue 2, pp. 106-107, DOI: <https://doi.org/10.1108/EBR-10-2013-0128>.

by using proxies. In general the variance-based SEM can be considered the preferred approach if the theoretical model includes composites.³⁸⁵ Additionally, the application of PLS-SEM is recommended in research situations in which the theory to be examined is not well developed and the researcher attaches importance to prediction and the explanation of the dependent variables. The PLS-SEM operates with an ordinary least squares regression-based method and calculates the path relations to reduce error terms.³⁸⁶ The PLS-SEM is recommended when researchers have small sample sizes.³⁸⁷ In particular Reinartz/Haenlein/Henseler (2009) demonstrate in their simulations that 100 observations can already have sufficient statistical power. The PLS-SEM is strongly recommended when observations are below 250.³⁸⁸ Consequently, PLS-SEM is applicable for cases in which strong assumptions cannot be totally fulfilled. Therefore, the partial least square approach is often labelled as the „soft modeling approach“.³⁸⁹ Additionally, the partial least square approach operates with data that are not normally distributed.^{390 391} Lu et al. (2011) found in their simulations that the PLS method has the highest statistical power for small sample sizes.³⁹² Additionally, two types of measurement models exist for the development of constructs.³⁹³ Reflective items need to be seen as representative sample of all indicators disposable in the conceptual domain of the latent variable. Consequently, reflective indicators are expected to

³⁸⁵ Henseler, J./Hubona, G./Ray, P. A. (2016): Using PLS path modeling in new technology research: updated guidelines. *Industrial Management & Data Systems*, Vol. 116, Issue 1, pp. 2-3, DOI: <https://doi.org/10.1108/IMDS-09-2015-0382>.

³⁸⁶ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, p. 14.

³⁸⁷ Hair, J. F. Jr/Sarstedt, M./Hopkins, L./Kuppelwieser, V. G. (2014): Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, Vol. 26, Issue 2, p. 108, DOI: <https://doi.org/10.1108/EBR-10-2013-0128>.

³⁸⁸ Reinartz, W./Haenlein, M./Henseler, J. (2009): An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, Vol. 26, Issue 4, pp. 341-342, DOI: <https://doi.org/10.1016/j.ijresmar.2009.08.001>.

³⁸⁹ Hair, J. F./Sarstedt, M./Ringle, C. M./Mena, J. A. (2012): An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science*, Vol. 40, Issue 3, p. 416, DOI: <https://doi.org/10.1007/s11747-011-0261-6>.

³⁹⁰ Cassel, C./Hackl, P./Westlund, A. H. (1999): Robustness of partial least-squares method for estimating latent variable quality structures. *Journal of Applied Statistics*, Vol. 26, Issue 4, p. 436, DOI: <https://doi.org/10.1080/02664769922322>.

³⁹¹ Hair, J. F./Ringle, C. M./Sarstedt, M. (2011): PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, Vol. 19, Issue 2, p. 144, DOI: <https://doi.org/10.2753/MTP1069-6679190202>.

³⁹² Lu, I. R. R./Kwan, E./Thomas, D. R./Cedzynski, M. (2011): Two new methods for estimating structural equation models: An illustration and a comparison with two established methods. *International Journal of Research in Marketing*, Vol. 28, Issue 3, p. 264, DOI: <https://doi.org/10.1016/j.ijresmar.2011.03.006>.

³⁹³ Jarvis, C. B./MacKenzie, S. B./Podsakoff, P. M. (2003): A Critical Review of Construct Indicators and Measurement Model Misspecification in Marketing and Consumer Research. *Journal of Consumer Research*, Vol. 30, Issue 2, pp. 200-201, <https://www.jstor.org/stable/10.1086/376806>.

highly correlate amongst each other, as they are caused by the same variable. Thus, the indicators are interchangeable in reflective measurement models.³⁹⁴ Regarding the underlying research, Borsboom/Mellenbergh/van Heerden (2003) maintain that models in psychology usually contain reflective measurements. The constructs are considered to be more central compared to the item responses.³⁹⁵ Therefore, the author has used reflective indicators for the entire research model.

To summarize this subchapter, the author has discussed and reflected on the advantages of SEM for the underlying research. The method of structural equation modeling represents the prevailing research instrument to ensure a transparent research process for examining the cause-effect relationships between latent variables by using reflective indicators. The following subchapter focuses on the identification of the target group and explains the questionnaire development and distribution in detail to calculate the structural equation modeling.

3.3.1 Determination of target group, questionnaire development and distribution

After having discussed the relevance and advantages of the development and calculation of structural equation modeling for management science, the author had to determine the target group, including the development and distribution of the questionnaires.

Weischer (2007) highlights that empirical research requires a thorough analysis of individuals who may be part of the study that represent the population.³⁹⁶ A precise definition of the population allows the researcher to specify the theory, which is indispensable for conducting scientific studies.³⁹⁷ Nevertheless, Schnell/Hill/Esser (2018) further stress that an overly restrictive definition of the population can cause a circumstance in which general statements cannot be developed.³⁹⁸ Referring to the underlying research, the population represents all

³⁹⁴ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Sage Publications, Thousand Oaks, p. 43.

³⁹⁵ Borsboom, D./Mellenbergh, G. J./van Heerden, J. (2003): The Theoretical Status of Latent Variables. *Psychological Review*, Vol. 110, Issue 2, p. 209, DOI: <https://doi.org/10.1037/0033-295X.110.2.203>.

³⁹⁶ Weischer, C. (2007): *Sozialforschung*. UKV Verlagsgesellschaft, Konstanz, p. 188.

³⁹⁷ Schnell, R./Hill, P. B./Esser, E. (2018): *Methoden der empirischen Sozialforschung*. 11., überarbeitete Auflage, De Gruyter Oldenbourg, Berlin/Boston, p. 239.

³⁹⁸ Schnell, R./Hill, P. B./Esser, E. (2018): *Methoden der empirischen Sozialforschung*. 11., überarbeitete Auflage, De Gruyter Oldenbourg, Berlin/Boston, p. 241.

individuals who are involved in real estate developments in Europe. Table 3 summarizes and illustrates the approach for the employee survey followed by a detailed explanation of why the author has chosen these approaches.

Level of analysis	Questionnaire development and evaluation
Aim and type of interview	Explanatory
Degree of structuring	High / structured
Scale	5-point Likert scale
Survey method	Paper-based and online survey with Qualtrics
Data evaluation	SmartPLS 3.2.9 and SPSS 26

Table 3: Summary of approach to employee survey about the relationship between leader attitudes and innovative work behaviour

Source: author's compilation

Bryman/Bell (2015) describe structured interviews as the most prominent form of research interviews. The aim of structured interviews is to distribute the questions in precisely the same form to all interview partners. Therefore, all participants have the exact same interview stimulus. This type of interview style entails specific question and answer categories and represents the typical method in social science research.³⁹⁹ The strengths of structured interviews can be found in easily gaining a large number of participants and in its comparability. Moreover, researchers can perform a variety of statistical analyses that offer deep and structured insights into complex research areas.⁴⁰⁰ Thus, the author has conducted structured surveys with both employees working in real estate development companies and with experts.

Generally, Bryman/Bell (2015) consider survey research to be a cross-sectional method for identifying patterns of association. Therefore, questionnaires or structured interviews are distributed at a specific date to collect quantifiable data of at least two or more variables.⁴⁰¹ Thus, surveys can be considered a crucial part of a researcher's methodological

³⁹⁹ Bryman, A./Bell, E. (2015): Business Research Methods. Fourth Edition, Oxford University Press, Oxford, pp. 210-211.

⁴⁰⁰ Weischer, C. (2007): Sozialforschung. UKV Verlagsgesellschaft, Konstanz, p. 211.

⁴⁰¹ Bryman, A./Bell, E. (2015): Business Research Methods. Fourth Edition, Oxford University Press, Oxford, p. 63.

instruments.⁴⁰² For Fowler (2014) „surveys are designed to produce statistics about a target population. The process by which this is done rests on inferring the characteristics of the target population from the answers provided by a sample of respondents“.⁴⁰³

In the underlying research, the author has conducted two structured surveys for employees working in real estate development companies and for experts in the research field. Each survey starts with an introduction about the aim of the research and its relevance. Both surveys outline the average survey duration and indicate that the research results will be processed anonymously. The surveys distributed to employees working in real estate development companies additionally include two preconditions to ensure the participants are suitable for the survey. Finally, the front page shows contact information should questions arise. Both surveys are divided into different sections to place topic related questions together. The final section deals with the demographic data.

Overall, two basic forms of questions can be distinguished when developing a questionnaire: closed-ended and open-ended questions.⁴⁰⁴ The author has decided to apply closed-ended questions, because the answering process for participants is easier and comparability is improved. Moreover, Bryman/Bell (2015) state that closed questions may help participants clarify the meaning of questions and reduce the possibility of variability in structured interviewing.⁴⁰⁵ The author has used a five-point Likert scale,⁴⁰⁶ which represents the most frequently used scaling method in social science research⁴⁰⁷ and ranges from strongly disagree (1) to strongly agree (5). The questionnaires distributed to employees working in real estate development companies can be found in Appendix 2 for the English version and Appendix 3 for the German version. The questionnaires addressed to experts are documented in Appendix 4 for the English version and Appendix 5 for the German version. Data collection for the employee study was conducted between August 31, 2019, and

⁴⁰² Greenlaw, C./Brown-Welty, S. (2009): A Comparison of Web-Based and Paper-Based Survey Methods. Testing Assumptions of Survey Mode and Response Cost. Evaluation Review, Vol. 33, Issue 5, p. 464, DOI: <https://doi.org/10.1177/0193841X09340214>.

⁴⁰³ Fowler, F. J. Jr. (2014): Survey Research Methods. Fifth Edition, Sage Publications, Thousand Oaks, p. 8.

⁴⁰⁴ Cargan, L. (2007): Doing Social Research. Rowman & Littlefield Publishers, Plymouth, p. 93.

⁴⁰⁵ Bryman, A./Bell, E. (2015): Business Research Methods. Fourth Edition, Oxford University Press, Oxford, p. 259.

⁴⁰⁶ Likert, R. (1932): A Technique for the Measurement of Attitudes. Archives of Psychology, Vol. 22, pp. 46-47.

⁴⁰⁷ Schnell, R./Hill, P. B./Esser, E. (2018): Methoden der empirischen Sozialforschung. 11., überarbeitete Auflage, De Gruyter Oldenbourg, Berlin/Boston, p. 165.

December 31, 2019. The author collected a sample size of 137 valid participations for the employee survey. The participants work for small, medium-sized and large European real estate organisations. Moreover, employees from listed companies and subsidiaries from listed companies also took part in this survey.

In this respect the author refers to Reinartz/Haenlein/Henseler (2009) who show in their simulation studies that 100 observations can already have sufficient statistical power for calculating a structural equation modeling. In particular the PLS-SEM is strongly recommended when researchers have a sample size of less than 250.⁴⁰⁸ Based on these findings, the author considers the collected sample size of 137 observations to be sufficient, as it exceeds the minimum sample size evaluated by Reinartz/Haenlein/Henseler (2009) and uses the PLS-method with the statistics programme SmartPLS v3.2.9. Table 4 illustrates a detailed description of the collected sample size for the employee survey.

	Web-based survey	Paper-based survey
Click on hyperlink (web-based survey)	176	
Distributed paper-based surveys		96
Not fully completed or unanswered questionnaires	85	50
N = 137	91	46

Table 4: Overview of collected sample size of employee survey about the relationship between leader attitudes and innovative work behaviour

Source: author's compilation

Figure 16 shows the age distribution of the employee survey. In particular the figure demonstrates that 56% of the participants are male and 44% are female. Moreover, this analysis demonstrates an approximately equal distribution of gender in the survey.

⁴⁰⁸ Reinartz, W./Haenlein, M./Henseler, J. (2009): An empirical comparison of the efficacy of covariance-based and variance-based SEM. *International Journal of Research in Marketing*, Vol. 26, Issue 4, pp. 341-342, DOI: <https://doi.org/10.1016/j.ijresmar.2009.08.001>.

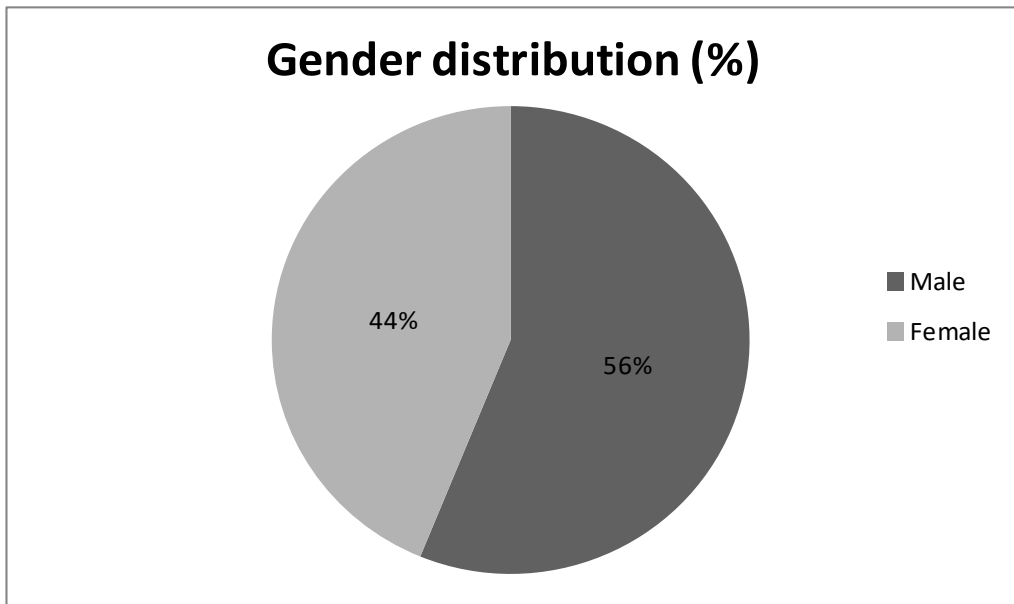


Figure 16: Gender distribution in employee survey about the relationship between leader attitudes and innovative work behaviour

Source: figure created by author

Figure 17 below illustrates the age span of the participants in the employee survey. The majority of participants are between 26 and 35 years old followed by participants between 36 and 45 years old. Thus, it can be derived that the workforce in real estate development companies mainly consists of younger staff members.

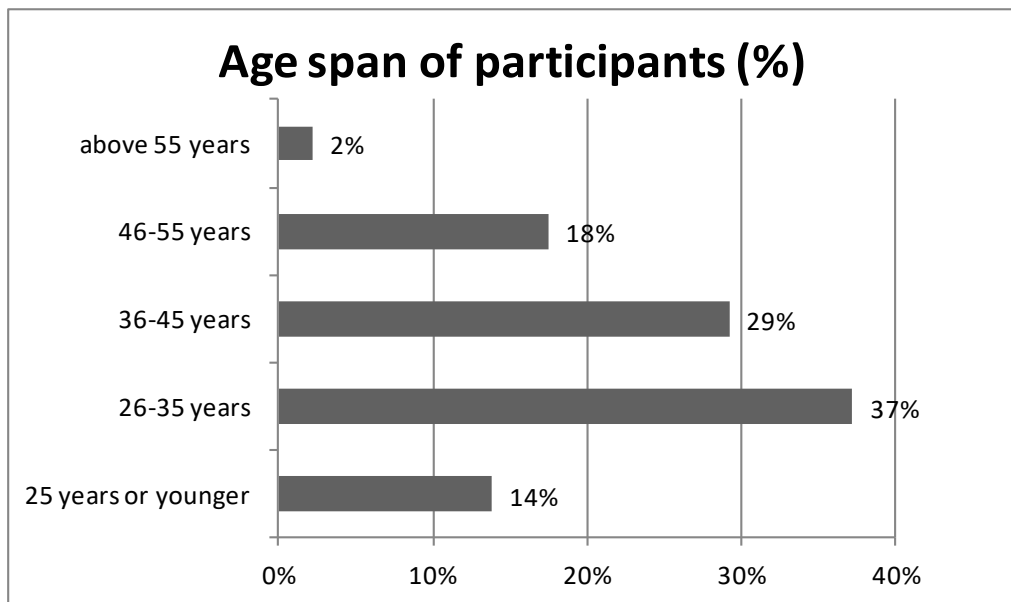


Figure 17: Age span of participants in employee survey about the relationship between leader attitudes and innovative work behaviour

Source: figure created by author

Figure 18 shows the distribution of the participants' work experience in real estate development. The findings are consistent with the age span described in Figure 17 and show

that the majority of staff members in real estate development organizations have work experience of six years or less. Participants with less than one year of work experience were excluded from the study due to insufficient work experience.

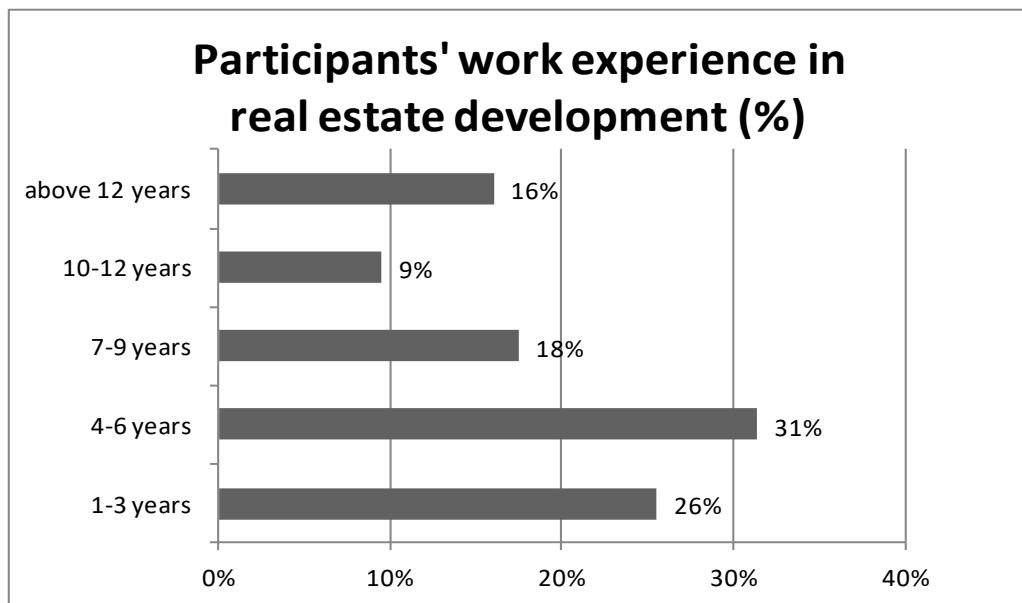


Figure 18: Participants' work experience in employee survey about the relationship between leader attitudes and innovative work behaviour

Source: figure created by author

Finally, the author has analysed the countries in which the individuals work the majority of their time. The author found that 69% of the participants come from Austria followed by Germany with 13%. Switzerland accounts for 7% followed by Spain with 4%. Overall, eight different countries participated in the study, which increases the generalization of the research results. By including different companies from different countries, the author aims to find consistent results of leader attitudes affecting the innovative work behaviour of staff members in real estate development companies.

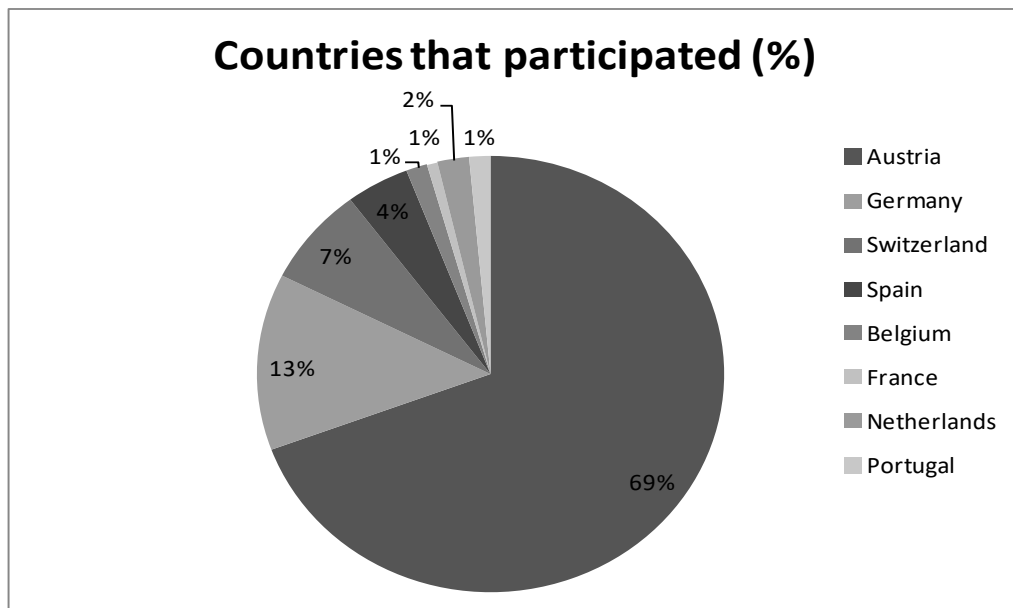


Figure 19: Countries that participated in employee survey about the relationship between leader attitudes and innovative work behaviour

Source: figure created by author

After having outlined the demographic background of the participants, the following chapter discusses the indicators used to measure the latent variables. Moreover, the author explains the pre-test procedure to ensure the quality of the developed questionnaire.

