Doctoral School of Regional and Business Administration Sciences

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Trust and what is behind it:

An examination of human mindset in relation to non-measurable performance

Doctoral dissertation

Supervisor: Zoltán Baracskai, Dsc

Győr

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Author's Declaration

No portion of the work referred to in this dissertation has been submitted in support of an application for another degree or qualification of this or other university or other institution of learning.

Furthermore, this dissertation contains no material previously written and /or published by another person, except where an appropriate acknowledgment is made in the form of bibliographical references.

Abstract

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Trust and what is behind it: An examination of human mindset in relation to non-measurable performance

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The concept of trust and measurability of trust are the focus of our thesis. The aim of our research was to build a model that can indirectly find evidence for the existence and impact of trust as a non-measurable performance on the whole company or the organizational performance and beyond it.

The idea of the topic came from the practice where the most important requirement at work is "good" performance. Companies usually try to ensure a high level of performance with rules, work instructions, regulations and control steps. In this kind of environment, trust gets a reduced role only. According to our experiences, there is a strong disharmony between regulation and trust in an organization.

In this thesis, we based our investigation on the disharmony of regulation and trust, in which regulation is considered as a measurable performance. Performance measurement is the most common human resource measurement tool used in practice by most companies. However, when measuring performance, only the performance in the numerical sense is examined, all other factors that may affect the measurable performance do not appear in this measurement.

On the problem level of our thesis, we discuss why somebody leaves the company and what the mindset behind resignation is. Firstly, we aimed to give a comprehensive picture of the concepts which are in connection with measurable performance in a latent way as non-measurable performance. Secondly, we targeted to build up a mindset pattern that has not been discovered in such kinds of circumstances yet. In our research, we collected and restructured the concepts of non-measurable performance according to our view and built up a model about these "tacit" performance concepts.

The thesis was structured in the form of four conference and journal articles with a transdisciplinary approach. These articles give the chapters of the dissertation. On one hand they identify and present the "place" of the investigated concepts of the thesis in the literature, on the other hand, they also give the opportunity for a sample analysis, which demonstrates the existence of these concepts in the reality.

The focus of our research in this study is on the employees and their behavior, decision-making priorities and mindset. After the examination and restructuring of the affected phenomenon, we follow our research journey and demonstrate the importance of non-measurable performance with examples. We set up a decision model examining the behavior and value system of a small group of manual workers, and investigated the expectation of the employees on the basis of a representative sample. The study was conducted among 73 employees who decided to leave the company voluntarily. Resignations that were initiated by the company were completely excluded from the investigation. This way, we could provide the circumstances which are connected to the concepts of non-measurable performance. We were interested in the concepts beyond those measurable performance, what cannot be measured with numerical methods such as commitment or satisfaction.

As the specialty of our research, we supported our analysis by a unique artificial intelligence-based expert system. With this knowledge-based expert system, we could achieve a more transparent, clearer and acceptable research result. This tool of our methodological examination applied two types of reasoning during the study. We used the Rule-based Reasoning to the validation of our research concepts and questions, and then we used the Case-based Reasoning capabilities of the system to analyze our sample.

Finally, we formulated three main conclusions of our study. Firstly, we were able to find evidence, that non-measurable concepts have an impact on individual performance or on personal decisions, that we could reach by excluding company-initiated resignations. With help of this step, we could concentrate on the "pure" individual thinking and mindset which was the aim of the whole research journey. The other two findings came from the examination of the sample. Firstly, we were able to realize, that the requirements of satisfaction and the requirements of dissatisfaction are absolutely different. Different combinations of requirements cause satisfaction or dissatisfaction for the worker. Secondly, we also corroborated from the sample that human thinking is binary. The employees could decide relatively easily which expectations result in satisfaction or dissatisfaction for them.

The algorithm of the used knowledge-based expert system and sense-making give the limitation of the dissertation. The first factor which limited the research and the