3.3.2 Indicators for measuring the latent variables, including pre-test procedure

Hair et al. (2014) describe indicators as instruments for directly examining latent variables, generally defined in the scientific literature as items or manifest variables in path models.⁴⁰⁹ Latent variables cannot be observed directly and are derived from other directly observed and quantifiable constructs based on algebraic procedures.⁴¹⁰ Within this research the author has used reflective indicators, as in psychology constructs are more central than the indicator responses.⁴¹¹ The author has used multiple indicators for measuring the underlying constructs. The main reason for using multiple indicators can be found in possible concerns with the reliance on one single item, which means that a single item may not correctly

⁴⁰⁹ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Sage Publications, Thousand Oaks, p. 29.

⁴¹⁰ Cepeda-Carrion, G./Cegarra-Navarro, J.-G./Cillo, V. (2019): Tips to use partial least squares structural equation modelling (PLS-SEM) in knowledge management. Journal of Knowledge Management, Vol. 23, Issue 1, p. 67, DOI: <https://doi.org/10.1108/JKM-05-2018-0322>.

⁴¹¹ Borsboom, D./Mellenbergh, G. J./van Heerden, J. (2003): The Theoretical Status of Latent Variables. Psychological Review, Vol. 110, Issue 2, p. 209, DOI: <https://doi.org/10.1037/0033-295X.110.2.203>.

classify the individuals. Moreover, a single item may collect only a part of the latent variable or its formulation may be too unspecific. Consequently, Bryman/Bell (2015) stress that multiple indicators allow the researcher to generate finer distinctions.⁴¹² Hair et al. (2014) outline that multiple items achieve a higher accuracy and lead to a better representation of the constructs.⁴¹³ According to Goodwin (2010) a five-point Likert scale offers adequate differentiation in the levels of agreement.⁴¹⁴ Therefore, the author has applied a five-point Likert scale for the expert and employee surveys.

According to Likert (1932) all items need to be formulated in a clear, concise and straightforward manner. This means that all questions need to be formulated with simple vocabulary. Additionally, Likert (1932) recommends avoiding double negatives or phrases that may cause confusion for the participants. Moreover, double-barrelled items need to be broken into two parts to avoid a participant agreeing with the first part of the statement and disagreeing with the second part simultaneously.⁴¹⁵ To avoid misunderstandings, the author has conducted a pre-test.

Hunt/Sparkman/Wilcox (1982) describe a pre-test as the last step in which the researcher distributes the questionnaire in a pilot study to the participants to examine the quality. Specifically, the researcher analyses if the questionnaire delivers the data in an appropriate quality and quantity to meet the aims of the study. In this respect a sufficient sample size for the pre-test procedure needs to be defined.⁴¹⁶ Perneger et al. (2015) performed a study to suggest a plausible sample size number for pre-tests to sufficiently detect issues in a survey. Research shows that sample sizes ranging from five to 15 participants may fail to identify questionnaire problems. Therefore, Perneger et al. (2015) recommend collecting a sample size of 30 or more individuals to achieve sufficient power to

⁴¹² Bryman, A./Bell, E. (2015): *Business Research Methods*. Fourth Edition, Oxford University Press, Oxford, p. 167.

⁴¹³ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, pp. 96-97.

⁴¹⁴ Goodwin, C. J. (2010): *Research in Psychology. Methods and Design*. Sixth Edition, John Wiley & Sons, New York, p. 477.

⁴¹⁵ Likert, R. (1932): A Technique for the Measurement of Attitudes. *Archives of Psychology*, Vol. 22, p. 45.

⁴¹⁶ Hunt, S. D./Sparkman, R. D. Jr./Wilcox, J. B. (1982): The Pretest in Survey Research: Issues and Preliminary Findings. *Journal of Marketing Research*, Vol. 19, Issue 2, pp. 269-270, <https://www.jstor.org/stable/3151627>.

detect severe problems in questionnaire developments.⁴¹⁷ Consequently, the author performed a pre-test with 30 participants to analyse the quality of the questionnaire. The pre-test showed that some indicators required minor verbal modifications to improve the understanding of the items and to ensure a context-related research. Although the author used items from previous studies, some items had to be removed from the research model.

According to Hair/Ringle/Sarstedt (2011), indicator loadings should generally exceed the threshold of 0.70. If the indicator loading is between 0.40 and 0.70, the item should only be removed if the deletion brings the composite reliability above the threshold. Before deleting problematic indicators, it is worth examining if the removal does not affect the content validity of the construct. Indicators with loadings below 0.40 should be removed from the research model.⁴¹⁸ As the underlying research model solely consists of reflective indicators, Diamantopoulos/Winklhofer (2001) stress that reflective items are exchangeable, and thus an elimination of an indicator does not affect the nature of the latent variable itself. Simultaneously, Diamantopoulos/Winklhofer (2001) stress that each reflective construct should have at least three indicators to avoid problems in construct reliability.⁴¹⁹ Each construct in the underlying research model is equipped with at least three indicators.

The aim of this subchapter was to determine indicators for measuring the latent variables (constructs). For that reason a pre-test with 30 participants was executed to examine the quality of the indicators used for the underlying research. Based on the results, minor adjustments in the wording were necessary to ensure that all participants understood the questions equally. Moreover, some items were eliminated due to low factor loadings and weak contributions to the variance or composite reliabilities. The indicators for measuring the latent variables in the employee study can be found in Appendix 6. The following subchapter is aimed at analysing the quality of the research model and statistically examining the relationship between leader attitudes and innovative work behaviour.

⁴¹⁷ Perneger, T. V./Courvoisier, D. S./Hudelson, P. M./Gayet-Ageron, A. (2015): Sample size for pre-tests of questionnaires. *Quality of Life Research*, Vol. 24, Issue 1, pp. 150-151, DOI: <https://doi.org/10.1007/s11136-014-0752-2>.

⁴¹⁸ Hair, J. F./Ringle, C. M./Sarstedt, M. (2011): PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, Vol. 19, Issue 2, pp. 145-146, DOI: <https://doi.org/10.2753/MTP1069-6679190202>.

⁴¹⁹ Diamantopoulos, A./Winklhofer, H. M. (2001): Index Construction with Formative Indicators: An Alternative to Scale Development. *Journal of Marketing Research*, Vol. 38, Issue 2, pp. 270-271, <https://www.jstor.org/stable/1558630>.

3.3.3 Analysis of quality criteria and data evaluation

The estimation of the research model offers the researcher empirical measures to examine the relationships between the items and their latent variables and between the latent variables in the structural model itself. The empirical measures allow the researcher to examine how the theoretical measurement and structural model fit with the reality. Compared to covariance-based structural equation models, a sole goodness-of-fit measure does not yet exist for PLS structural equation modeling. Additionally, the analysis of the measurement and structural model is grounded on non-parametric measures and operates with procedures including bootstrapping or blindfolding. In this respect Hair et al. (2014) recommend a systematic approach for examining the measurement and structural model.⁴²⁰ Figure 20 illustrates the testing scheme for the underlying research.

Testing scheme
1. Test of normality (Shapiro-Wilk and Kolmogorov-Smirnov test)
2. Analyses of reflective measurement models
2.1. Internal consistency reliability (Cronbach's alpha, composite reliability)
2.2. Convergent reliability (indicator reliability, average variance extracted)
2.3. Discriminant validity (cross loadings, heterotrait-monotrait ratio of correlations)
3. Analyses of structural model
3.1. Collinearity statistics (variance inflation factor)
3.2. Relevance and significance of path coefficients, t-statistics and p-values
3.3. Coefficient of determination (R^2 and R^2_{adj})
3.4. Effect size (f^2)
3.5. Predictive relevance (Q^2 -value)
3.6. Model fit (standardized root mean square residual)
3.7. Multi-group analysis (MGA)

Figure 20: Testing scheme for the structural equation modeling about the relationship between leader attitudes and innovative work behaviour

Source: modified and extended by author based on Hair et al., 2017, p. 91.

⁴²⁰ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Sage Publications, Thousand Oaks, p. 96.

Test of normality

The PLS approach is a statistical procedure that does not require normally distributed data.⁴²¹ To analyse if the data underlie a normal distribution, Sarstedt/Mooi (2014) recommend calculating the Kolmogorov-Smirnov and the Shapiro-Wilk test.⁴²² Therefore, the author has calculated both statistical tests with the result that all indicators are not normally distributed (see Appendix 7).

Analysis of internal consistency reliability

To evaluate the measurement model, it is essential to distinguish between reflective and formative measurement. Models using reflective measurements are evaluated by the internal consistency reliability.⁴²³ This is applicable for the underlying study, as the research model solely consists of reflective measurements.

Bryman/Bell (2015) stress that internal reliability is generally analysed with Cronbach's alpha.⁴²⁴ Cronbach/Shavelson (2004) describe the formula as a measure to assess the accuracy of psychological and educational measurements.⁴²⁵ Additionally, Taber (2018) highlights that Cronbach's alpha is generally applied to assess the development of scales that measure attitudes.⁴²⁶

Overall, Cronbach's alpha can be seen as a conservative measure. In contrast composite reliability tends to overestimate the internal consistency reliability, which leads to comparatively higher reliability assessments. Hair et al. (2019) specify that Cronbach's alpha is less precise which can be traced back to unweighted items. On the other hand, with the measure composite reliability, the indicators are weighted and grounded on the latent

⁴²¹ Cassel, C./Hackl, P./Westlund, A. H. (1999): Robustness of partial least-squares method for estimating latent variable quality structures. *Journal of Applied Statistics*, Vol. 26, Issue 4, p. 436, DOI: <https://doi.org/10.1080/02664769922322>.

⁴²² Sarstedt, M./Mooi, E. (2014): *A Concise Guide to Market Research. The Process, Data, and Methods Using IBM SPSS Statistics*. Springer Verlag, Second Edition, Berlin Heidelberg, p. 148.

⁴²³ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, p. 98.

⁴²⁴ Bryman, A./Bell, E. (2015): *Business Research Methods*. Fourth Edition, Oxford University Press, Oxford, p. 169.

⁴²⁵ Cronbach, L. J./Shavelson, R. J. (2004): My current thoughts on coefficient alpha and successor procedures. *Educational and Psychological Measurement*, Vol. 64, Issue 3, p. 392, DOI: <https://doi.org/10.1177/0013164404266386>.

⁴²⁶ Taber, K. S. (2018): The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education*, Vol. 48, p. 1275, DOI: <https://doi.org/10.1007/s11165-016-9602-2>.

variables items' loadings, which cause a higher reliability.⁴²⁷ According to Hair et al. (2019), the minimum cut-off value for Cronbach's alpha is 0.70 or 0.60 in explorative studies.⁴²⁸ Consequently, all constructs exceed both thresholds, indicating that internal consistency reliability is ensured (see Appendix 8).

Due to the potential weaknesses of Cronbach's alpha, it is recommended that the composite reliability be computed as different outer loadings of the indicator variables are being considered.⁴²⁹ According to Hair/Ringle/Sarstedt (2011), values between 0.60 and 0.70 are sufficient in explorative studies.⁴³⁰ In the underlying research, all computed values for composite reliability exceed both thresholds. Therefore, internal consistency reliability is confirmed (see Appendix 8).

Convergent reliability

Carlson/Herdman (2012) define convergent reliability as the „*extent to which two measures capture a common construct*“.⁴³¹ Therefore, items that account for a certain latent variable need to share a high proportion of variance. To evaluate convergent reliability, Hair et al. (2014) stress that the loadings of the items and the average variance extracted should be examined. In this respect standardized loadings should generally exceed the value 0.708.⁴³² Nevertheless, in social science research scholars often face lower loadings (< 0.70), in particular when new scales are being developed.⁴³³ ⁴³⁴ Before eliminating items with loadings below 0.70, examining how the item elimination affects the composite reliability

⁴²⁷ Hair, J. F./Risher, J. J./Sarstedt, M./Ringle, C. M. (2019): When to use and how to report the results of PLS-SEM. *European Business Review*, Vol. 31, Issue 1, p. 8, DOI: <https://doi.org/10.1108/EBR-11-2018-0203>.

⁴²⁸ Hair, J. F./Risher, J. J./Sarstedt, M./Ringle, C. M. (2019): When to use and how to report the results of PLS-SEM. *European Business Review*, Vol. 31, Issue 1, p. 15, DOI: <https://doi.org/10.1108/EBR-11-2018-0203>.

⁴²⁹ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, p. 101.

⁴³⁰ Hair, J. F./Ringle, C. M./Sarstedt, M. (2011): PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, Vol. 19, Issue 2, p. 145, DOI: <https://doi.org/10.2753/MTP1069-6679190202>.

⁴³¹ Carlson, K. D./Herdman, A. O. (2012): Understanding the Impact of Convergent Validity on Research Results. *Organizational Research Methods*, Vol. 15, Issue 1, p. 18, DOI: <https://doi.org/10.1177/10944281110392383>.

⁴³² Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, p. 102.

⁴³³ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, p. 103.

⁴³⁴ Hulland, J. (1999): Use of Partial Least Squares (PLS) in Strategic Management Research: A Review of Four Recent Studies. *Strategic Management Journal*, Vol. 20, Issue 2, p. 198, <https://www.jstor.org/stable/3094025>.

and content validity is recommended. Hair/Ringle/Sarstedt (2011) postulate that items with loadings ranging from 0.40 to 0.70 should only be eliminated if they raise the composite reliability above the cut-off value. Loadings weaker than 0.40 need to be removed from the research model.⁴³⁵ Additionally, all indicators' outer loadings need to show significant statistical results.⁴³⁶

Referring to the underlying research model, Appendix 9 shows that all loadings are above 0.40. Furthermore, an elimination of items with loadings between 0.40 and 0.70 was not required, as composite reliability and average variance extracted were not below the cut-off values. In addition all indicators' outer loadings are statistically significant (p -value < 0.05). For a detailed evaluation of the indicators' outer loadings significance see Appendix 10.

A further quality criterion for determining the convergent reliability on the construct level can be found in the average variance extracted. The average variance extracted is defined „as the grand mean value of the squared loadings of the indicators associated with the construct [...]“.⁴³⁷ Thus, the average variance extracted corresponds to the communality of a latent variable. An average variance extracted of 0.50 or above means that the latent variable explains at least 50% of the variance of its items.⁴³⁸

For the underlying research model, all constructs show a sufficient average variance extracted of at least 0.50 and thus indicate no issues with the convergent reliability. Appendix 11 shows the computed average variance extracted with SmartPLS.

Discriminant validity

Discriminant validity is described by Bagozzi/Yi/Phillips (1991) as the extent to which the constructs are unrelated.⁴³⁹ Campell/Fiske (1959) highlight that measures of the same construct need to correlate more strongly with each other than with measures of other

⁴³⁵ Hair, J. F./Ringle, C. M./Sarstedt, M. (2011): PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, Vol. 19, Issue 2, pp. 145-146, DOI: <https://doi.org/10.2753/MTP1069-6679190202>.

⁴³⁶ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, p. 102.

⁴³⁷ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, p. 103.

⁴³⁸ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, p. 103.

⁴³⁹ Bagozzi, R. P./Yi, Y./Phillips, L. W. (1991): Assessing Construct Validity in Organizational Research. *Administrative Science Quarterly*, Vol. 36, Issue 3, p. 425, <https://www.jstor.org/stable/2393203>.

constructs.⁴⁴⁰ Henseler/Ringle/Sarstedt (2015) stress that researchers who apply variance-based structural equation modeling often face a reduced set of methods for assessing discriminant validity.⁴⁴¹ To examine the discriminant validity, the average variance extracted of each latent variable needs to be higher on the associated construct than on any other latent variable (Fornell-Larcker criterion). In addition the cross loadings of items should be highest on the associated variable than on all other variables.⁴⁴² Appendix 12 illustrates the cross loadings for the underlying research. As all indicator loadings are highest on the associated latent variables, the author could not identify discriminant validity issues by using this criterion.

A further criterion for assessing discriminant validity can be found in the heterotrait-monotrait ratio of correlations (HTMT) approach proposed by Henseler/Ringle/Sarstedt (2015).⁴⁴³ The HTMT criterion is defined as „*the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct*“.⁴⁴⁴ Henseler/Ringle/Sarstedt (2015) performed a simulation study and demonstrated that common approaches applied to detect discriminant validity issues performed inadequately. In particular Henseler/Ringle/Sarstedt (2015) further emphasize that the Fornell-Larcker criterion did not reliably detect discriminant validity problems in most of the simulation runs and thus demonstrates lower sensitivity rates. In this respect Henseler/Ringle/Sarstedt (2015) present the HTMT approach as a solution and alternative to analysing discriminant validity problems in variance-based structural equation modeling.⁴⁴⁵ The literature suggests a cut-off value of 0.90 for latent variables that are

⁴⁴⁰ Campell, D. T./Fiske, D. W. (1959): Convergent and discriminant validation by the multitrait-multimethod matrix. *Psychological Bulletin*, Vol. 56, Issue 2, p. 104, DOI: <https://doi.org/10.1037/h0046016>.

⁴⁴¹ Henseler, J./Ringle, C. M./Sarstedt, M. (2015): A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, Vol. 43, p. 116, DOI: <https://doi.org/10.1007/s11747-014-0403-8>.

⁴⁴² Hair, J. F./Ringle, C. M./Sarstedt, M. (2011): PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, Vol. 19, Issue 2, p. 145, DOI: <https://doi.org/10.2753/MTP1069-6679190202>.

⁴⁴³ Henseler, J./Ringle, C. M./Sarstedt, M. (2015): A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, Vol. 43, p. 115, DOI: <https://doi.org/10.1007/s11747-014-0403-8>.

⁴⁴⁴ Hair, J. F./Risher, J. J./Sarstedt, M./Ringle, C. M. (2019): When to use and how to report the results of PLS-SEM. *European Business Review*, Vol. 31, Issue 1, p. 9, DOI: <https://doi.org/10.1108/EBR-11-2018-0203>.

⁴⁴⁵ Henseler, J./Ringle, C. M./Sarstedt, M. (2015): A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, Vol. 43, pp. 124, 128, DOI: <https://doi.org/10.1007/s11747-014-0403-8>.

similar in the research model.^{446 447 448} Appendix 13 illustrates that all HTMT values are below the suggested threshold of 0.90, and thus no discriminant validity issues are indicated.

Further examination is recommended if the HTMT value is sufficiently different from 1. Therefore, the bootstrapping confidence intervals need to be computed. A confidence interval that demonstrates the value 1 indicates issues with discriminant validity.⁴⁴⁹ Appendix 14 shows that both confidence intervals do not contain the value 1, thus no discriminant validity issues are indicated. After having analysed the reflective measurement model, the author has focused on the evaluation of the structural model.

Collinearity statistics

The variance inflation factor (VIF) represents a measure for determining multicollinearity.⁴⁵⁰ Black (2010) describes multicollinearity as a phenomenon when independent variables highly correlate with each other.⁴⁵¹ For Marquardt (1970) the maximum variance inflation factor should be higher than 1.0 but no greater than 10.⁴⁵² The computed values show no issues with multicollinearity in the research model (Appendix 15).

Relevance of significance of path coefficients, t-statistics and p-values

The structural model demonstrates the calculated path coefficients that allow the researcher a directly comparison of the variables. Consequently, the higher the path coefficients, the stronger the relationship between the latent variables to be examined. By interpreting the results from the path model, the empirical t-value and p-value were reported and required

⁴⁴⁶ Henseler, J./Ringle, C. M./Sarstedt, M. (2015): A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, Vol. 43, pp. 124, 127, DOI: <https://doi.org/10.1007/s11747-014-0403-8>.

⁴⁴⁷ Ringle, C. M./Sarstedt, M./Mitchell, R./Gudergan, S. P. (2020): Partial least squares structural equation modeling in HRM research. *The International Journal of Human Resource Management*, Vol. 31, Issue 12, p. 1626, DOI: <https://doi.org/10.1080/09585192.2017.1416655>.

⁴⁴⁸ Hair, J. F./Risher, J. J./Sarstedt, M./Ringle, C. M. (2019): When to use and how to report the results of PLS-SEM. *European Business Review*, Vol. 31, Issue 1, p. 9, DOI: <https://doi.org/10.1108/EBR-11-2018-0203>.

⁴⁴⁹ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2017): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Second Edition, Sage Publications, Thousand Oaks, pp. 130, 132.

⁴⁵⁰ Fahrmeir, L./Kneib, T./Lang, S. (2009): *Regression. Modelle, Methoden und Anwendungen*. Zweite Auflage, Springer Verlag, Berlin Heidelberg, p. 171.

⁴⁵¹ Black, K. (2010): *Business Statistics For Contemporary Decision Making*. Sixth Edition, John Wiley & Sons, New York, p. 576.

⁴⁵² Marquardt, D. W. (1970): Generalized Inverses, Ridge Regression, Biased Linear Estimation, and Nonlinear Estimation. *Technometrics*, Vol. 12, Issue 3, p. 610, <https://www.jstor.org/stable/1267205>.

further interpretations.⁴⁵³ The author has considered a p-value of 0.05 or less as significant. Consequently, Table 5 demonstrates a positive and significant relationship between integrity and innovative work behaviour (p-value = 0.002) and a positive and significant relationship between loyalty and innovative work behaviour (p-value = 0.001). The standardized path coefficients illustrate that loyalty has the strongest impact on innovative work behaviour for employees working in real estate development companies.

	Original Sample	Sample Mean	Standard Deviation	T-Statistics	P-Values
Communication -> Innovative Work Behaviour	0,085	0,076	0,090	0,947	0,344
Empathy -> Innovative Work Behaviour	-0,219	-0,172	0,184	1,191	0,234
Integrity -> Innovative Work Behaviour	0,357	0,318	0,114	3,130	0,002
Loyalty -> Innovative Work Behaviour	0,444	0,460	0,132	3,366	0,001
Motivation -> Innovative Work Behaviour	-0,037	-0,048	0,109	0,338	0,736
Openness -> Innovative Work Behaviour	0,075	0,068	0,145	0,519	0,604
Respect -> Innovative Work Behaviour	-0,023	0,011	0,152	0,154	0,878
Trust -> Innovative Work Behaviour	-0,097	-0,105	0,153	0,634	0,526

Table 5: Path coefficients, t-statistics and p-values of employee survey about the relationship between leader attitudes and innovative work behaviour

Source: author's calculation with SmartPLS

Coefficient of determination (R^2 and adjusted R^2)

The prevailing analyses of the structural model can be found in the coefficient of determination and the path coefficients. The prediction-focused PLS-SEM method is aimed at explaining the dependent latent variable's variance, which should have high levels of R^2 . The level and interpretation of R^2 is influenced by the academic discipline.⁴⁵⁴ For Shmueli/Koppius (2011) and Hair et al. (2019), the R^2 is a measure of variance that explains the explanatory power of the research model.⁴⁵⁵ ⁴⁵⁶ Overall R^2 values of 0.75, 0.50 or 0.25 for the dependent constructs are considered to be substantial, moderate, or weak respectively by Hair et al. (2011).⁴⁵⁷ Additionally, the R^2 can be adjusted (R^2_{adj}) to consider

⁴⁵³ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Sage Publications, Thousand Oaks, p. 173.

⁴⁵⁴ Hair, J. F./Ringle, C. M./Sarstedt, M. (2011): PLS-SEM: Indeed a silver bullet. Journal of Marketing Theory and Practice, Vol. 19, Issue 2, p. 147, DOI: <https://doi.org/10.2753/MTP1069-6679190202>.

⁴⁵⁵ Shmueli, G./Koppius, O. R. (2011): Predictive Analytics in Information Systems Research. MIS Quarterly, Vol. 35, Issue 3, p. 557, <https://www.jstor.org/stable/23042796>.

⁴⁵⁶ Hair, J. F./Risher, J. J./Sarstedt, M./Ringle, C. M. (2019): When to use and how to report the results of PLS-SEM. European Business Review, Vol. 31, Issue 1, p. 11, DOI: <https://doi.org/10.1108/EBR-11-2018-0203>.

⁴⁵⁷ Hair, J. F./Ringle, C. M./Sarstedt, M. (2011): PLS-SEM: Indeed a silver bullet. Journal of Marketing Theory and Practice, Vol. 19, Issue 2, p. 147, DOI: <https://doi.org/10.2753/MTP1069-6679190202>.

the effects of sample size and predictors.⁴⁵⁸ Appendix 16 illustrates the computed values for the R^2 0.35 and for R^2_{adj} 0.31. The R^2 for the construct innovative work behaviour shows a moderate effect.

Effect size (f^2)

The effect size allows the researcher to examine the relevance of latent variables by explaining exogenous latent variables. Specifically, how a predictor variable affects the coefficient of determination of the target variable in the structural model is assessed. The effect size can be obtained by determining the difference of the coefficient of determination values to assess the model with and without the predecessor variables.⁴⁵⁹ According to Cohen (1992) values of 0.02, 0.15 and 0.35 demonstrate a small, medium and large effect respectively of the exogenous construct.⁴⁶⁰ The computed effect sizes show a small effect for empathy, integrity and loyalty on the endogenous construct (Appendix 17).

Predictive relevance (Q^2 -value)

The Q^2 -value allows the researcher to examine if the exogenous latent variables have sufficient predictive relevance for the endogenous latent variable. A value of larger than zero indicates that predictive relevance exists for the research model.⁴⁶¹ The Q^2 -value for innovative work behaviour is far above the cut-off value zero, indicating that there is predictive relevance for the underlying research model (Appendix 18).

Model fit (standardized root mean square residual)

The author has analysed the overall model fit for the developed research model. The standardized root mean square residual (SRMR) is described by Brown (2006) as „*the average discrepancy between the correlations observed in the input matrix and the correlations predicted by the model [...]*“.⁴⁶² Hu/Bentler (1999) consider a value of below

⁴⁵⁸ Warner, R. M. (2013): Applied Statistics. From Bivariate Through Multivariate Techniques. Second Edition, Sage Publications, Thousand Oaks, p. 444.

⁴⁵⁹ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2017): A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Second Edition, Sage Publications, Thousand Oaks, p. 222.

⁴⁶⁰ Cohen, J. (1992): A Power Primer. Psychological Bulletin, Vol. 112, Issue 1, p. 157, DOI: <https://doi.org/10.1037//0033-2909.112.1.155>.

⁴⁶¹ Hair, J. F./Ringle, C. M./Sarstedt, M. (2011): PLS-SEM: Indeed a silver bullet. Journal of Marketing Theory and Practice, Vol. 19, Issue 2, p. 145, DOI: <https://doi.org/10.2753/MTP1069-6679190202>.

⁴⁶² Brown, T. A. (2006): Confirmatory Factor Analysis for Applied Research. The Guilford Press, New York, p. 82.

0.08 for the SRMR to be a good model fit.⁴⁶³ The computed SRMR value amounts to 0.073 and indicates a good model fit (Appendix 19).

Multi-group analysis (MGA)

Finally, the author has examined if organizational hierarchy influences the relevance of leader attitudes in demonstrating innovative work behaviour of staff members working in real estate development companies by performing a PLS multi-group analysis (MGA).

According to Hair et al. (2014), multi-group analyses are applied to compare path coefficients so that differences of at least two groups of data can be identified.⁴⁶⁴ The aim of this multi-group analysis is to examine if employees working in real estate development companies who lead ten staff members or less (lower management level) are different to those who lead more than ten staff members (upper management level) in requiring certain leader attitudes for innovative at work. Table 6 summarizes the research results.

PLS-MGA			
	Path Coefficients-diff (GROUP_Hierarchy (1.0) - GROUP_Hierarchy (2.0))	p-Value original 1-tailed (GROUP_Hierarchy (1.0) vs GROUP_Hierarchy (2.0))	p-Value new (GROUP_Hierarchy (1.0) vs GROUP_Hierarchy (2.0))
Communication -> IWB	-0,162	0,692	0,615
Empathy -> IWB	0,140	0,348	0,696
Integrity -> IWB	0,280	0,152	0,305
Loyalty -> IWB	0,074	0,386	0,771
Motivation -> IWB	-0,467	0,945	0,110
Openness -> IWB	-0,250	0,700	0,600
Respect -> IWB	-0,070	0,608	0,784
Trust -> IWB	0,756	0,073	0,146

Table 6: Multi-group analysis (hierarchy) of employee survey about the relationship between leader attitudes and innovative work behaviour

Source: author's calculation with SmartPLS

The results show that organizational hierarchy does not affect the relevance of leader attitudes on the innovative work behaviour of staff members in real estate development

⁴⁶³ Hu, L.-t./Bentler, P. M. (1999): Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, Vol. 6, Issue 1, p. 1, DOI: <https://doi.org/10.1080/10705519909540118>.

⁴⁶⁴ Hair, J. F. Jr/Hult, G. T. M./Ringle, C. M./Sarstedt, M. (2014): *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications, Thousand Oaks, p. 244.

companies. The following subchapter summarizes the research results and outlines the relevance of this scientific approach for the underlying research.

3.3.4 Discussion and concluding analysis of statistical research results from structural equation modeling

The aim of this doctoral thesis is to examine the relationship between leader attitudes and the innovative work behaviour of employees in real estate development companies.

This research is grounded on Kant's notion that only a combination of rationalism and empiricism leads to new knowledge.⁴⁶⁵ Based on Chapters 1 and 2 of this dissertation, the author has developed a new research model to scientifically examine the relationship between leader attitudes and innovative work behaviour in real estate development companies. The previous chapter aimed to analyse and assess the developed research model with state-of-the-art statistical tests and procedures. As a result the author demonstrated and provided support for a reliable and valid research model. The following table summarizes the findings from the developed and calculated structural equation modeling.

	Original Sample	T-Statistics	P-Values	Hypothesis (supported / rejected)
Communication -> Innovative Work Behaviour	0,085	0,947	0,344	rejected
Empathy -> Innovative Work Behaviour	-0,219	1,191	0,234	rejected
Integrity -> Innovative Work Behaviour	0,357	3,130	0,002	supported
Loyalty -> Innovative Work Behaviour	0,444	3,366	0,001	supported
Motivation -> Innovative Work Behaviour	-0,037	0,338	0,736	rejected
Openness -> Innovative Work Behaviour	0,075	0,519	0,604	rejected
Respect -> Innovative Work Behaviour	-0,023	0,154	0,878	rejected
Trust -> Innovative Work Behaviour	-0,097	0,634	0,526	rejected

Table 7: Summary of SEM results of employee survey about the relationship between leader attitudes and innovative work behaviour

Source: author's calculation with SmartPLS

⁴⁶⁵ Kant, I. (1922): Critique of Pure Reason. Translated into English by F. Max Müller. Second Edition revised, The Macmillan Company, New York, pp. 40-41.

The developed research model contributes to management science in the following ways:

1. The author supports the hypotheses that integrity (p-value = 0.002) and loyalty (p-value = 0.001) shown by leaders towards staff members positively and significantly affect innovative work behaviour in real estate development companies. Consequently, the author can answer the second research question of this thesis: certain leader attitudes do affect the innovative work behaviour of staff members working in real estate development companies.
2. From the employee perspective, the author is able to answer the third research question. By comparing both leader attitudes, the statistical analysis clearly shows that loyalty (standardized path coefficient = 0.444) has a stronger impact on innovative work behaviour than integrity (standardized path coefficient = 0.357). Therefore, leader attitudes contribute to different extents to innovative work behaviours in real estate development companies.
3. This research shows that organizational hierarchy does not affect the relevance of leader attitudes for staff member innovation at work. Consequently, staff members in lower management levels require the same leader attitudes as those who work in upper management levels to demonstrate innovative work behaviour.
4. The results support the assumption that leader attitudes matter in the leadership process, and innovative work behaviour occurs in real estate development companies.

After having examined the relationship between leader attitudes and innovative work behaviour in real estate development companies from the employee perspective, the author focuses in the next chapter on the expert perspective to determine similarities or differences. The following figure demonstrates and summarizes this approach.

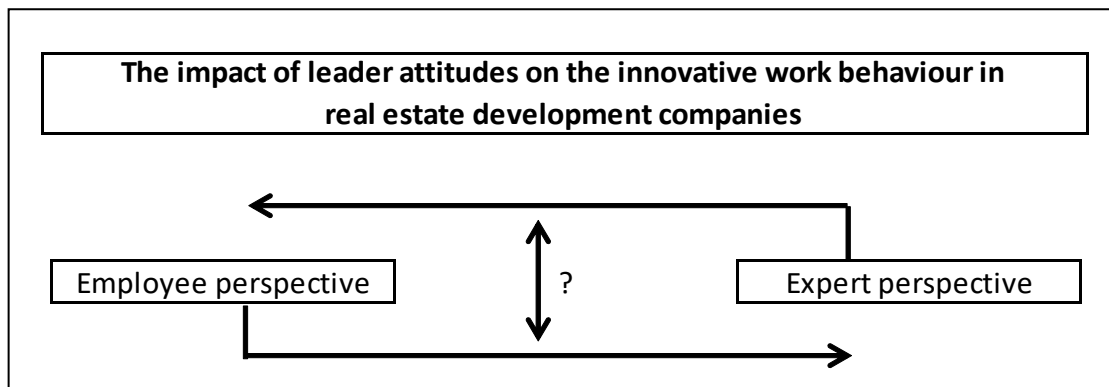


Figure 21: Comparison of employee and expert perspective

Source: author's compilation

Consequently, the following chapter is aimed at performing structured expert interviews and explains this research method in detail. In addition the conducted expert interviews represent the third empirical research method in this dissertation.

3.4 Structured expert interviews

In business administration data is regularly gained with surveys,⁴⁶⁶ and structured interviews are the dominant survey approach in social science research. The aim of structured interviews is to standardize the interview procedure so that differences between interviews are reduced. In particular questions are formulated precisely and a fixed range of answers are provided.⁴⁶⁷ Nevertheless, the author needs to stress that highly standardized questionnaires may lead to a loss of information and thus may prevent the revelation of further insights. Smith (2005) summarizes the aims of structured interviews as follows:

1. apply brief and precise questions
2. read the questions in the pre-defined order
3. provide pre-coded response categories.⁴⁶⁸

Specifically, the advantages of structured interviews are grounded in control, speed and reliability. The researcher has high control over the survey, and participants receive the same questionnaire format so that the interviewer has marginal impact on the answers

⁴⁶⁶ Adams, J./Khan, H. T. A./Raeside, R./White, D. (2007): Research Methods for Graduate Business and Social Science Students. Response business books from Sage, New Delhi, p. 128.

⁴⁶⁷ Bryman, A./Bell, E. (2015): Business Research Methods. Fourth Edition, Oxford University Press, Oxford, pp. 210-211.

⁴⁶⁸ Smith, J. A. (2005): Semi-Structured Interviewing and Qualitative Analysis. In: Smith, J. A./Harré, R./Van Langenhove, L. (Eds.): Rethinking Methods in Psychology. Sage Publications, London, p. 11.

collected.⁴⁶⁹ Schnell/Hill/Esser (2018) describe standardized interviews as a major form of data collection in social science research.⁴⁷⁰

Expert interviews are one of the most established and applied approaches in social science research.⁴⁷¹ For Gläser/Laudel (2010), experts are individuals who possess extensive expertise in a certain field of science. In general, expert interviews have two major characteristics:

1. Experts can be labelled as a medium through which the researcher collects new knowledge about a certain situation. In this respect experts are not considered as objects of research but possess appropriate information
2. Experts have a unique position in the contexts to be researched.⁴⁷²

Similarly, Singh (2007) describes expert sampling as an approach for identifying individuals who possess extensive experience and expertise in a certain field of research. Expert sampling can also be applied to justify the validity of other research approaches.⁴⁷³ In the following subchapter, the author explains the procedure of the expert selection and defines the term „expert“ for the underlying research work.

3.4.1 Definition and selection of interview partners including procedure description

After having discussed the research method for the underlying expert study, the author will explain in detail the selection of interview partners as well as the interview procedure.

For the quantitative expert survey, the author has addressed individuals working as leaders in real estate development, representatives and members of trade unions and academic staff members from universities. They have been addressed in writing, by phone or in person. Consequently, the author defines an expert as a leader in a real estate development

⁴⁶⁹ Smith, J. A. (2005): Semi-Structured Interviewing and Qualitative Analysis. In: Smith, J. A./Harré, R./Van Langenhove, L. (Eds.): Rethinking Methods in Psychology. Sage Publications, London, p. 11.

⁴⁷⁰ Schnell, R./Hill, P. B./Esser, E. (2018): Methoden der empirischen Sozialforschung. 11., überarbeitete Auflage, De Gruyter Oldenbourg, Berlin/Boston, p. 295.

⁴⁷¹ Misoch, S. (2019): Qualitative Interviews. 2., erweiterte und aktualisierte Auflage, De Gruyter Oldenbourg, Berlin/Boston, p. 125.

⁴⁷² Gläser, J./Laudel, G. (2010): Experteninterviews und qualitative Inhaltsanalyse als Instrumente rekonstruierender Untersuchungen. 4. Auflage, VS Verlag für Sozialwissenschaften, Wiesbaden, pp. 12-13.

⁴⁷³ Singh, K. (2007): Quantitative Social Research Methods. Sage Publications, New Delhi, p. 108.

company, an academic staff member from a university or a representative of real estate organizations, including trade unions and real estate associations in Europe, with at least a master's degree and nine years of work experience. The reason for choosing these target groups is to examine differences and similarities between practitioners' and scientists' perspectives of leader attitudes affecting innovative work behaviour of employees working in real estate development companies. Participation in the survey was possible both on paper and online. For the online survey, the author used the platform Qualtrics.

In surveys researchers often have to face a non-response bias, which may distort selection probabilities. This means that some individuals are over-represented, while others are under-represented in the distribution.⁴⁷⁴ In the case of non-response within 14 days, the author contacted the participants once again. The expert surveys were conducted from 31 August, 2019, until 31 December, 2019, and from 10 October, 2020, until 7 November, 2020. Overall the author received 13 completed questionnaires. The following table illustrates the participants.

⁴⁷⁴ Adams, J./Khan, H. T. A./Raeside, R./White, D. (2007): *Research Methods for Graduate Business and Social Science Students*. Response business books from Sage, New Delhi, p. 99.

No.	Participant	Years of work experience	Highest academic degree	Job description	Category
1	Participant A	33	Master's degree	Consultant	Leader
2	Participant B	21	Doctoral degree	Dean of studies	Academic staff
3	Participant C	10	Doctoral degree	Research associate	Academic staff
4	Participant D	11	Master's degree	General manager	Leader
5	Participant E	25	Master's degree	Operations manager	Leader
6	Participant F	10	Master's degree	Real estate manager	Leader
7	Participant G	10	Master's degree	General manager	Leader
8	Participant H	9	Master's degree	Real estate manager	Leader
9	Participant I	10	Master's degree	Risk manager	Leader
10	Participant J	20	Master's degree	Representative of real estate association	Representative
11	Participant K	19	Doctoral degree	Representative of real estate association	Representative
12	Participant L	23	Doctoral degree	Member of trade union	Representative
13	Participant M	17	Master's degree	Real estate professional	Representative

Table 8: List of experts

Source: author's compilation

The author has analysed the demographic background of the experts who participated in this survey. Figure 22 demonstrates the distribution of the experts and illustrates that the majority of experts are leaders working in real estate development companies followed by real estate representatives and academic staff members. By including these target groups, the author has been able to gain insights into the relevance of leader attitudes affecting innovative work behaviour from different viewpoints, which allows a better generalization of the results.

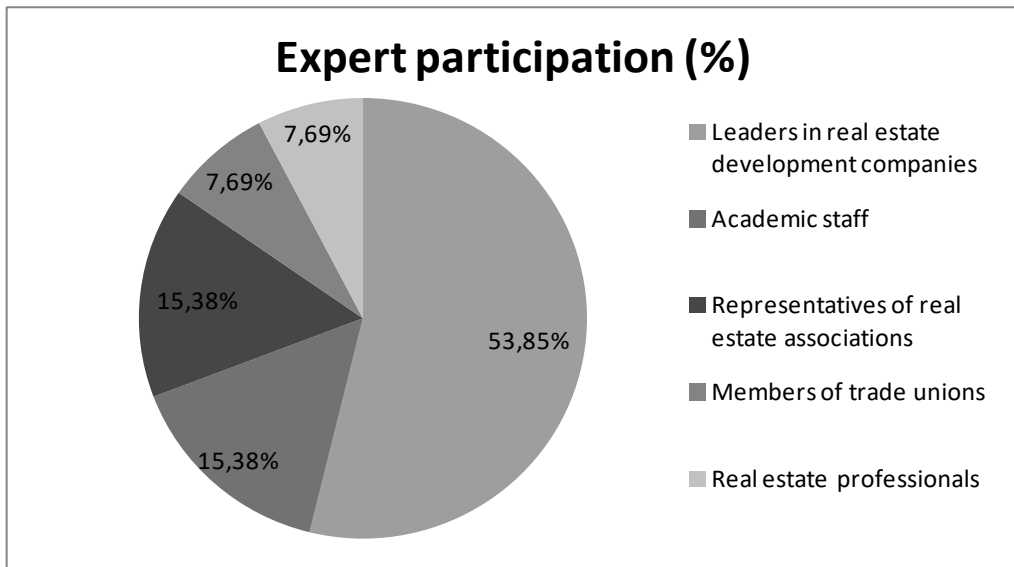


Figure 22: Distribution of expert participation

Source: figure created by author

The average work experience of all experts amounts to 16.77 years, as illustrated in the following chart. Consequently, the average work experience of all experts exceeds the minimum cut-off value of nine years and shows sufficient practical experience to justify participation.



Figure 23: Average work experience of experts

Source: figure created by author

To gain a more comprehensive view of the relationship between leader attitudes and innovative work behaviour and to increase the generalization of the research results, the author recruited experts from six different countries. The distribution by countries is illustrated in Figure 24.

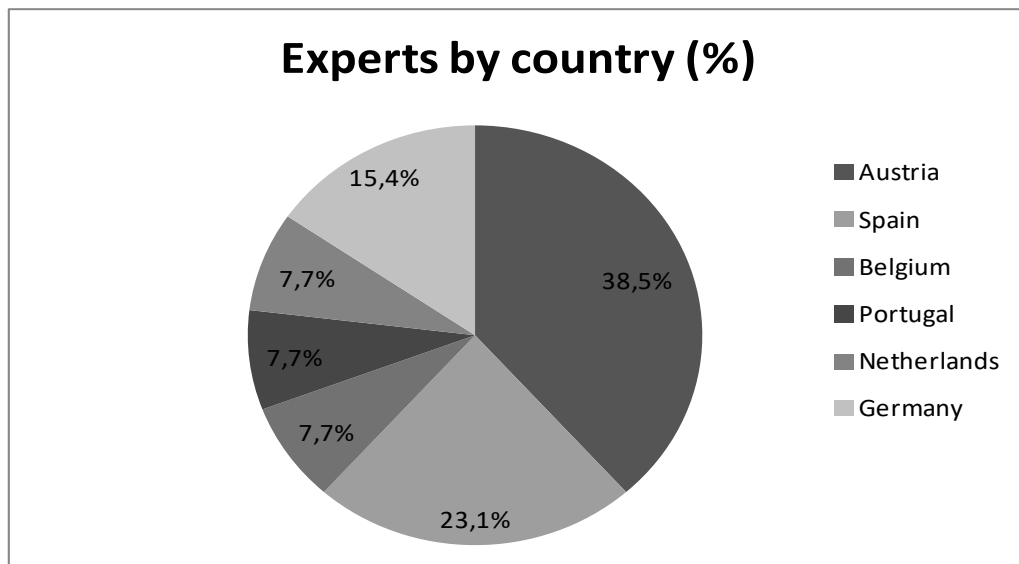


Figure 24: Distribution of experts by country

Source: figure created by author

After having analysed the demographic background of the experts, the author has determined that thirteen experts with an average work experience of 16.77 years from six different countries are sufficient for further statistical tests to gain insights into the relationship between leader attitudes and innovative work behaviour of employees working in real estate development companies. The following subchapter aims at statistically examining the experts' perspectives on the research topic.

3.4.2 Expert views and statistical analyses of leader attitudes affecting innovative work behaviour in real estate development companies

According to Razali/Wah (2011), the analysis of normality is essential for most statistical tests. Parametric tests require a particular distribution of the collected data, generally the normal distribution. If the normality is violated, researchers may draw unreliable or invalid conclusions from the data when calculating parametric tests.⁴⁷⁵ The Shapiro-Wilk test is a well-established test for examining the normality of data and is grounded in the „*correlation within given observations and associated normal scores*“.⁴⁷⁶ Shapiro/Wilk (1965) introduced this statistical test for examining the normality of a sample. Specifically, Shapiro/Wilk (1965) highlight that their statistical test is suitable even for small samples showing a high

⁴⁷⁵ Razali, N. M./Wah, Y. B. (2011): Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Journal of Statistical Modeling and Analytics*, Vol. 2, Issue 1, p. 21.

⁴⁷⁶ Das, K. R./Imon, A. H. M. R. (2016): A Brief Review of Tests for Normality. *American Journal of Theoretical and Applied Statistics*, Vol. 5, Issue 1, p. 9.

sensitivity ($N < 20$).⁴⁷⁷ As the sample size for the expert interviews was below 20 observations, the Shapiro-Wilk test was computed with the following results.

Test of Normality (N = 13)

Shapiro-Wilk

	Statistic	df	Sig.
Trust	,756	13	,002
Respect	,785	13	,005
Openness	,790	13	,005
Empathy	,894	13	,111
Motivation	,799	13	,007
Integrity	,844	13	,024
Communication	,646	13	,000
Loyalty	,844	13	,024

Table 9: Test of normality (Shapiro-Wilk)
Source: author's calculation with SPSS

The computed Shapiro-Wilk test illustrates that the majority of data do not underlie a normal distribution ($p < 0.05$).

Moreover, Brown/Saunders (2008) highlight that statisticians usually calculate non-parametric tests for small sample sizes ($N < 30$).⁴⁷⁸ Consequently, the author has used non-parametric tests for further statistical analyses.

In subchapter 3.3.3., the author calculated a structural equation modeling to examine the relationship between leader attitudes and the innovative work behaviour of employees in real estate development companies from the employee perspective. To gain a comprehensive view on this topic, the author has focused in this subchapter on the experts' analysis.

The Mann-Whitney-U test is aimed at examining data from two samples to determine differences between two populations.⁴⁷⁹ The Mann-Whitney-U test represents the non-parametric alternative to the independent t-test.⁴⁸⁰ Additionally, Kruskal/Wallis (1952)

⁴⁷⁷ Shapiro, S. S./Wilk, M. B. (1965): An analysis of variance test for normality (complete samples). *Biometrika*, Vol. 52, Issue 3 and 4, p. 610.

⁴⁷⁸ Brown, R. B./Saunders, M. (2008): *Dealing with statistics: what you need to know*. McGraw Hill Open University Press, Berkshire, p. 105.

⁴⁷⁹ Gravetter, F. J./Wallnau, L. B. (2017): *Statistics for the Behavioral Sciences*. Tenth Edition, Cengage Learning, Boston, p. 688.

⁴⁸⁰ Black, K. (2010): *Business Statistics For Contemporary Decision Making*. Sixth Edition, John Wiley & Sons, New York, p. 678.

established a statistical test to examine differences of a sample within the population by operating with ranks.⁴⁸¹ Subsequently, both statistical tests are executed.

To begin with the author has examined the question of if there are differences between leaders', scientists' and representatives' perceptions about the relevance of leader attitudes in affecting innovative work behaviour of employees working in real estate development companies. The following table illustrates a significant statistical result for the leader attitude motivation (p-value < 0.05). Therefore, further statistical analyses are required to determine which group of experts hold a different view on the leader attitude motivation for fostering innovative work behaviour.

		Test Statistics ^{a,b}							
		Trust	Respect	Openness	Empathy	Motivation	Integrity	Communication	Loyalty
Kruskal-Wallis H		2,617	,606	,488	2,550	6,048	4,721	,990	,523
df		2	2	2	2	2	2	2	2
Asymp. Sig. ⁴⁸²		,270	,739	,783	,279	,049	,094	,610	,770

a. Kruskal Wallis Test

b. Grouping Variable: experts

Table 10: Kruskal-Wallis test (group comparisons of experts)

Source: author's calculation with SPSS

The pairwise comparison of the expert groups (Table 11) shows that representatives (members of the trade unions and real estate associations) hold a different view on the relevance of the leader attitude motivation compared to leaders working in real estate development companies. It can be argued that leaders' behaviour directly affects the innovative work behaviour of staff members working in real estate development companies and represents a key influence factor in the innovation process.

⁴⁸¹ Kruskal, W. H./Wallis, W. A. (1952): Use of Ranks in One-Criterion Variance Analysis. Journal of the American Statistical Association, Vol. 47, Issue 260, pp. 584-585, <https://www.jstor.org/stable/2280779>.

⁴⁸² Annotation: As SPSS did not report the exact significance, the asymptotic p-value is being reported.

Pairwise Comparisons of Group					
Sample 1 vs. Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig. ^a
representatives vs. scientists	3,000	3,182	,943	,346	1,000
representatives vs. leaders	5,643	2,303	2,450	,014	,043
scientists vs. leaders	2,643	2,946	,897	,370	1,000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.

Asymptotic significances (2-sided tests) are displayed. The significance level is ,05.

a. Significance values have been adjusted by the Bonferroni correction for multiple tests.

Table 11: Pairwise comparisons of experts

Source: author's calculation with SPSS

Moreover, the author has calculated the effect size. Gravetter/Wallnau (2017) define effect size as „a measure [...] to provide a measurement of the absolute magnitude of a treatment effect, independent of the size of the sample(s) being used“.⁴⁸³ Rosenthal/DiMatteo (2001) emphasize that effect size can also be calculated from the standard normal deviate Z.⁴⁸⁴

According to Cohen (1992), an effect size of 0.74 demonstrates a large effect.⁴⁸⁵

$$r = \frac{Z}{\sqrt{N}} = \frac{2,450}{\sqrt{11}} = 0.74$$

Formula 1: Effect size (expert analysis)

Source: calculated by author based on formula from Rosenthal/DiMatteo, 2001, p. 72.

The author has also analysed if experts with work experience of ten years or less (≤ 10 years) and experts with more work experience (> 10 years) consider the relevance of leader attitudes in affecting the innovative work behaviour of employees working in real estate development companies differently. The following table shows significant research results for the leader attitudes respect and motivation (p-value < 0.05).

⁴⁸³ Gravetter, F. J./Wallnau, L. B. (2017): Statistics for the Behavioral Sciences. Tenth Edition, Cengage Learning, Boston, p. 251.

⁴⁸⁴ Rosenthal, R./DiMatteo, M. R. (2001): META-ANALYSIS: Recent Developments in Quantitative Methods for Literature Reviews. Annual Review of Psychology, Vol. 52, p. 72, DOI: <https://doi.org/10.1146/annurev.psych.52.1.59>.

⁴⁸⁵ Cohen, J. (1992): A Power Primer. Psychological Bulletin, Vol. 112, Issue 1, p. 157, DOI: <https://doi.org/10.1037//0033-2909.112.1.155>.

Test Statistics ^a								
	Trust	Respect	Openness	Empathy	Motivation	Integrity	Communication	Loyalty
Mann-Whitney U	10,500	2,500	14,000	16,500	4,500	10,000	18,000	13,500
Wilcoxon W	46,500	38,500	29,000	52,500	40,500	46,000	33,000	49,500
Z	-1,540	-2,754	-,955	-,544	-2,405	-1,554	-,338	-1,010
Asymp. Sig. (2-tailed)	,124	,006	,340	,587	,016	,120	,735	,312
Exact Sig. [2*(1-tailed Sig.)]	,171 ^b	,006 ^b	,435 ^b	,622 ^b	,019 ^b	,171 ^b	,833 ^b	,354 ^b

a. Grouping Variable: work_experience

b. Not corrected for ties.

Table 12: Mann-Whitney-U test (work experience)

Source: author's calculation with SPSS

Therefore, the author has further calculated the median for both groups as follows:

Statistics			
work_experience			
Group 1: ≤ 10 years of work experience	N	Valid	5
		Missing	0
	Median		10,00
Group 2: > 10 years of work experience	N	Valid	8
		Missing	0
	Median		20,50

Table 13: Analysis of median (work experience)

Source: author's calculation with SPSS

Table 13 demonstrates that the median for experts with more than ten years of work experience amounts to 20.50, whereas the group of experts with ten years of work experience or less has a median of 10. Based on these findings, the author can support the assumption that experts with more than ten years of work experience consider the leader attitudes „respect“ and „motivation“ to be significant in affecting the innovative work behaviour of employees in real estate development companies. Consequently, it can be derived that more experienced leaders put more emphasis on leader attitudes in fostering innovative work behaviour compared to their less experienced colleagues.

According to Cohen (1992) the effect size for the leader attitude „respect“ amounts to 0.76, which demonstrates a large effect.⁴⁸⁶

$$r = \frac{Z}{\sqrt{N}} = \frac{2.754}{\sqrt{13}} = 0.76$$

Formula 2: Effect size (work experience_respect)

Source: calculated by author based on formula from Rosenthal/DiMatteo, 2001, p. 72.

According to Cohen (1992) the effect size for the leader attitude „motivation“ amounts to 0.67, which demonstrates a large effect as well.⁴⁸⁷

$$r = \frac{Z}{\sqrt{N}} = \frac{2.405}{\sqrt{13}} = 0.67$$

Formula 3: Effect size (work experience_motivation)

Source: calculated by author based on formula from Rosenthal/DiMatteo, 2001, p. 72.

Additionally, the author has analysed if a difference between experts older than 45 years and experts of 45 years or younger exists regarding the relevance of leader attitudes in affecting the innovative work behaviour of employees working in real estate development companies. The following table demonstrates a significant research result for the leader trait openness (p-value < 0.05).

	Test Statistics ^a							
	Trust	Respect	Openness	Empathy	Motivation	Integrity	Communication	Loyalty
Mann-Whitney U	15,500	19,000	3,000	20,000	18,500	13,000	18,000	20,000
Wilcoxon W	30,500	34,000	18,000	56,000	33,500	28,000	33,000	56,000
Z	-,729	-,157	-2,705	,000	-,233	-1,088	-,338	,000
Asymp. Sig. (2-tailed)	,466	,875	,007	1,000	,816	,277	,735	1,000
Exact Sig. [2*(1-tailed Sig.)]	,524 ^b	,943 ^b	,011 ^b	1,000 ^b	,833 ^b	,354 ^b	,833 ^b	1,000 ^b

a. Grouping Variable: age

b. Not corrected for ties.

Table 14: Mann-Whitney-U test (age)

Source: author's calculation with SPSS

The author has again calculated the median for both groups to examine which experts consider the leader attitude openness as significant in affecting the innovative work behaviour of employees in real estate development companies. The following table shows

⁴⁸⁶ Cohen, J. (1992): A Power Primer. Psychological Bulletin, Vol. 112, Issue 1, p. 157, DOI: <https://doi.org/10.1037//0033-2909.112.1.155>.

⁴⁸⁷ Cohen, J. (1992): A Power Primer. Psychological Bulletin, Vol. 112, Issue 1, p. 157, DOI: <https://doi.org/10.1037//0033-2909.112.1.155>.

the median for both groups of experts. For experts 45 years old or younger, the median amounts to three, whereas the second group of experts older than 45 years shows a higher median amounting to four.

Statistics			
age			
Group 1: ≤ 45 years of age	N	Valid	5
		Missing	0
	Median		3,00
Group 2: > 45 years of age	N	Valid	8
		Missing	0
	Median		4,00

Table 15: Analysis of median (age)

Source: author's calculation with SPSS

The research results show that for experts above 45 years of age, the leader attitude „openness“ is significant in fostering the innovative work behaviour of employees working in real estate development companies. Thus, it can be derived that the age does affect the relevance of leader attitudes in influencing innovative work behaviour.

The author has again calculated the effect size and can demonstrate a large effect (> 0.50) according to Cohen (1992).⁴⁸⁸

$$r = \frac{z}{\sqrt{N}} = \frac{2.705}{\sqrt{13}} = 0.75$$

Formula 4: Effect size (age)

Source: calculated by author based on formula from Rosenthal/DiMatteo, 2001, p. 72.

In summary the aim of the structured expert interviews was to gain further in-depth insights into how leaders, representatives and scientists evaluate the relationship between leader attitudes and the innovative work behaviour of staff members working in real estate development companies. The research results show that real estate representatives and leaders working in real estate development companies hold different viewpoints on the relevance of leader motivation in affecting the innovative work behaviour of staff members. Moreover, experts with more than ten years of work experience consider respect and motivation from leaders towards staff members as significant in fostering innovative work behaviour. Additionally, openness is considered by the experts above 45 years of age as a

⁴⁸⁸ Cohen, J. (1992): A Power Primer. Psychological Bulletin, Vol. 112, Issue 1, p. 157, DOI: <https://doi.org/10.1037//0033-2909.112.1.155>.

leader attitude that positively affects innovative work behaviour. All calculated effect sizes demonstrate a large effect.

Thus, the expert interviews indicate various findings that complement the research results from the structural equation modeling by considering differences within the sample. Based on these findings, it can be derived that age, work experience and different affiliations affect the perception of how leaders can positively affect the innovative work behaviour of staff members in real estate development organizations.

3.4.3 Discussion and concluding analysis of structured expert interviews

The aim of the previous chapter was to examine the relationship between leader attitudes and innovative work behaviour from the perspective of experts. The structured expert interviews represent the third empirical research method in this doctoral thesis. Specifically, the execution of the structured expert interviews contributes to management science (sub-disciplines leadership and innovation management) and broadens the body of knowledge as follows:

1. Thirteen experts from six different European companies took part in the survey. The experts have an average work experience of 16.77 years and hold at least a master's degree and thus can be considered sufficiently experienced.
2. Research shows that leaders in real estate development companies hold a different viewpoint on the relevance of the leader attitude motivation in affecting innovation compared to representatives.
3. Empirical research demonstrates that experts with more than 10 years of work experience consider respect and motivation to be leader attitudes that significantly affect the innovative work behaviour of employees working in real estate development companies.
4. The research shows that for experts above 45 years of age, demonstrating an attitude of openness towards staff members significantly affects the innovative work behaviour of employees working in real estate development companies.
5. By comparing the research results from the expert interviews with the employee survey, the author has shown a further novelty for management science. For experts the leader attitudes „openness“, „respect“ and „motivation“ are considered significant for fostering the innovative work behaviour of staff members in real estate

development companies, whereas employees require the leader attitudes „integrity“ and „loyalty“ to be innovative at work. Consequently, there is a discrepancy between the leaders' and employees' perspectives of traits that affect innovative work behaviour.

6. The expert interviews confirm that leader attitudes do matter in leadership, which shows that the trait approach remains relevant for management science. The results from the underlying study are, for example, consistent with the findings of Kirkpatrick/Locke (1991) and Mann (1959) that leaders do possess traits that can be used to differentiate them from individuals who are not leaders. Similarly, Lord et al. (1986) also highlight that traits can be seen as distinctive features. Nevertheless, the results from the underlying study partly contradict the findings from Stogdill's (1948) first study highlighting that the relevance of leader attitudes is influenced by situational variables. This research shows that without distinguishing specific situations, certain leader attitudes are more important for experts than others for fostering the innovative work behaviour of staff members in real estate organizations.

Consequently, the underlying research results contribute to the body of knowledge in management science, as new insights into cause-effect relationships between leader attitudes and innovative work behaviour have been identified by including different countries, companies, situations and cultural backgrounds in the study.

CONCLUSIONS

1. Research demonstrates that leader attitudes are a crucial factor in fostering the innovative work behaviour of employees working in real estate development companies, so the companies can remain competitive in a vibrant business environment.
2. The literature review shows that creativity is one major precondition for innovation, and a broad spectrum of different types of innovations exists in the academic literature.
3. The literature analysis demonstrates that organizations can benefit from internal and external sources of innovations. Both types are relevant in generating and further developing novel ideas.
4. The developed research model indicates that showing integrity and loyalty from leaders towards staff members positively and significantly affects the innovative work behaviour of employees in real estate development companies.
5. Research shows a discrepancy between leader attitudes appreciated by employees and those appreciated by experts. Specifically, experts consider openness, motivation and respect as significant in fostering the innovative work behaviour of staff members in real estate development companies, whereas employees require the leader attitudes integrity and loyalty to be innovative at work.
6. Innovative work behaviour is a multidimensional construct and underlies an accurate sequence ranging from idea generation to the implementation of the ideas, and it requires the acceptance of superiors and other staff members as well. Real estate development organizations benefit from innovative work behaviours, as each project is individual and underlies different regulations and technological building requirements.
7. Research shows that organizational hierarchy does not change the relevance of the leader attitudes integrity and loyalty in fostering innovative work behaviour. Thus, staff members in lower hierarchical positions require the same leader attitudes to be innovative at work as staff members from upper management levels.
8. From the systems theory perspective, real estate development companies are open systems and are based on regular exchanges with the environment. Open systems allow the organization and staff members to demonstrate innovative work

behaviour, as trends and customer demands can promptly be identified and considered in the development process.

9. The overall research shows that the main hypothesis is partly supported. Research results from the structural equation modeling support H₀₃ and H₀₄. The structured expert interviews indicate that more experienced experts consider respect and motivation to be leader attitudes that significantly affect the innovative work behaviour of employees working in real estate development companies. Openness of leaders towards staff members is significant for experts who are above 45 years of age.
10. Conducting interviews with experts from six different countries increases the generalization of the research results and reveals that more experienced leaders attach more importance to leader attitudes compared to younger professionals.

SUGGESTIONS

To organizations:

1. Organizations need to offer additional time to staff members to generate new ideas apart from daily tasks.
2. A company culture should be established in which staff members frequently communicate with their leaders and other staff members to share information that supports the process of innovative work behaviour in employees.

To leaders and employees:

1. To facilitate innovative work behaviour in real estate development organizations, leaders must become aware of the fact that leader attitudes affect the innovative work behaviour of staff members and increase the competitiveness of the entire organization.
2. Leaders need to attend training and workshops to identify the current application of leader attitudes and improve their abilities and skills in leadership. It is essential that leaders actively practice leadership. Several practical assessment tools exist for leaders to analyse leader attitudes (e.g., leadership trait questionnaire).
3. Leaders must learn to establish a work environment in which employees can flourish and show innovative work behaviour. Leaders need to see themselves as the persons to contact if staff members develop new ideas. It is suggested that leaders show appreciation when staff members demonstrate innovative behaviour at work.
4. Working groups should be set up for employees with participants from different departments to exchange information and foster innovative work behaviour.
5. Financial or non-financial incentives should be offered to staff members who successfully contribute to the organization by demonstrating innovative work behaviour.
6. Responsibility should be handed over from leaders to innovative staff members to ensure an autonomous working environment in which leaders only support or intervene if necessary.

FURTHER RESEARCH

To scientists:

1. To examine how culture affects the relationship between leader attitudes and the innovative work behaviour of employees.
2. To consider a wider range of industry sectors (research objects) to analyse differences or similarities in how leader attitudes affect the innovative work behaviour of employees.
3. To raise awareness of a thorough differentiation of leader attitudes, and to avoid mixing up or summarizing leader attitudes in the academic literature which causes confusion and increasing barriers in measuring leader attitudes precisely.
4. To include situational aspects to examine if the relevance of leader attitudes changes in showing innovative work behaviour.
5. To examine if gender has an impact on the relationship between leader attitudes and the innovative work behaviour. In particular it should be determined whether men and women demand different leader attitudes to demonstrate innovative work behaviour.
6. To research if groups require different leader attitudes to foster innovative work behaviour than singular persons.

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Appendix 1: Sources for content analysis

Appendix 1 illustrates the academic sources used for the content analysis (frequency analysis) performed in Chapter 2 of this work. To ensure a transparent research process, the author has indicated the author(s), the title, the type of source (journal or book), the wording (manifest or latent), the research method (literature review or empirical research) and the year of publication. Moreover, the number of citations was retrieved from www.scopus.com and/or www.researchgate.net to demonstrate the relevance of the author(s) used in the content analysis.

No.	Author(s)	Title	Type of source	Wording		Research method	Year of publication	No. of author's citations*
				manifest	latent			
Category: TRUST								
1	Bligh, M. C. In: Marques, J./Dhiman, S. (Eds.)	Leadership and Trust. In: Leadership today. Practices for Personal and Professional Performance	Book	trust/trusting	trustworthy	Literature Review	2017	1 659
2	Hoy, W. K./Smith, P. A.	Influence: a key to successful leadership	Journal	trust	trustworthiness /trustworthy	Literature Review	2007	6 241
3	Kirkpatrick, S. A./Locke, E. A.	Leadership: do traits matter?	Journal	trust	trustworthy	Literature Review	1991	26 559
4	Walumbwa, F. O./Schaubroeck, J.	Leader Personality Traits and Employee Voice Behavior: Mediating Roles of Ethical Leadership and Work Group Psychological Safety	Journal	trust/trusting	trustworthy	Empirical Research	2009	17 235
5	Stogdill, R. M.	Personal Factors Associated with Leadership: A Survey of the Literature	Journal		trustworthiness	Empirical Research	1948	1 669
6	Jung, D. D./Sosik, J. J.	Who Are the Spellbinders? Identifying Personal Attributes of Charismatic Leaders	Journal	trust	trustworthy	Empirical Research	2006	9 906
7	Yukl, G.	Leadership in Organizations (Eighth Edition)	Book	trust		Literature Review	2013	6 886
8	Gao, L./Janssen, O./Shi, K.	Leader trust and employee voice: The moderating role of empowering leader behaviors	Journal	trust	trustworthy	Empirical Research	2011	7 055
9	Ping, H./Muftaba, B. G./Whetten, D. A./Wei, Y.	Leader Personality Characteristics And Upward Trust: A Study Of Employee-Supervisor Dyads In China	Journal	trust		Empirical Research	2012	5 634
10	Kelloway, E. K./Turner, N./Barling, J./Loughlin, C.	Transformational leadership and employee psychological well-being: The mediating role of employee trust in leadership	Journal	trust		Empirical Research	2012	26 325
11	Luthra, A./Dahiya, R.	Effective Leadership is all About Communicating Effectively: Connecting Leadership and Communication	Journal	trust		Literature Review	2015	44 665
12	Xie, Y./Xue, W./Li, L./Wang, A./Chen, Y./Zheng, Q./Wang, Y./Li, X.	Leadership style and innovation atmosphere in enterprises: An empirical study	Journal	trust		Empirical Research	2018	5 131
13	Nichols, A. L./Cottrell, C. A.	What do people desire in their leaders? The role of leadership level on trait desirability	Journal	trust	trustworthiness /trustworthy	Empirical Research	2014	2 122
14	Hughes, D. J./Lee, A./Tian, A. W./Newman, A./Legood, A.	Leadership, creativity, and innovation: A critical review and practical recommendations	Journal	trust		Empirical Research	2018	4 934
Category: MOTIVATION								
15	Zaccaro, S. J./Kemp, C./Bader, P.	Leader Traits and Attributes. In: Antonakis, J./Cianciolo, A. T./Sternberg, R. J. (Eds.): The nature of leadership	Book	motivation		Literature Review	2004	7 653
16	Jung, D. I./Avolio, B. J.	Effects of Leadership Style and Followers' Cultural Orientation on Performance in Group and Individual Task Conditions	Journal	motivation		Empirical Research	1999	32 620
17	Gumusluoglu, L./Ilsev, A.	Transformational leadership, creativity, and organizational innovation	Journal	motivation		Empirical Research	2009	1 671
18	Bass, B. M.	Does the Transactional-Transformational Leadership Paradigm Transcend Organizational and National Boundaries?	Journal	motivation		Literature Review	1997	11 651
19	Zaccaro, S. J.	Trait-Based Perspectives of Leadership	Journal	motivation	motivational	Literature Review	2007	7 654
20	Shin, S. J./Zhou, J.	Transformational Leadership, Conservation, and Creativity: Evidence from Korea	Journal	motivation		Empirical Research	2003	11 297
21	Dubinsky, A. J./Yammarino, F. J./Jolson, M. A./Spangler, W. D.	Transformational Leadership: An Initial Investigation in Sales Management	Journal	motivation		Empirical Research	1995	13 376
22	Roßnagel, C. S.	Leadership and Motivation. In: Marques, J./Dhiman, S. (Eds.): Leadership today	Book	motivation		Literature Review	2017	721
23	Van Fleet, D. D./Griffin, R. W.	Dysfunctional organization culture: The role of leadership in motivating dysfunctional work behaviors	Journal	motivation		Literature Review	2006	2 660
24	Chan, K.-Y./Uy, M. A./Chernyshenko, O. S./Ho, M. H. R./Sam, Y.-L.	Personality and entrepreneurial, professional and leadership motivations	Journal	motivation	motivational	Empirical Research	2015	10 015
25	Masi, R. J./Cooke, R. A.	Effects of transformational leadership on subordinate motivation, empowering norms, and organizational productivity	Journal	motivation		Empirical Research	2000	1 284
26	Bronkhorst, B./Steijn, B./Vermeeren, B.	Transformational Leadership, Goal Setting, and Work Motivation: The Case of a Dutch Municipality	Journal	motivation		Empirical Research	2015	2 132
27	Auvinen, E./Huhtala, M./Kinnunen, U./Tsupari, H./Feldt, T.	Leader motivation as a building block for sustainable leader careers: The relationship between leadership motivation profiles and leader and follower outcomes	Journal	motivation	motivational	Empirical Research	2020	10 737
28	Andersen, L. B./Bjørnholt, B./Bro, L. L./Holm-Petersen, C.	Leadership and motivation: a qualitative study of transformational leadership and public service motivation	Journal	motivation		Empirical Research	2018	1 642

Category: INTEGRITY								
29	Hoch, J. E.	Shared Leadership and Innovation: The Role of Vertical Leadership and Employee Integrity	Journal	integrity		Empirical Research	2013	841
30	Six, F. E./De Bakker, F. G. A./Huberts, L. W. J. C.	Judging a Corporate Leader's Integrity: An Illustrated Three-Component Model	Journal	integrity		Literature Review	2007	2 407
31	Brown, M. E./Treviño, L. K./Harrison, D. A.	Ethical leadership: A social learning perspective for construct development and testing	Journal	integrity		Empirical Research	2005	41 250
32	Treviño, L. K./Hartman, L. P./Brown, M.	Moral Person and Moral Manager: How executives develop a reputation for ethical leadership	Journal	integrity		Literature Review	2000	27 895
33	Palanski, M. E./Yammarino, F. J.	Impact of behavioral integrity on follower job performance: A three-study examination	Journal	integrity		Empirical Research	2011	8 656
34	Simons, T. L.	Behavioral integrity as a critical ingredient for transformational leadership	Journal	integrity		Literature Review	1999	3 704
35	Parry, K. W./Proctor-Thomson, S. B.	Perceived Integrity of Transformational Leaders in Organisational Settings	Journal	integrity		Empirical Research	2002	1 727
36	Palanski, M. E./Yammarino, F. J.	Integrity and Leadership: Clearing the Conceptual Confusion	Journal	integrity		Literature Review	2007	8 656
37	Becker, T. E.	Integrity in Organizations: Beyond Honesty and Conscientiousness	Journal	integrity		Literature Review	1998	3 832
38	Craig, S. B./Gustafson, S. B.	Perceived leader integrity scale: An instrument for assessing employee perceptions of leader integrity	Journal	integrity		Empirical Research	1998	3 049
39	Morrison, A.	Integrity and Global Leadership	Journal	integrity		Literature Review	2001	838
40	Petrick, J. A./Quinn, J. F.	The Challenge of Leadership Accountability for Integrity Capacity as a Strategic Asset	Journal	integrity		Literature Review	2001	562
Category: LOYALTY								
41	Dienesch, R. M./Liden, R. C.	Leader-Member Exchange Model of Leadership: A Critique and Further Development	Journal	loyalty		Literature Review	1986	15 843
42	Tseng, L.-M./Wu, J.-Y.	How can financial organizations improve employee loyalty? The effects of ethical leadership, psychological contract fulfillment and organizational identification	Journal	loyalty		Empirical Research	2017	118
43	Groves, K. S.	Examining Leader-Follower Congruence of Social Responsibility Values in Transformational Leadership	Journal	loyalty		Empirical Research	2014	973
44	Kottke, J. L./Pelletier, K. L.	Measuring and Differentiating Perceptions of Supervisor and Top Leader Ethics	Journal		loyal	Empirical Research	2013	431
45	Yukl, G./Mahsud, R./Hassan, S./Prussia, G. E.	An Improved Measure of Ethical Leadership Followers' agreeableness and extraversion and their loyalty towards authentic leadership	Journal	loyalty		Empirical Research	2013	10 030
46	Monzani, L./Ripoll, P./Peiró, J. M.	Is subordinate's loyalty a precondition of supervisor's benevolent leadership? The moderating effects of supervisor's altruistic personality and perceived organizational support	Journal	loyalty		Empirical Research	2014	5 604
47	Wu, T.-Y./Hu, C./Jiang, D.-Y.	Developing a charismatic leadership model for Chinese organizations: the mediating role of loyalty to supervisors	Journal	loyalty		Empirical Research	2012	1 937
48	Wu, M./Wang, J.		Journal	loyalty		Empirical Research	2012	733
Category: RESPECT								
49	Clarke, N.	An integrated conceptual model of respect in leadership	Journal	respect		Literature Review	2011	838
50	Van Quaquebeke, N./Eckloff, T.	Defining Respectful Leadership: What It Is, How It Can Be Measured, and Another Glimpse at What It Is Related to	Journal	respect	respectful	Empirical Research	2010	1 209
51	Graf, M. M./Van Quaquebeke, N./Van Dick, R.	Two Independent Value Orientations: Ideal and Counter-Ideal Leader Values and Their Impact on Followers' Respect for and Identification with Their Leaders	Journal	respect		Empirical Research	2011	7 842
52	Northouse, P. G.	Leadership. Theory and Practice (7th Edition)	Book	respect		Literature Review	2016	175
53	Yukl, G.	Leadership in Organizations (Eighth Edition)	Book	respect		Literature Review	2013	6 886
54	Liden, R. C./Maslyn, J. M.	Multidimensionality of Leader-Member Exchange: An Empirical Assessment through Scale Development	Journal	respect		Empirical Research	1998	17 660
55	Van Gils, S./Van Quaquebeke, N./Borkowski, J./Van Knippenberg, D.	Respectful leadership: Reducing performance challenges posed by leader role incongruence and gender dissimilarity	Journal	respect		Empirical Research	2018	17 248
56	Kim, K./Dansereau, F./Kim, I. S./Kim, K. S.	A Multiple-Level Theory of Leadership: The Impact of Culture as a Moderator	Journal	respect		Literature Review	2004	3 167
57	Wolfram, H.-J./Mohr, G./Schyns, B.	Professional respect for female and male leaders: influential gender-relevant factors	Journal	respect		Empirical Research	2007	4 136
58	Dasborough, M. T.	Cognitive asymmetry in employee emotional reactions to leadership behaviors	Journal	respect		Empirical Research	2006	1 514

Category: COMMUNICATION								
59	Zach, F.	Collaboration for innovation in tourism organizations: Leadership support, innovation formality, and communication	Journal	communication		Empirical Research	2016	476
60	Luthra, A./Dahiya, R.	Effective leadership is all about communicating effectively:	Journal	communication		Literature Review	2015	44 665
61	Ruben, B. D./Gigliotti, R. A.	Connecting leadership and communication Leadership as Social Influence: An Expanded View of Leadership	Journal	communication		Literature Review	2016	976
62	Barge, J. K./Fairhurst, G. T.	Communication Theory and Practice Living Leadership: A Systemic Constructionist Approach	Journal	communication		Literature Review	2008	3 908
63	Eberly, M. B./Johnson, M. D./Hernandez, M./Avolio, B. J.	An Integrative Process Model of Leadership - Examining Loci, Mechanisms, and Event Cycles	Journal	communication		Literature Review	2013	31 814
64	Clutterbuck, D./Hirst, S.	Leadership communication: A status report	Journal	communication		Literature Review	2002	234
65	Ayub, S. H./Manaf, N. A./Hamzah, M. R.	Leadership: Communicating Strategically in the 21st Century	Journal	communication		Literature Review	2014	199
66	De Vries, R. E./Bakker-Pieper, A./Oostenveld, W.	Leadership = Communication? The Relations of Leaders' Communication Styles with Leadership Styles, Knowledge Sharing and Leadership Outcomes	Journal	communication		Empirical Research	2010	3 412
67	Awamleh, R./Gardner, W. L.	Perceptions of leader charisma and effectiveness: The effects of vision content, delivery, and organizational performance	Journal	communication		Empirical Research	1999	9 290
68	Den Hartog, D. N./Verburg, R. M.	Charisma and Rhetoric: Communicative Techniques of International Business Leaders	Journal	communication		Empirical Research	1997	9 011
69	Riggio, R. E./Salinas, C./Riggio, H. R./Cole, E. J.	The Role of Social and Emotional Communication Skills in Leader Emergence and Effectiveness	Journal	communication		Empirical Research	2003	4 849
70	Gajendran, R. S./Joshi, A.	Innovation in Globally Distributed Teams: The Role of LMX, Communication Frequency, and Member Influence on Team Decisions	Journal	communication		Empirical Research	2012	5 813
71	Schneider, F. M./Maier, M./Lovrekovic, S./Retzbach, A.	The Perceived Leadership Communication Questionnaire (PLCQ): Development and Validation	Journal	communication		Empirical Research	2015	894
72	Zerfass, A./Huck, S.	Innovation, Communication, and Leadership: New Developments in Strategic Communication	Journal	communication		Literature Review	2007	814
73	Mikkelsen, A. C./York, J. A./Arritola, J.	Communication Competence, Leadership Behaviors, and Employee Outcomes in Supervisor-Employee Relationships	Journal	communication		Empirical Research	2015	404
74	Neufeld, D. J./Wan, Z./Fang, Y.	Remote Leadership, Communication Effectiveness and Leader Performance	Journal	communication		Empirical Research	2010	4 221
Category: OPENNESS								
75	Judge, T. A./Bono, J. E./Ilies, R./Gerhardt, M. W.	Personality and Leadership: A Qualitative and Quantitative Review	Journal	openness		Empirical Research	2002	63 455
76	Zopiatis, A./Constanti, P.	Extraversion, openness and conscientiousness. The route to transformational leadership in the hotel industry	Journal	openness		Empirical Research	2012	1 007
77	Judge, T. A./Bono, J. E.	Five-Factor Model of Personality and Transformational Leadership	Journal	openness		Empirical Research	2000	51 542
78	Bono, J. E./Judge, T. A.	Personality and Transformational and Transactional Leadership: A Meta-Analysis	Journal	openness		Empirical Research	2004	51 542
79	Strickland, S./Towler, A.	Correlates of Creative Behaviour: The Role of Leadership and Personal Factors	Journal	openness		Empirical Research	2011	705
80	Colbert, A. E./Barrick, M. R./Bradley, B. H.	Personality and Leadership Composition in Top Management Teams: Implications for Organizational Effectiveness	Journal	openness		Empirical Research	2014	18 409
81	Colbert, A. E./Judge, T. A./Choi, D./Wang, G.	Assessing the trait theory of leadership using self and observer ratings of personality: The mediating role of contributions to group success	Journal	openness		Empirical Research	2012	42 688

Category: EMPATHY								
82	Polychroniou, P. V.	Relationship between emotional intelligence and transformational leadership of supervisors: The impact on team effectiveness	Journal	empathy		Empirical Research	2009	260
83	Holt, S./Marques, J.	Empathy in Leadership: Appropriate or Misplaced? An Empirical Study on a Topic that is Asking for Attention	Journal	empathy		Empirical Research	2012	454
84	Mostoviz, E. I./Kakabadse, N. K./Kakabadse, A. P.	A dynamic theory of leadership development	Journal	empathy		Literature Review	2009	5 525
85	Choi, J.	A Motivational Theory of Charismatic Leadership: Envisioning, Empathy, and Empowerment	Journal	empathy		Literature Review	2006	1 806
86	Kellelt, J. B./Humphrey, R. H./Sleeth, R. G.	Empathy and the emergence of task and relations leaders	Journal	empathy		Empirical Research	2006	3 753
87	Mahsud, R./Yukl, G./Prussia, G.	Leader empathy, ethical leadership, and relations-oriented behaviors as antecedents of leader-member exchange quality	Journal	empathy		Empirical Research	2010	9 417
88	Wolff, S. B./Pescosolido, A. T./Druskat, V. U.	Emotional intelligence as the basis of leadership emergence in self-managing teams	Journal	empathy		Empirical Research	2002	3 094
89	Kock, N./Mayfield, M./Mayfield J./Sexton, S./De La Garza, L. M.	Empathetic Leadership: How Leader Emotional Support and Understanding Influences Follower Performance	Journal	empathy	empathetic	Empirical Research	2019	8 503**
90	Cornelis, I./Van Hiel, A./De Cremer, D./Mayer, D. M.	When leaders choose to be fair: Follower belongingness needs and leader empathy influences leaders' adherence to procedural fairness rules	Journal	empathy		Empirical Research	2013	19 462
91	Amabile, T. M./Schatzel, E. A./Moneta, G. B./Kramer, S. J.	Leader behaviors and the work environment for creativity: Perceived leader support	Journal	empathy		Empirical Research	2004	22 060

* The number of citations was retrieved from www.scopus.com. If the publication had more than one author, the number of citations from each additional author was added to the total if available.

** The number of citations was retrieved from www.researchgate.net. If the publication had more than one author, the number of citations from each additional author was added to the total if available.

Appendix 1: Sources for content analysis

Source: author's compilation

Appendix 2: Questionnaire for employees in real estate development companies in English

Dear Sir or Madam,

You are participating in a scientific survey that researches which and to what extent leader attitudes affect the innovative work behaviour of employees working in real estate development companies. In times of fierce competition and globalization, innovative work behaviour has increasingly become essential to remain competitive on the market.

Before participating in this survey, please ensure that you meet the following requirements:

- You are currently working for a real estate development company located in Europe
- Your tasks contribute to the development of real estate

Participation in this survey requires approximately 15 minutes and is voluntary. The research results will be solely processed anonymously for this research project. This means that no conclusions about the company you work for, your leader or the participants will be drawn. If you have any further questions, please do not hesitate to contact Mr. Rene Lauck. Thank you very much for participating in this survey.

Yours sincerely,
Rene Lauck

Section A: Leader attitudes

The following questions explore how you perceive the attitudes of your direct leader. Please mark only one response for each statement that best describes the extent to which you agree or disagree.

Question number and statement	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. My leader and I have a sharing relationship. We can both freely share our ideas, feelings, and hopes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I can talk freely to my leader about difficulties I am having at work and know that he or she will want to listen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. My leader and I would feel a sense of loss if one of us was transferred and we could no longer work together	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. If I shared my problems with my leader, I know he or she would respond constructively and caringly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I would have to say that my leader and I made considerable investments in our working relationship	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. My leader approaches his or her job with professionalism and dedication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Given my leader's success, I see no reason to doubt his or her competence and preparation for the job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I can rely on my leader not to make my job more difficult by careless work	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Most people, even those who are not close friends of my leader, trust and respect him or her as a coworker	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Other work associates of mine, who must interact with my leader, consider him or her to be trustworthy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I believe my leader is fair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. I believe my leader is honest	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question number and statement	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
13. I can depend on the fairness of my leader	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. My leader puts the words into action	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I know my leader will keep his or her word	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. My leader behaves consistently from one person to the next	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. My leader demonstrates consistency in public and private behavior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. My leader openly listens when people offer perspectives that are different from his or her own	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. My leader avoids isolating from employees in performing his or her duties	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. My leader openly explains his or her decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. My leader openly declares his or her values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. My leader is a role model	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. My leader interacts openly and candidly with employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I trust the judgment of my leader in work issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. In a lot of matters concerning work I gladly seek advice from my leader	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. At work I enjoy being able to learn from my leader	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Due to the influence of my leader I feel very constricted in my professional development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. I owe respect to the way my leader accomplishes his or her professional functions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. My leader and I share sensitive information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question number and statement	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
30. The exchange of information between me and my leader takes place frequently, informally and/or in a timely manner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. My leader and I keep each other informed about events or changes that may affect the other one	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. My leader and I have frequent face-to-face communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. My leader defends my work actions to a superior, even without complete knowledge of the issue in question	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. My leader would come to my defense if I were "attacked" by others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. My leader would defend me to others in the organization if I made an honest mistake	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. I work because I enjoy this work very much with my leader	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. I work because I have fun doing my job with my leader	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. I work for the moments of pleasure that this job brings me with my leader	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. My leader accurately reads people's moods, feelings, or nonverbal cues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. My leader gives others opportunity to speak their mind	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. My leader accurately assesses the underlying or root causes of a person's problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. My leader pays attention and listens well	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. My leader shows sensitivity and understanding	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. My leader asks questions to be sure he or she understands another person	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section B: Innovative work behaviour

The following questions explore your innovative work behaviour. Please mark only one response for each statement that best describes the extent to which you agree or disagree.

Question number and statement	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1. I wonder how things can be improved	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I search out new working methods, techniques or instruments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I generate original solutions for problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I find new approaches to execute tasks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I make important employees enthusiastic for innovative ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I attempt to convince employees to support an innovative idea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I contribute to the implementation of new ideas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I put effort in the development of new things	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section C: Demographic data

The following questions focus on your demographic background so that differentiated evaluations can be performed. Please mark only one response for each statement.

1. Please indicate your age.

- 25 years or younger 26-35 years 36-45 years 46-55 years over 55 years

2. Please indicate your gender.

- female male

3. How long have you been working for this company?

- 1-3 years 4-6 years 7-9 years 10-12 years above 12 years

4. How many years have you been working for real estate development companies in total?

- 1-3 years 4-6 years 7-9 years 10-12 years above 12 years

5. Are you currently holding a leadership position?

- Yes No

5.1. If you marked the previous answer with “yes”, please indicate how many employees you lead.

- 1-5 6-10 11-15 16-20 more than 20

6. In which country do you work? Please choose one of the following countries. If you work in multiple countries, please mark the country in which you work most of the time.

- | | | | |
|-----------------------------------------|----------------------------------|--------------------------------------|-----------------------------------------|
| <input type="checkbox"/> Austria | <input type="checkbox"/> Denmark | <input type="checkbox"/> Latvia | <input type="checkbox"/> Romania |
| <input type="checkbox"/> Germany | <input type="checkbox"/> Estonia | <input type="checkbox"/> Lithuania | <input type="checkbox"/> Slovakia |
| <input type="checkbox"/> Spain | <input type="checkbox"/> Finland | <input type="checkbox"/> Luxembourg | <input type="checkbox"/> Sweden |
| <input type="checkbox"/> Switzerland | <input type="checkbox"/> France | <input type="checkbox"/> Malta | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> Belgium | <input type="checkbox"/> Greece | <input type="checkbox"/> Netherlands | |
| <input type="checkbox"/> Croatia | <input type="checkbox"/> Hungary | <input type="checkbox"/> Poland | |
| <input type="checkbox"/> Czech Republic | <input type="checkbox"/> Ireland | <input type="checkbox"/> Portugal | |

7. If you would like to inform us about further issues of leader attitudes affecting innovative work behaviour, please do not hesitate to use the textbox below:

Thank you for participating in this survey.

Appendix 3: Questionnaire for employees in real estate development companies in German

Sehr geehrte Teilnehmerin, sehr geehrter Teilnehmer,

Sie nehmen an einer wissenschaftlichen Umfrage teil die untersucht, welche und in welchem Ausmaß Führungseigenschaften Auswirkungen auf das innovative Arbeitsverhalten von Mitarbeitern in der Immobilienprojektentwicklung haben. Aufgrund der Globalisierung und des ansteigenden Wettbewerbes gewinnt dieses Thema zunehmend an Bedeutung.

Bevor Sie an der Umfrage teilnehmen stellen Sie bitte sicher, dass folgende Anforderungen erfüllt werden:

- Sie arbeiten derzeit für ein Immobilienprojektentwicklungsunternehmen in Europa
- Ihre Arbeitsaufgaben tragen zur Entwicklung von Immobilien bei

Die Teilnahme an dieser Umfrage erfordert ungefähr 15 Minuten und ist freiwillig. Die Ergebnisse dieser Umfrage werden ausschließlich anonym im Rahmen des Forschungsprojektes (Dissertation) verarbeitet. Es werden keine Rückschlüsse auf das Unternehmen, die Führungskraft und die Mitarbeiter gezogen. Sollten Sie Fragen zur Umfrage haben, wenden Sie sich bitte an Herrn Rene Lauck.

Vielen Dank für Ihre Teilnahme.

Mit freundlichen Grüßen

Rene Lauck

Teil A: Führungseigenschaften

Die folgenden Fragen untersuchen, wie Sie Eigenschaften Ihrer unmittelbaren Führungskraft wahrnehmen. Bitte markieren Sie für die jeweiligen Aussagen jene Antwortmöglichkeit, die am besten für Sie zutrifft.

Frage Nummer und Aussage	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll zu
1. Meine Führungskraft und ich haben eine vertrauensvolle Beziehung. Wir können beide offen über unsere Ideen, Gefühle und Hoffnungen sprechen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ich kann offen mit meiner Führungskraft über Schwierigkeiten in meinem Job sprechen und weiß, dass sie/er mir zuhört	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Meine Führungskraft und ich würden ein Verlustgefühl verspüren, wenn einer von uns beiden versetzt werden würde und wir nicht mehr gemeinsam zusammen arbeiten könnten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Wenn ich meine Probleme mit meiner Führungskraft teile weiß ich, dass sie/er konstruktiv und einfühlsam antwortet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Ich würde sagen, dass meine Führungskraft und ich erheblich in unsere Arbeitsbeziehung investiert haben	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Meine Führungskraft übt ihren/seinen Beruf mit Professionalität und Leidenschaft aus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Angesichts des Erfolges meiner Führungskraft habe ich keine Zweifel an ihrer/seiner Kompetenz und Vorbereitung im Job	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Ich kann mich auf meine Führungskraft verlassen, dass sie/er meinen Job nicht mit unnötiger Arbeit erschwert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Die meisten Menschen, auch diejenigen die nicht eng mit meiner Führungskraft befreundet sind, vertrauen und respektieren ihn/sie als Mitarbeiter/in	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Andere Arbeitskollegen von mir, die mit meiner Führungskraft zusammenarbeiten müssen, würden sie/ihn als vertrauenswürdig einschätzen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Fragennummer und Aussage	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll zu
11. Ich glaube, meine Führungskraft ist fair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Ich glaube, meine Führungskraft ist ehrlich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Ich kann mich auf die Fairness meiner Führungskraft verlassen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Meine Führungskraft setzt die Worte in Taten um	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Ich weiß, dass meine Führungskraft zu ihrem/seinem Wort steht	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Meine Führungskraft verhält sich konsequent von einer Person zur anderen Person gleich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Meine Führungskraft verhält sich im öffentlichen und privaten Leben gleich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Meine Führungskraft hört genau zu wenn Mitarbeiter Vorschläge unterbreiten, die sich von seinen/ihren eigenen unterscheiden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. Meine Führungskraft isoliert sich nicht bei der Durchführung ihrer/seiner Aufgaben	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Meine Führungskraft erklärt offen ihre/seine Entscheidungen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Meine Führungskraft erklärt offen ihre/seine Werte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Meine Führungskraft ist ein Vorbild	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Meine Führungskraft ist offen und aufrichtig zu Mitarbeiter/innen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Ich vertraue dem Urteilsvermögen meiner Führungskraft in Arbeitsangelegenheiten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. In vielen Arbeitsangelegenheiten suche ich gerne den Rat meiner Führungskraft	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Ich genieße es, bei der Arbeit von meiner Führungskraft lernen zu dürfen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Fragennummer und Aussage	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll zu
27. Aufgrund des Einflusses meiner Führungskraft fühle ich mich in meiner beruflichen Entwicklung stark eingeschränkt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Ich empfinde Respekt für die Art, wie meine Führungskraft ihre/seine beruflichen Aufgaben erfüllt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Meine Führungskraft und ich tauschen vertrauliche Informationen aus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Der Informationsaustausch zwischen meiner Führungskraft und mir findet regelmäßig, informal und/oder zeitnah statt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Meine Führungskraft und ich halten uns gegenseitig über Ereignisse oder Veränderungen, die uns gegenseitig betreffen, auf dem Laufenden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Meine Führungskraft und ich kommunizieren häufig persönlich	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Meine Führungskraft verteidigt meine Arbeit gegenüber einer Führungskraft auch ohne vollständigem Wissen des eigentlichen Problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Meine Führungskraft würde mich verteidigen, wenn ich von anderen „attackiert“ werden würde	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. Meine Führungskraft würde mich vor anderen im Unternehmen verteidigen, wenn ich einen Fehler gemacht hätte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. Ich arbeite, weil ich die Arbeit mit meiner Führungskraft genieße	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. Ich arbeite, weil ich Spaß, zusammen mit meiner Führungskraft, an der Arbeit habe	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. Ich arbeite für die Momente der Freude die dieser Job, zusammen mit meiner Führungskraft, mit sich bringt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Frage nummer und Aussage	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll zu
39. Meine Führungskraft erkennt sehr genau die Stimmungen, Gefühle oder non-verbale Hinweise der Mitarbeiter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. Meine Führungskraft ermöglicht anderen ihre Meinungen zu sagen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. Meine Führungskraft schätzt sehr genau die zugrundeliegenden Ursachen für Probleme anderer Personen ein	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
42. Meine Führungskraft ist aufmerksam und hört genau zu	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
43. Meine Führungskraft zeigt Feingefühl und Verständnis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
44. Meine Führungskraft fragt nach um sicher zu gehen, dass sie/er die andere Person richtig versteht	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teil B: Innovatives Arbeitsverhalten

Die folgenden Fragen untersuchen Ihr innovatives Arbeitsverhalten. Bitte markieren Sie pro Aussage die Antwortmöglichkeit, die am besten für Sie zutrifft.

Fragennummer und Aussage	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll zu
1. Ich frage mich, wie etwas verbessert werden kann	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ich suche nach neuen Arbeitsmethoden, Vorgehensweisen oder Instrumenten	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Ich entwickle originelle Lösungen für Probleme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Ich finde neue Vorgehensweisen zur Ausführung von Aufgaben	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Ich begeistere wichtige Mitarbeiter für innovative Ideen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Ich versuche Mitarbeiter zu überzeugen, innovative Ideen zu unterstützen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Ich trage zur Einführung neuer Ideen bei	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Ich stecke Bemühungen in die Entwicklung von neuen Dingen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teil C: Demografische Daten

Die folgenden Fragen fokussieren sich auf Ihren demografischen Hintergrund und ermöglichen dadurch unterschiedliche Auswertungen. Bitte markieren Sie pro Frage eine Antwortmöglichkeit.

1. Bitte geben Sie Ihr Alter an.

- 25 Jahre oder jünger 26-35 Jahre 36-45 Jahre 46-55 Jahre über 55 Jahre

2. Bitte geben Sie Ihr Geschlecht an.

- weiblich männlich

3. Wie lange arbeiten Sie schon für dieses Unternehmen?

- 1-3 Jahre 4-6 Jahre 7-9 Jahre 10-12 Jahre über 12 Jahre

4. Wie viele Jahre arbeiten Sie insgesamt in der Immobilienprojektentwicklung?

- 1-3 Jahre 4-6 Jahre 7-9 Jahre 10-12 Jahre über 12 Jahre

5. Sind Sie derzeit in einer Führungsposition?

- Ja Nein

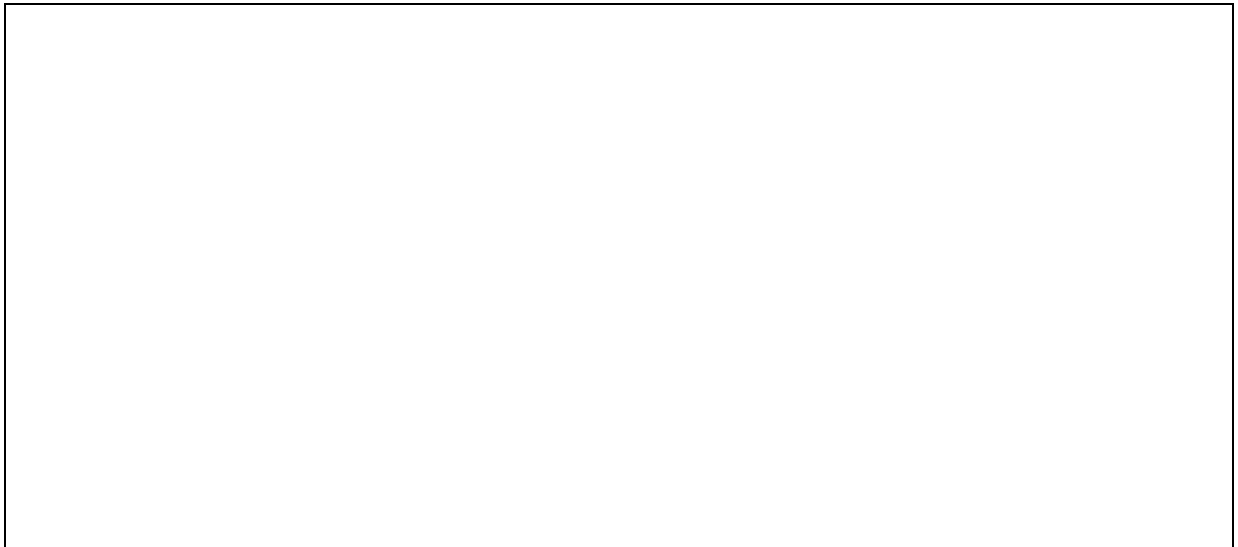
5.1. Wenn Sie die vorherige Frage mit "Ja" beantwortet haben, geben Sie bitte an wie viele Personen Sie führen.

- 1-5 6-10 11-15 16-20 mehr als 20

6. In welchem Land arbeiten Sie? Bitte markieren Sie eines der folgenden Länder. Wenn Sie in mehreren Ländern arbeiten markieren Sie bitte jenes Land, in dem Sie überwiegend arbeiten.

- | | | | |
|------------------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------------------|
| <input type="checkbox"/> Österreich | <input type="checkbox"/> Dänemark | <input type="checkbox"/> Lettland | <input type="checkbox"/> Rumänien |
| <input type="checkbox"/> Deutschland | <input type="checkbox"/> Estland | <input type="checkbox"/> Litauen | <input type="checkbox"/> Slowakei |
| <input type="checkbox"/> Spanien | <input type="checkbox"/> Finnland | <input type="checkbox"/> Luxemburg | <input type="checkbox"/> Schweden |
| <input type="checkbox"/> Schweiz | <input type="checkbox"/> Frankreich | <input type="checkbox"/> Malta | <input type="checkbox"/> Vereinigtes Königreich |
| <input type="checkbox"/> Belgien | <input type="checkbox"/> Griechenland | <input type="checkbox"/> Niederlande | |
| <input type="checkbox"/> Kroatien | <input type="checkbox"/> Ungarn | <input type="checkbox"/> Polen | |
| <input type="checkbox"/> Tschechische Republik | <input type="checkbox"/> Irland | <input type="checkbox"/> Portugal | |

7. Wenn Sie uns noch etwas zu den Themen Führungseigenschaften und innovatives Arbeitsverhalten mitteilen möchten, verwenden Sie bitte das nachstehende Textfeld.

A large, empty rectangular box with a thin black border, intended for the respondent to provide additional feedback or comments on the topics of leadership traits and innovative work behavior.

Vielen Dank für Ihre Teilnahme.

Appendix 4: Questionnaire for experts in English

Dear Sir or Madam,

First of all, we would like to thank you for participating with your expert knowledge in our survey that is researching which and to what extent leader attitudes affect the innovative work behaviour of employees working in real estate development companies. In times of fierce competition and globalization, innovative work behaviour has increasingly become essential to remain competitive on the market.

Participation in this survey requires approximately eight minutes and is voluntary. The results will be solely processed anonymously for this research project. If you have any further questions, please do not hesitate to contact Mr. Rene Lauck. Thank you very much for participating in this survey.

Yours sincerely,
Rene Lauck

Section A: Leader attitudes

At the beginning of this section, we would like to outline definitions of each leader attitude to facilitate a uniform understanding within this survey. Therefore, we kindly ask you to read the following leader attitudes carefully. The arrangement of leader attitudes in the box below is random.

Trust	<i>An expectation or belief that one can rely on another person's actions and words and that the person has good intentions to carry out their promises.⁴⁸⁹</i>
Respect	<i>A person's attitude towards other people, in whom he/she sees a reason, that in itself, justifies a degree of attention and a type of behavior that in return engenders in the target a feeling of being appreciated in importance and worth as a person.⁴⁹⁰</i>
Openness	<i>The tendency to be informed, creative, insightful, and curious.⁴⁹¹</i>
Empathy	<i>The ability to anticipate and share others' emotional states.⁴⁹²</i>
Motivation	<i>A set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behavior, and to determine its form, direction, intensity, and duration.⁴⁹³</i>
Integrity	<i>Communicates in an open and honest way, keeps promises and commitments, acts in ways that are consistent with espoused values, admits and accepts responsibility for mistakes, does not attempt to manipulate or deceive people.⁴⁹⁴</i>
Communication	<i>The interchange of thought or information between two or more persons to bring about mutual understanding and desired action.⁴⁹⁵</i>
Loyalty	<i>The expression of public support for the goals and the personal character of the other member.⁴⁹⁶</i>

⁴⁸⁹ Bligh, M. C. (2017): Leadership and Trust. In: Marques, J./Dhiman, S. (Eds.): Leadership Today. Practices for Personal and Professional Performance. Springer International Publishing, Switzerland, p. 22.

⁴⁹⁰ Van Quaquebeke, N./Eckloff, T. (2010): Defining Respectful Leadership: What It Is, How It Can Be Measured, and Another Glimpse at What It Is Related to. Journal of Business Ethics, Vol. 91, Issue 3, p. 344, DOI: <https://doi.org/10.1007/s10551-009-0087-z>.

⁴⁹¹ Northouse, P. G. (2016): Leadership. Theory and Practice. Seventh Edition, Sage Publications, Thousand Oaks, p. 27.

⁴⁹² Pelligra, V. (2011): Empathy, Guilt-Aversion, and Patterns of Reciprocity. Journal of Neuroscience, Psychology, and Economics, Vol. 4, Issue 3, p. 170, DOI: <http://dx.doi.org/10.1037/a0024688>.

⁴⁹³ Pinder, C. C. (2008): Work Motivation in Organizational Behavior. Second Edition, Psychology Press, New York and Hove, p. 11.

⁴⁹⁴ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 336.

⁴⁹⁵ Bisen, V./Priya (2009): Business Communication. New Age International Publishers, New Delhi, p. 2.

⁴⁹⁶ Dienesch, R. M./Liden, R. C. (1986): Leader-Member Exchange Model of Leadership: A Critique and Further Development. Academy of Management Review, Vol. 11, Issue 3, p. 625, DOI: <https://doi.org/10.2307/258314>.

1. Please indicate how important you find the following attitudes for fostering innovative work behaviour. For each leader attitude, please mark the answer that best describes the relevance for you. The arrangement of leader attitudes in the box below is random.

Leader attitudes	Unimportant	Of little importance	Moderately important	Important	Very important
Trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respect	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Openness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Empathy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motivation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integrity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Communication	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loyalty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section B: Innovative work behaviour

At the beginning of this section, we would like to outline a definition of innovative work behaviour to facilitate a uniform understanding within this survey. Therefore, we kindly ask you to read the following definition carefully.

Innovative work behaviour	<i>The intentional creation, introduction and application of new ideas within a work role, group or organization, in order to benefit role performance, the group, or the organization.⁴⁹⁷</i>
----------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

1. Please indicate how important innovative work behavior is for you. Please choose one of the following answers.

Unimportant	Of little importance	Moderately important	Important	Very important
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section C: Demographic data

The following questions focus on your demographic background so that differentiated evaluations can be performed. Please mark only one response for each statement.

⁴⁹⁷ Janssen, O. (2000): Job demands, perceptions of effort–reward fairness and innovative work behaviour. *Journal of Occupational and Organizational Psychology*, Vol. 73, Issue 3, p. 288, DOI: <https://doi.org/10.1348/096317900167038>.

1. Please indicate your age.

25 years or younger 26-35 years 36-45 years 46-55 years over 55 years

2. Please indicate your gender.

female male

3. Please indicate the institution you work for. Please choose one of the following answers. If you work for more than one of the following types of institutions, please mark the institution in which you work most of the time.

<input type="checkbox"/> State-run company
<input type="checkbox"/> Privately-owned company
<input type="checkbox"/> Academic institution (e.g., university, research institution)

4. How many years have you been working in the real estate sector? If you do not work in the real estate sector, please leave this question unanswered.

<input type="text"/>	<input type="text"/>	Years
----------------------	----------------------	-------

5. How many years have you been working in academic institutions (e.g., university, research institution)? If you do not work in academic institutions, please leave this question unanswered.

<input type="text"/>	<input type="text"/>	Years
----------------------	----------------------	-------

6. Please indicate your job description.

7. Please indicate your highest academic degree.

Bachelor's Master's Doctoral none

8. In which country do you work? Please choose one of the following countries. If you work in more than one country, please mark the country in which you work most of the time.

- | | | | |
|-----------------------------------------|----------------------------------|--------------------------------------|-----------------------------------------|
| <input type="checkbox"/> Austria | <input type="checkbox"/> Denmark | <input type="checkbox"/> Latvia | <input type="checkbox"/> Romania |
| <input type="checkbox"/> Germany | <input type="checkbox"/> Estonia | <input type="checkbox"/> Lithuania | <input type="checkbox"/> Slovakia |
| <input type="checkbox"/> Spain | <input type="checkbox"/> Finland | <input type="checkbox"/> Luxembourg | <input type="checkbox"/> Sweden |
| <input type="checkbox"/> Switzerland | <input type="checkbox"/> France | <input type="checkbox"/> Malta | <input type="checkbox"/> United Kingdom |
| <input type="checkbox"/> Belgium | <input type="checkbox"/> Greece | <input type="checkbox"/> Netherlands | |
| <input type="checkbox"/> Croatia | <input type="checkbox"/> Hungary | <input type="checkbox"/> Poland | |
| <input type="checkbox"/> Czech Republic | <input type="checkbox"/> Ireland | <input type="checkbox"/> Portugal | |

9. If you would like to inform us about further issues of leader attitudes affecting innovative work behaviour, please do not hesitate to use the textbox below.

10. If you wish to receive the research results, please indicate the following contact details. Otherwise, leave the two fields blank.

Name:
E-Mail:

Thank you for participating in this survey.

Appendix 5: Questionnaire for experts in German

Sehr geehrte Damen und Herren,

wir danken für die Teilnahme mit Ihrem Expertenwissen an unserer Umfrage die untersucht, welche und in welchem Ausmaß Führungseigenschaften Auswirkungen auf das innovative Arbeitsverhalten von Mitarbeitern in der Immobilienprojektentwicklung haben. Aufgrund der Globalisierung und des ansteigenden Wettbewerbes gewinnt dieses Thema zunehmend an Bedeutung.

Die Teilnahme an dieser Umfrage erfordert ungefähr acht Minuten und ist freiwillig. Die Ergebnisse der Umfrage werden ausschließlich anonym im Rahmen des Forschungsprojektes verarbeitet. Sollten Sie weitere Fragen zur Umfrage haben, wenden Sie sich bitte an Herrn Rene Lauck.

Vielen Dank für Ihre Teilnahme.

Mit freundlichen Grüßen,
Rene Lauck

Teil A: Führungseigenschaften

Zu Beginn des Teils A dieser Umfrage finden Sie für jede Führungseigenschaft eine Definition, um so ein einheitliches Verständnis innerhalb der Umfrage zu schaffen. Wir bitten Sie deshalb, die folgende Tabelle mit der Beschreibung der Führungseigenschaften genau zu lesen. Die Anordnung der Führungseigenschaften in der nachstehenden Tabelle erfolgt zufällig.

Vertrauen	<i>Die Erwartung oder der Glaube, dass sich jemand auf das Handeln und die Worte einer anderen Person verlassen kann und, dass das Gegenüber gute Absichten hat die Versprechen einzuhalten.⁴⁹⁸</i>
Respekt	<i>Die Haltung einer Person gegenüber einer anderen Person, in denen er/sie einen Grund sieht, einen gewissen Grad an Aufmerksamkeit oder Verhalten zu zeigen, welches wiederum bei der anderen Person ein Gefühl von Wertschätzung und Wichtigkeit hervorruft.⁴⁹⁹</i>
Offenheit	<i>Die Neigung informiert, kreativ, einfühlsam und interessiert zu sein.⁵⁰⁰</i>
Empathie	<i>Die Fähigkeit Gefühlszustände anderer zu antizipieren oder zu teilen.⁵⁰¹</i>
Motivation	<i>Eine Ansammlung an energetischen Kräften die innerhalb und außerhalb einer Person liegen und ein gewisses Arbeitsverhalten veranlassen, das die Form, Richtung, Intensität und Dauer bestimmt.⁵⁰²</i>
Integrität	<i>Eine offene und ehrliche Kommunikation, in der Versprechen und Verpflichtungen eingehalten werden und das Verhalten konsistent mit den Wertvorstellungen ist und Verantwortung für Fehler übernommen und Menschen nicht manipuliert oder getäuscht werden.⁵⁰³</i>
Kommunikation	<i>Der Austausch von Gedanken und Informationen zwischen zwei oder mehreren Personen, um gegenseitiges Verständnis und die gewünschte Handlung hervorzurufen.⁵⁰⁴</i>
Loyalität	<i>Der Ausdruck von öffentlicher Unterstützung für Ziele und dem persönlichen Charakter von anderen Menschen.⁵⁰⁵</i>

⁴⁹⁸ Bligh, M. C. (2017): Leadership and Trust. In: Marques, J./Dhiman, S. (Eds.): Leadership Today. Practices for Personal and Professional Performance. Springer International Publishing, Switzerland, p. 22.

⁴⁹⁹ Van Quaquebeke, N./Eckloff, T. (2010): Defining Respectful Leadership: What It Is, How It Can Be Measured, and Another Glimpse at What It Is Related to. Journal of Business Ethics, Vol. 91, Issue 3, p. 344, DOI: <https://doi.org/10.1007/s10551-009-0087-z>.

⁵⁰⁰ Northouse, P. G. (2016): Leadership. Theory and Practice. Seventh Edition, Sage Publications, Thousand Oaks, p. 27.

⁵⁰¹ Pelligra, V. (2011): Empathy, Guilt-Aversion, and Patterns of Reciprocity. Journal of Neuroscience, Psychology, and Economics, Vol. 4, Issue 3, p. 170, DOI: <http://dx.doi.org/10.1037/a0024688>.

⁵⁰² Pinder, C. C. (2008): Work Motivation in Organizational Behavior. Second Edition, Psychology Press, New York and Hove, p. 11.

⁵⁰³ Yukl, G. (2013): Leadership in Organizations. Eighth Edition, Pearson Education, Essex, p. 336.

⁵⁰⁴ Bisen, V./Priya (2009): Business Communication. New Age International Publishers, New Delhi, p. 2.

⁵⁰⁵ Dienesch, R. M./Liden, R. C. (1986): Leader-Member Exchange Model of Leadership: A Critique and Further Development. Academy of Management Review, Vol. 11, Issue 3, p. 625, DOI: <https://doi.org/10.2307/258314>.

1. Bitte geben Sie an, wie wichtig Sie die folgenden Führungseigenschaften zur Förderung eines innovativen Arbeitsverhaltens finden. Bitte markieren Sie für jede Führungseigenschaft die Antwortmöglichkeit, die am besten für Sie zutrifft. Die Anordnung der nachstehenden Führungseigenschaften erfolgt zufällig.

Führungseigenschaften	unwichtig	wenig wichtig	einigermaßen wichtig	wichtig	sehr wichtig
Vertrauen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respekt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Offenheit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Empathie	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Motivation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Integrität	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kommunikation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Loyalität	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teil B: Innovatives Arbeitsverhalten

Zu Beginn des Teils B dieser Umfrage möchten wir Ihnen eine Definition zum innovativen Arbeitsverhalten geben, um so ein einheitliches Verständnis zu schaffen. Deswegen bitten wir Sie, die nachfolgende Definition genau zu lesen.

Innovatives Arbeitsverhalten	<i>Die beabsichtigte Schaffung, Einführung und Anwendung von neuen Ideen innerhalb einer Arbeitsrolle, Gruppe oder Organisation, sodass die Rollenleistung, die Gruppe oder die Organisation davon profitieren.⁵⁰⁶</i>
-------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

1. Bitte geben Sie an, wie wichtig innovatives Arbeitsverhalten für Sie ist. Bitte wählen Sie eine der folgenden Antwortmöglichkeiten.

unwichtig	wenig wichtig	einigermaßen wichtig	wichtig	sehr wichtig
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Teil C: Demografische Daten

Die folgenden Fragen fokussieren sich auf Ihren demografischen Hintergrund und ermöglichen dadurch unterschiedliche Auswertungen. Bitte markieren Sie pro Frage eine Antwortmöglichkeit.

⁵⁰⁶ Janssen, O. (2000): Job demands, perceptions of effort–reward fairness and innovative work behaviour. Journal of Occupational and Organizational Psychology, Vol. 73, Issue 3, p. 288, DOI: <https://doi.org/10.1348/096317900167038>.

1. Bitte geben Sie Ihr Alter an.

25 Jahre oder jünger 26-35 Jahre 36-45 Jahre 46-55 Jahre über 55 Jahre

2. Bitte geben Sie Ihr Geschlecht an.

weiblich männlich

3. Bitte geben Sie an, für welche der nachfolgenden Institutionen Sie arbeiten. Bitte wählen Sie eine der folgenden Antwortmöglichkeiten. Falls Sie für mehr als eine der nachfolgenden Institutionen arbeiten, wählen Sie bitte jene Institution, in der Sie die überwiegende Zeit arbeiten.

- | |
|--------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Staatlich geführtes Unternehmen |
| <input type="checkbox"/> Privat geführtes Unternehmen |
| <input type="checkbox"/> Akademische Institution (z.B. Universität, Forschungseinrichtung) |

4. Wie viele Jahre arbeiten Sie in der Immobilienbranche? Wenn Sie nicht in der Immobilienbranche arbeiten, dann lassen Sie bitte die Frage unbeantwortet.

Jahre

5. Wie viele Jahre arbeiten Sie in akademischen Institutionen (z.B. Universitäten, Forschungseinrichtungen)? Wenn Sie nicht in akademischen Institutionen arbeiten, dann lassen Sie bitte die Frage unbeantwortet.

Jahre

6. Bitte geben Sie Ihre Berufsbezeichnung an.

7. Bitte geben Sie ihren höchsten akademischen Grad an.

Bachelor Master Doktor keinen

8. In welchem Land arbeiten Sie? Bitte markieren Sie eines der folgenden Länder. Wenn Sie in mehreren Ländern arbeiten markieren Sie bitte jenes Land, in dem Sie überwiegend arbeiten.

- | | | | |
|------------------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------------------|
| <input type="checkbox"/> Österreich | <input type="checkbox"/> Dänemark | <input type="checkbox"/> Lettland | <input type="checkbox"/> Rumänien |
| <input type="checkbox"/> Deutschland | <input type="checkbox"/> Estland | <input type="checkbox"/> Litauen | <input type="checkbox"/> Slowakei |
| <input type="checkbox"/> Spanien | <input type="checkbox"/> Finnland | <input type="checkbox"/> Luxemburg | <input type="checkbox"/> Schweden |
| <input type="checkbox"/> Schweiz | <input type="checkbox"/> Frankreich | <input type="checkbox"/> Malta | <input type="checkbox"/> Vereinigtes Königreich |
| <input type="checkbox"/> Belgien | <input type="checkbox"/> Griechenland | <input type="checkbox"/> Niederlande | |
| <input type="checkbox"/> Kroatien | <input type="checkbox"/> Ungarn | <input type="checkbox"/> Polen | |
| <input type="checkbox"/> Tschechische Republik | <input type="checkbox"/> Irland | <input type="checkbox"/> Portugal | |

9. Wenn Sie uns noch etwas zu den Führungseigenschaften und innovatives Arbeitsverhalten mitteilen möchten, verwenden Sie bitte das nachstehende Textfeld.

10. Wenn Sie die Forschungsergebnisse erhalten möchten, geben Sie bitte Ihren Namen und Ihre E-Mail Adresse an. Anderenfalls lassen Sie bitte beide Textfelder frei.

Name:
E-Mail:

Vielen Dank für Ihre Teilnahme.

Appendix 6: Indicators for measuring the latent variables in the employee study

To measure the latent variable „trust“, the author has used indicators developed by McAllister (1995) and differentiates between affect-based and cognition-based trust.⁵⁰⁷ Both dimensions are adequately considered in this research work. The following table illustrates the used indicators for the construct.

TRUST	
No.	Indicators:
Q1_LPT_1	My leader and I have a sharing relationship. We can both freely share our ideas, feelings, and hopes
Q1_LPT_2	I can talk freely to my leader about difficulties I am having at work and know that he or she will want to listen
Q1_LPT_3	My leader and I would feel a sense of loss if one of us was transferred and we could no longer work together
Q1_LPT_4	If I shared my problems with my leader, I know he or she would respond constructively and caringly
Q1_LPT_5	I would have to say that my leader and I made considerable investments in our working relationship
Q1_LPT_6	My leader approaches his or her job with professionalism and dedication
Q1_LPT_7	Given my leader's success, I see no reason to doubt his or her competence and preparation for the job
Q1_LPT_8	I can rely on my leader not to make my job more difficult by careless work
Q1_LPT_9	Most people, even those who are not close friends of my leader, trust and respect him or her as a coworker
Q1_LPT_10	Other work associates of mine, who must interact with my leader, consider him or her to be trustworthy
Q1_LPT_11	If people knew more about my leader, they would be more concerned and monitor his or her work performance more closely

Appendix 6.1: Indicators for measuring trust in the employee survey

Source: modified by author, developed by McAllister, 1995, p. 37.

⁵⁰⁷ McAllister, D. J. (1995): Affect- and Cognition-Based Trust as Foundations for Interpersonal Cooperation in Organizations. The Academy of Management Journal, Vol. 38, Issue 1, p. 37, <https://www.jstor.org/stable/256727>.

To measure the latent variable „integrity“, the author has used previously tested indicators from Adams/Sartori (2006).⁵⁰⁸ The following table shows the indicators for integrity.

INTEGRITY	
No.	Indicators:
Q1_LPT_12	I believe my leader is fair
Q1_LPT_13	I believe my leader is honest
Q1_LPT_14	I can depend on the fairness of my leader
Q1_LPT_15	My leader puts the words into action
Q1_LPT_16	I know my leader will keep his or her word

Appendix 6.2: Indicators for measuring integrity in the employee survey

Source: modified by author, developed by Adams/Sartori, 2006, p. 41.

Next, Wood/Winston (2007) developed a scale for openness. The authors performed a principal component analysis and could demonstrate that all ten items load to one factor. Wood/Winston (2007) could gain 148 respondents and showed the representativeness of one factor.⁵⁰⁹ The following table summarizes the indicators used.

OPENNESS	
No.	Indicators:
Q1_LPT_17	My leader behaves consistently from one person to the next
Q1_LPT_18	My leader demonstrates consistency in public and private behavior
Q1_LPT_19	My leader identifies personal actions, popular or not, as his or her own
Q1_LPT_20	My leader openly listens when people offer perspectives that are different from his or her own
Q1_LPT_21	My leader avoids isolating from employees in performing his or her duties
Q1_LPT_22	My leader openly explains his or her decisions
Q1_LPT_23	My leader openly declares his or her values
Q1_LPT_24	My leader is a role model
Q1_LPT_25	My leader interacts openly and candidly with employees
Q1_LPT_26	My leader keeps records that are accessible to employees

Appendix 6.3: Indicators for measuring openness in the employee survey

Source: modified by author, developed by Wood/Winston, 2007, p. 178.

For respect, the author has used indicators developed by van Quaquebeke/Brodbeck (2008).⁵¹⁰ The English version of the indicators below was published by van Quaquebeke/Eckloff (2010).⁵¹¹

⁵⁰⁸ Adams, B. D./Sartori, J. A. (2006): Validating the trust in teams and trust in leaders scales. Humansystems Incorporated, p. 41.

⁵⁰⁹ Wood, J. A./Winston, B. E. (2007): Development of three scales to measure leader accountability. Leadership & Organization Development Journal, Vol. 28, Issue 2, p. 178, DOI: <https://doi.org/10.1108/01437730710726859>.

⁵¹⁰ Van Quaquebeke, N./Brodbeck, F. C. (2008): Entwicklung und erste Validierung zweier Instrumente zur Erfassung von Führungskräfte-Kategorisierung im deutschsprachigen Raum. Zeitschrift für Arbeits- und Organisationspsychologie, Vol. 52, Issue 2, p. 80, DOI: <https://doi.org/10.1026/0932-4089.52.2.70>.

RESPECT	
No.	Indicators:
Q1_LPT_27	For me, my leader represents a positive role model at the workplace
Q1_LPT_28	I trust the judgment of my leader in work issues
Q1_LPT_29	In a lot of matters concerning work I gladly seek advice from my leader
Q1_LPT_30	At work I enjoy being able to learn from my leader
Q1_LPT_31	Due to the influence of my leader I feel very constricted in my professional development
Q1_LPT_32	I owe respect to the way my leader accomplishes his or her professional functions

Appendix 6.4: Indicators for measuring respect in the employee survey

Source: modified by author, based on van Quaquebeke/Brodbeck, 2008, p. 80;
van Quaquebeke/Eckloff, 2010, p. 348.

Next, the measurement of the latent variable „communication“ was based on the indicators from Chen/Paulraj (2004).⁵¹² The indicators were slightly modified to tailor them to the present research.

COMMUNICATION	
No.	Indicators:
Q1_LPT_33	My leader and I share sensitive information
Q1_LPT_34	The exchange of information between me and my leader takes place frequently, informally and/or in a timely manner
Q1_LPT_35	My leader and I keep each other informed about events or changes that may affect the other one
Q1_LPT_36	My leader and I have frequent face-to-face communication

Appendix 6.5: Indicators for measuring communication in the employee survey

Source: modified by author, developed by Chen/Paulraj, 2004, p. 141.

To adequately measure the construct „loyalty“, the author has modified the items developed by Liden/Maslyn (1998)⁵¹³ which are summarized in the table below.

⁵¹¹ Van Quaquebeke, N./Eckloff, T. (2010): Defining Respectful Leadership: What It Is, How It Can Be Measured, and Another Glimpse at What It Is Related to. *Journal of Business Ethics*, Vol. 91, Issue 3, p. 348, DOI: <https://doi.org/10.1007/s10551-009-0087-z>.

⁵¹² Chen, I. J./Paulraj, A. (2004): Towards a theory of supply chain management: the constructs and measurements. *Journal of Operations Management*, Vol. 22, Issue 2, p. 141, DOI: <https://doi.org/10.1016/j.jom.2003.12.007>.

⁵¹³ Liden, R. C./Maslyn, J. M. (1998): Multidimensionality of Leader-Member Exchange: An Empirical Assessment through Scale Development. *Journal of Management*, Vol. 24, Issue 1, p. 56, DOI: <https://doi.org/10.1177/014920639802400105>.

LOYALTY	
No.	Indicators:
Q1_LPT_37	My leader defends my work actions to a superior, even without complete knowledge of the issue in question
Q1_LPT_38	My leader would come to my defense if I were "attacked" by others
Q1_LPT_39	My leader would defend me to others in the organization if I made an honest mistake

Appendix 6.6: Indicators for measuring loyalty in the employee survey

Source: modified by author, developed by Liden/Maslyn, 1998, p. 56.

Next, to measure the latent variable „motivation“, items based on the research conducted by Gagné et al. (2010) were used and modified.⁵¹⁴

MOTIVATION	
No.	Indicators:
Q1_LPT_40	I work because I enjoy this work very much with my leader
Q1_LPT_41	I work because I have fun doing my job with my leader
Q1_LPT_42	I work for the moments of pleasure that this job brings me with my leader

Appendix 6.7: Indicators for measuring motivation in the employee survey

Source: modified by author, developed by Gagné et al., 2010, p. 641.

A further variable that requires indicators for the measurement is empathy. The scale consists of seven items and is based on Kellett/Humphrey/Sleeth (2002).^{515 516}

⁵¹⁴ Gagné, M./Forest, J./Gilbert, M.-H./Aubé, C./Morin, E./Malorni, A. (2010): The Motivation at Work Scale: Validation Evidence in Two Languages. *Educational and Psychological Measurement*, Vol. 70, Issue 4, p. 641, DOI: <https://doi.org/10.1177/0013164409355698>.

⁵¹⁵ Kellett, J. B./Humphrey, R. H./Sleeth, R. G. (2002): Empathy and complex task performance: two routes to leadership. *The Leadership Quarterly*, Vol. 13, Issue 5, p. 540, DOI: [https://doi.org/10.1016/S1048-9843\(02\)00142-X](https://doi.org/10.1016/S1048-9843(02)00142-X).

⁵¹⁶ The authors Kellett/Humphrey/Sleeth (2002) refer in their publication to a personal communication with R.E. Boyatzis in February 2001.

EMPATHY	
No.	Indicators:
Q1_LPT_46	My leader identifies others' strengths and limitations
Q1_LPT_47	My leader accurately reads people's moods, feelings, or nonverbal cues
Q1_LPT_48	My leader gives others opportunity to speak their mind
Q1_LPT_49	My leader accurately assesses the underlying or root causes of a person's problems
Q1_LPT_50	My leader pays attention and listens well
Q1_LPT_51	My leader shows sensitivity and understanding
Q1_LPT_52	My leader asks questions to be sure he or she understands another person

Appendix 6.8: Indicators for measuring empathy in the employee survey

Source: modified by author, based on Kellett/Humphrey/Sleeth, 2002, p. 540.

After having demonstrated the indicators for measuring the independent variables, the author has focused on the dependent latent variable.

According to de Jong/den Hartog (2010), innovative work behaviour consists of idea generation, idea exploration, idea championing and idea implementation.⁵¹⁷ The following table illustrates the indicators for measuring innovative work behaviour.

INNOVATIVE WORK BEHAVIOUR	
No.	Indicators:
Q2_IWB_1	I pay attention to issues that are not part of my daily work
Q2_IWB_2	I wonder how things can be improved
Q2_IWB_3	I search out new working methods, techniques or instruments
Q2_IWB_4	I generate original solutions for problems
Q2_IWB_5	I find new approaches to execute tasks
Q2_IWB_6	I make important employees enthusiastic for innovative ideas
Q2_IWB_7	I attempt to convince employees to support an innovative idea
Q2_IWB_8	I systematically introduce innovative ideas into work practices
Q2_IWB_9	I contribute to the implementation of new ideas
Q2_IWB_10	I put effort in the development of new things

Appendix 6.9: Indicators for measuring innovative work behaviour in the employee survey

Source: modified by author, developed by de Jong/den Hartog, 2010, p. 29.

⁵¹⁷ De Jong, J./den Hartog, D. (2010): Measuring Innovative Work Behaviour. Creativity and Innovation Management, Vol. 19, Issue 1, p. 29, DOI: <https://doi.org/10.1111/j.1467-8691.2010.00547.x>.

Appendix 7: Test of Normality (employee survey)

Appendix 7 illustrates the test of normality for the indicators used in the structural equation modeling. In this respect the author has calculated the Kolmogorov-Smirnov test as well as the Shapiro-Wilk test. Both tests show that the underlying indicators are not normally distributed.

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Q1_LPT_1	,259	137	,000	,864	137	,000
Q1_LPT_2	,301	137	,000	,842	137	,000
Q1_LPT_3	,187	137	,000	,906	137	,000
Q1_LPT_4	,284	137	,000	,845	137	,000
Q1_LPT_5	,221	137	,000	,873	137	,000
Q1_LPT_6	,309	137	,000	,809	137	,000
Q1_LPT_7	,336	137	,000	,781	137	,000
Q1_LPT_8	,248	137	,000	,877	137	,000
Q1_LPT_9	,362	137	,000	,766	137	,000
Q1_LPT_10	,367	137	,000	,757	137	,000
Q1_LPT_12	,276	137	,000	,812	137	,000
Q1_LPT_13	,273	137	,000	,790	137	,000
Q1_LPT_14	,273	137	,000	,797	137	,000
Q1_LPT_15	,301	137	,000	,826	137	,000
Q1_LPT_16	,290	137	,000	,807	137	,000
Q1_LPT_17	,218	137	,000	,886	137	,000
Q1_LPT_18	,296	137	,000	,838	137	,000
Q1_LPT_20	,336	137	,000	,805	137	,000
Q1_LPT_21	,266	137	,000	,856	137	,000
Q1_LPT_22	,315	137	,000	,825	137	,000
Q1_LPT_23	,326	137	,000	,822	137	,000
Q1_LPT_24	,232	137	,000	,865	137	,000
Q1_LPT_25	,249	137	,000	,848	137	,000
Q1_LPT_28	,388	137	,000	,719	137	,000
Q1_LPT_29	,278	137	,000	,846	137	,000
Q1_LPT_30	,255	137	,000	,859	137	,000
Q1_LPT_31	,308	137	,000	,818	137	,000
Q1_LPT_32	,394	137	,000	,729	137	,000
Q1_LPT_33	,276	137	,000	,770	137	,000
Q1_LPT_34	,288	137	,000	,743	137	,000
Q1_LPT_35	,270	137	,000	,780	137	,000
Q1_LPT_36	,262	137	,000	,760	137	,000
Q1_LPT_37	,237	137	,000	,864	137	,000
Q1_LPT_38	,284	137	,000	,844	137	,000

Q1_LPT_39	,287	137	,000	,846	137	,000
Q1_LPT_40	,294	137	,000	,847	137	,000
Q1_LPT_41	,302	137	,000	,850	137	,000
Q1_LPT_42	,246	137	,000	,882	137	,000
Q1_LPT_43	,316	137	,000	,814	137	,000
Q1_LPT_44	,257	137	,000	,854	137	,000
Q1_LPT_45	,245	137	,000	,870	137	,000
Q1_LPT_47	,309	137	,000	,831	137	,000
Q1_LPT_48	,359	137	,000	,779	137	,000
Q1_LPT_49	,329	137	,000	,802	137	,000
Q1_LPT_50	,331	137	,000	,803	137	,000
Q1_LPT_51	,259	137	,000	,852	137	,000
Q1_LPT_52	,360	137	,000	,767	137	,000
Q2_IWB_2	,363	137	,000	,664	137	,000
Q2_IWB_3	,307	137	,000	,761	137	,000
Q2_IWB_4	,348	137	,000	,745	137	,000
Q2_IWB_5	,378	137	,000	,706	137	,000
Q2_IWB_6	,255	137	,000	,826	137	,000
Q2_IWB_7	,330	137	,000	,784	137	,000
Q2_IWB_9	,278	137	,000	,792	137	,000
Q2_IWB_10	,299	137	,000	,767	137	,000

a. Lilliefors Significance Correction

Appendix 7: Test of normality (employee survey)

Source: author's calculation with SPSS

Appendix 8: Construct reliability and validity

Construct	Cronbach's Alpha	rho_A	Composite Reliability
Communication	0.86	0.93	0.90
Empathy	0.88	0.92	0.90
Innovative Work Behaviour	0.85	0.87	0.89
Integrity	0.91	0.91	0.93
Loyalty	0.84	0.85	0.90
Motivation	0.91	0.94	0.94
Openness	0.86	0.87	0.89
Respect	0.77	0.81	0.84
Trust	0.91	0.92	0.93

Appendix 8: Construct reliability and validity

Source: author's calculation with SmartPLS

Appendix 9: Standardized loadings

The following table illustrates the standardized loadings of the research model computed with SmartPLS.

	Communication	Empathy	Innovative Work Behaviour	Integrity	Loyalty	Motivation	Openness	Respect	Trust
Q1_LPT_10									0,76
Q1_LPT_12				0,88					
Q1_LPT_13				0,86					
Q1_LPT_14				0,90					
Q1_LPT_15				0,79					
Q1_LPT_16				0,83					
Q1_LPT_17							0,71		
Q1_LPT_18							0,78		
Q1_LPT_2									0,81
Q1_LPT_20							0,73		
Q1_LPT_21							0,66		
Q1_LPT_22							0,67		
Q1_LPT_23							0,65		
Q1_LPT_24							0,74		
Q1_LPT_25							0,71		
Q1_LPT_28								0,84	
Q1_LPT_29								0,71	
Q1_LPT_3									0,77
Q1_LPT_30								0,71	
Q1_LPT_31								0,46	
Q1_LPT_32								0,82	
Q1_LPT_33	0,89								
Q1_LPT_34	0,87								
Q1_LPT_35	0,86								
Q1_LPT_36	0,74								
Q1_LPT_37					0,84				
Q1_LPT_38					0,90				
Q1_LPT_39					0,87				
Q1_LPT_4									0,86
Q1_LPT_40						0,92			
Q1_LPT_41						0,95			
Q1_LPT_42						0,89			
Q1_LPT_47		0,62							
Q1_LPT_48		0,75							
Q1_LPT_49		0,73							
Q1_LPT_5									0,71
Q1_LPT_50		0,86							
Q1_LPT_51		0,83							
Q1_LPT_52		0,82							
Q1_LPT_6									0,70
Q1_LPT_7									0,67
Q1_LPT_8									0,71
Q1_LPT_9									0,71
Q2_IWB_10			0,75						
Q2_IWB_2			0,54						
Q2_IWB_3			0,75						
Q2_IWB_4			0,74						
Q2_IWB_5			0,70						
Q2_IWB_6			0,74						
Q2_IWB_7			0,60						
Q2_IWB_9			0,80						
Q1_LPT_1									0,81

Appendix 9: Standardized loadings
Source: author's calculation with SmartPLS

Appendix 10: Outer loadings significance

The following table illustrates the outer loadings significance. In this respect all computed p-values are below the cut-off value of 0.05.

	Original Sample	Sample Mean	Standard Deviation	T-Statistics	P-Values
Q1_LPT_10 <- Trust	0,764	0,745	0,096	7,929	0,000
Q1_LPT_12 <- Integrity	0,879	0,879	0,024	36,857	0,000
Q1_LPT_13 <- Integrity	0,857	0,854	0,036	23,506	0,000
Q1_LPT_14 <- Integrity	0,903	0,903	0,021	43,203	0,000
Q1_LPT_15 <- Integrity	0,791	0,780	0,069	11,509	0,000
Q1_LPT_16 <- Integrity	0,830	0,823	0,058	14,265	0,000
Q1_LPT_17 <- Openness	0,714	0,690	0,098	7,249	0,000
Q1_LPT_18 <- Openness	0,778	0,762	0,066	11,711	0,000
Q1_LPT_2 <- Trust	0,807	0,794	0,078	10,338	0,000
Q1_LPT_20 <- Openness	0,732	0,722	0,084	8,700	0,000
Q1_LPT_21 <- Openness	0,659	0,634	0,107	6,185	0,000
Q1_LPT_22 <- Openness	0,671	0,662	0,083	8,037	0,000
Q1_LPT_23 <- Openness	0,646	0,637	0,091	7,057	0,000
Q1_LPT_24 <- Openness	0,741	0,725	0,091	8,140	0,000
Q1_LPT_25 <- Openness	0,711	0,694	0,081	8,810	0,000
Q1_LPT_28 <- Respect	0,838	0,813	0,081	10,351	0,000
Q1_LPT_29 <- Respect	0,709	0,661	0,168	4,221	0,000
Q1_LPT_3 <- Trust	0,766	0,754	0,081	9,454	0,000
Q1_LPT_30 <- Respect	0,707	0,647	0,174	4,066	0,000
Q1_LPT_31 <- Respect	0,455	0,457	0,190	2,402	0,017
Q1_LPT_32 <- Respect	0,825	0,794	0,102	8,088	0,000
Q1_LPT_33 <- Communication	0,887	0,889	0,030	29,891	0,000
Q1_LPT_34 <- Communication	0,868	0,857	0,049	17,562	0,000
Q1_LPT_35 <- Communication	0,857	0,845	0,053	16,039	0,000
Q1_LPT_36 <- Communication	0,737	0,711	0,111	6,614	0,000
Q1_LPT_37 <- Loyalty	0,837	0,839	0,036	22,976	0,000
Q1_LPT_38 <- Loyalty	0,900	0,897	0,026	33,968	0,000
Q1_LPT_39 <- Loyalty	0,871	0,866	0,035	24,650	0,000
Q1_LPT_4 <- Trust	0,856	0,847	0,077	11,076	0,000
Q1_LPT_40 <- Motivation	0,923	0,919	0,029	31,667	0,000
Q1_LPT_41 <- Motivation	0,955	0,953	0,015	62,307	0,000
Q1_LPT_42 <- Motivation	0,887	0,884	0,030	29,591	0,000
Q1_LPT_47 <- Empathy	0,622	0,556	0,201	3,101	0,002
Q1_LPT_48 <- Empathy	0,749	0,696	0,183	4,086	0,000
Q1_LPT_49 <- Empathy	0,732	0,657	0,199	3,674	0,000
Q1_LPT_5 <- Trust	0,709	0,710	0,095	7,488	0,000
Q1_LPT_50 <- Empathy	0,863	0,820	0,148	5,823	0,000
Q1_LPT_51 <- Empathy	0,826	0,784	0,159	5,202	0,000
Q1_LPT_52 <- Empathy	0,817	0,772	0,161	5,067	0,000

Q1_LPT_6 <- Trust	0,700	0,682	0,104	6,739	0,000
Q1_LPT_7 <- Trust	0,668	0,644	0,141	4,723	0,000
Q1_LPT_8 <- Trust	0,714	0,692	0,109	6,575	0,000
Q1_LPT_9 <- Trust	0,711	0,697	0,093	7,611	0,000
Q2_IWB_10 <- Innovative Work Behaviour	0,750	0,748	0,042	18,052	0,000
Q2_IWB_2 <- Innovative Work Behaviour	0,536	0,523	0,114	4,691	0,000
Q2_IWB_3 <- Innovative Work Behaviour	0,753	0,746	0,057	13,188	0,000
Q2_IWB_4 <- Innovative Work Behaviour	0,741	0,742	0,046	15,991	0,000
Q2_IWB_5 <- Innovative Work Behaviour	0,700	0,698	0,059	11,842	0,000
Q2_IWB_6 <- Innovative Work Behaviour	0,736	0,737	0,043	17,152	0,000
Q2_IWB_7 <- Innovative Work Behaviour	0,605	0,608	0,061	9,980	0,000
Q2_IWB_9 <- Innovative Work Behaviour	0,796	0,792	0,041	19,225	0,000
Q1_LPT_1 <- Trust	0,815	0,801	0,085	9,577	0,000

Appendix 10: Outer loadings significance

Source: author's calculation with SmartPLS

Appendix 11: Average variance extracted

Construct	Average Variance Extracted (AVE)
Communication	0.70
Empathy	0.60
Innovative Work Behaviour	0.50
Integrity	0.73
Loyalty	0.76
Motivation	0.85
Openness	0.50
Respect	0.52
Trust	0.57

Appendix 11: Average variance extracted (AVE)

Source: author's calculation with SmartPLS

Appendix 12: Cross loadings

The following table demonstrates the computed cross loadings for the constructs.

	Communication	Empathy	Innovative Work Behaviour	Integrity	Loyalty	Motivation	Openness	Respect	Trust
Q1_LPT_10	0,34	0,61	0,25	0,59	0,45	0,43	0,61	0,67	0,76
Q1_LPT_12	0,34	0,56	0,44	0,88	0,55	0,41	0,59	0,52	0,61
Q1_LPT_13	0,32	0,56	0,39	0,86	0,54	0,42	0,61	0,55	0,67
Q1_LPT_14	0,41	0,55	0,46	0,90	0,55	0,42	0,58	0,53	0,62
Q1_LPT_15	0,29	0,49	0,34	0,79	0,50	0,34	0,54	0,49	0,61
Q1_LPT_16	0,31	0,54	0,39	0,83	0,50	0,38	0,55	0,53	0,58
Q1_LPT_17	0,17	0,52	0,20	0,51	0,43	0,39	0,71	0,46	0,57
Q1_LPT_18	0,29	0,46	0,23	0,51	0,44	0,54	0,78	0,45	0,53
Q1_LPT_2	0,27	0,57	0,22	0,60	0,43	0,55	0,60	0,51	0,81
Q1_LPT_20	0,49	0,63	0,31	0,52	0,46	0,38	0,73	0,56	0,57
Q1_LPT_21	0,30	0,55	0,18	0,41	0,37	0,34	0,66	0,41	0,51
Q1_LPT_22	0,32	0,48	0,23	0,41	0,40	0,42	0,67	0,46	0,47
Q1_LPT_23	0,38	0,54	0,20	0,38	0,30	0,40	0,65	0,54	0,42
Q1_LPT_24	0,21	0,56	0,24	0,52	0,38	0,54	0,74	0,63	0,60
Q1_LPT_25	0,15	0,54	0,18	0,53	0,37	0,53	0,71	0,48	0,60
Q1_LPT_28	0,49	0,62	0,29	0,58	0,48	0,45	0,61	0,84	0,64
Q1_LPT_29	0,40	0,52	0,17	0,34	0,34	0,39	0,55	0,71	0,48
Q1_LPT_3	0,28	0,53	0,19	0,54	0,46	0,57	0,64	0,51	0,77
Q1_LPT_30	0,33	0,56	0,06	0,40	0,37	0,51	0,61	0,71	0,59
Q1_LPT_31	0,28	0,27	0,16	0,32	0,30	0,23	0,18	0,46	0,21
Q1_LPT_32	0,48	0,60	0,27	0,47	0,53	0,51	0,59	0,82	0,65
Q1_LPT_33	0,89	0,46	0,31	0,35	0,45	0,35	0,39	0,55	0,35
Q1_LPT_34	0,87	0,51	0,20	0,36	0,36	0,35	0,37	0,53	0,35
Q1_LPT_35	0,86	0,50	0,18	0,34	0,35	0,33	0,39	0,49	0,37
Q1_LPT_36	0,74	0,36	0,17	0,27	0,32	0,28	0,27	0,32	0,26
Q1_LPT_37	0,43	0,45	0,47	0,50	0,84	0,57	0,52	0,54	0,53
Q1_LPT_38	0,40	0,54	0,51	0,60	0,90	0,49	0,50	0,50	0,54
Q1_LPT_39	0,33	0,46	0,40	0,50	0,87	0,52	0,45	0,49	0,48
Q1_LPT_4	0,34	0,61	0,28	0,63	0,60	0,62	0,64	0,58	0,86
Q1_LPT_40	0,38	0,51	0,23	0,45	0,55	0,92	0,55	0,58	0,57
Q1_LPT_41	0,37	0,56	0,30	0,46	0,62	0,95	0,62	0,54	0,62
Q1_LPT_42	0,33	0,47	0,23	0,38	0,48	0,89	0,55	0,47	0,54
Q1_LPT_47	0,45	0,62	0,05	0,32	0,37	0,40	0,48	0,49	0,38
Q1_LPT_48	0,37	0,75	0,14	0,53	0,41	0,36	0,55	0,58	0,52
Q1_LPT_49	0,48	0,73	0,06	0,42	0,36	0,32	0,48	0,52	0,43
Q1_LPT_5	0,35	0,50	0,31	0,47	0,51	0,53	0,61	0,55	0,71
Q1_LPT_50	0,43	0,86	0,22	0,52	0,46	0,46	0,66	0,61	0,60
Q1_LPT_51	0,43	0,83	0,25	0,58	0,46	0,56	0,64	0,56	0,62
Q1_LPT_52	0,47	0,82	0,24	0,49	0,49	0,43	0,64	0,61	0,53
Q1_LPT_6	0,18	0,40	0,24	0,41	0,34	0,24	0,47	0,53	0,70
Q1_LPT_7	0,45	0,49	0,17	0,47	0,42	0,32	0,50	0,59	0,67
Q1_LPT_8	0,24	0,47	0,19	0,56	0,42	0,45	0,54	0,50	0,71
Q1_LPT_9	0,27	0,52	0,26	0,59	0,39	0,38	0,50	0,55	0,71
Q2_IWB_10	0,27	0,19	0,75	0,36	0,42	0,24	0,19	0,26	0,20
Q2_IWB_2	0,03	0,10	0,54	0,23	0,28	0,14	0,13	0,09	0,25
Q2_IWB_3	0,15	0,12	0,75	0,38	0,42	0,10	0,22	0,15	0,22
Q2_IWB_4	0,23	0,30	0,74	0,36	0,42	0,27	0,29	0,29	0,26
Q2_IWB_5	0,22	0,24	0,70	0,39	0,34	0,14	0,28	0,34	0,24
Q2_IWB_6	0,15	0,13	0,74	0,32	0,36	0,27	0,23	0,18	0,26
Q2_IWB_7	0,08	0,10	0,60	0,23	0,34	0,24	0,23	0,10	0,19
Q2_IWB_9	0,35	0,22	0,80	0,38	0,40	0,20	0,25	0,29	0,23
Q1_LPT_1	0,29	0,49	0,26	0,56	0,43	0,56	0,57	0,49	0,81

Appendix 12: Cross loadings
Source: author's calculation with SmartPLS

Appendix 13: Heterotrait-monotrait ratio of correlations

	Communication	Empathy	Innovative Work Behaviour	Integrity	Loyalty	Motivation	Openness	Respect	Trust
Communication									
Empathy	0,64								
Innovative Work Behaviour	0,30	0,28							
Integrity	0,44	0,68	0,53						
Loyalty	0,51	0,63	0,62	0,70					
Motivation	0,44	0,60	0,32	0,51	0,69				
Openness	0,47	0,84	0,37	0,76	0,65	0,70			
Respect	0,66	0,87	0,34	0,71	0,70	0,70	0,87		
Trust	0,45	0,73	0,36	0,79	0,67	0,68	0,85	0,85	

Appendix 13: Heterotrait-monotrait ratio of correlations (HTMT)

Source: author's calculation with SmartPLS

Appendix 14: Heterotrait-monotrait ratio of correlations confidence intervals

	Original Sample (O)	Sample Mean (M)	Bias	2.5%	97.5%
Communication -> Innovative Work Behaviour	0.08	0.08	-0.01	-0.08	0.26
Empathy -> Innovative Work Behaviour	-0.22	-0.17	0.05	-0.60	0.10
Integrity -> Innovative Work Behaviour	0.36	0.32	-0.04	0.17	0.59
Loyalty -> Innovative Work Behaviour	0.44	0.46	0.02	0.20	0.69
Motivation -> Innovative Work Behaviour	-0.04	-0.05	-0.01	-0.21	0.22
Openness -> Innovative Work Behaviour	0.08	0.07	-0.01	-0.20	0.35
Respect -> Innovative Work Behaviour	-0.02	-0.01	0.03	-0.43	0.20
Trust -> Innovative Work Behaviour	-0.10	-0.10	-0.01	-0.40	0.18

Appendix 14: Heterotrait-monotrait ratio of correlations (HTMT) confidence intervals

Source: author's calculation with SmartPLS

Appendix 15: Variance inflation factor

Indicators	VIF	Indicators	VIF
Q1_LPT_10	2,45	Q1_LPT_38	2,36
Q1_LPT_12	3,34	Q1_LPT_39	2,32
Q1_LPT_13	2,73	Q1_LPT_4	3,36
Q1_LPT_14	3,60	Q1_LPT_40	3,78
Q1_LPT_15	2,45	Q1_LPT_41	4,43
Q1_LPT_16	2,73	Q1_LPT_42	2,48
Q1_LPT_17	2,15	Q1_LPT_47	1,85
Q1_LPT_18	2,29	Q1_LPT_48	1,95
Q1_LPT_2	3,31	Q1_LPT_49	2,43
Q1_LPT_20	1,71	Q1_LPT_5	1,89
Q1_LPT_21	1,58	Q1_LPT_50	2,32
Q1_LPT_22	2,08	Q1_LPT_51	1,97
Q1_LPT_23	1,87	Q1_LPT_52	1,92
Q1_LPT_24	1,78	Q1_LPT_6	1,82
Q1_LPT_25	1,69	Q1_LPT_7	1,86
Q1_LPT_28	1,66	Q1_LPT_8	1,97
Q1_LPT_29	1,80	Q1_LPT_9	2,14
Q1_LPT_3	2,39	Q2_IWB_10	2,55
Q1_LPT_30	1,94	Q2_IWB_2	1,39
Q1_LPT_31	1,10	Q2_IWB_3	1,94
Q1_LPT_32	1,69	Q2_IWB_4	1,81
Q1_LPT_33	2,04	Q2_IWB_5	1,69
Q1_LPT_34	2,80	Q2_IWB_6	2,16
Q1_LPT_35	2,72	Q2_IWB_7	1,80
Q1_LPT_36	1,55	Q2_IWB_9	2,82
Q1_LPT_37	1,67	Q1_LPT_1	3,14

Appendix 15: Variance inflation factor (VIF)

Source: author's calculation with SmartPLS

Appendix 16: Coefficient of determination

	R^2	R^2_{adj}
Innovative Work Behaviour	0,35	0,31

Appendix 16: Coefficient of determination

Source: author's calculation with SmartPLS

Appendix 17: Effect size

	Innovative Work Behaviour
Communication	0,01
Empathy	0,02
Innovative Work Behaviour	-
Integrity	0,08
Loyalty	0,14
Motivation	0,00
Openness	0,00
Respect	0,00
Trust	0,00

Appendix 17: Effect size

Source: author's calculation with SmartPLS

Appendix 18: Predictive relevance

	SSO	SSE	Q ² (=1-SSE/SSO)
Communication	548,00	548,00	
Empathy	822,00	822,00	
Innovative Work Behaviour	1096,00	928,34	0,15
Integrity	685,00	685,00	
Loyalty	411,00	411,00	
Motivation	411,00	411,00	
Openness	1096,00	1096,00	
Respect	685,00	685,00	
Trust	1370,00	1370,00	

Appendix 18: Predictive relevance (Q²-value)

Source: author's calculation with SmartPLS

Appendix 19: Standardized root mean square residual

	Model fit
Standardized Root Mean Square Residual (SRMR)	0,073

Appendix 19: Standardized root mean square residual (SRMR)

Source: author's calculation with SmartPLS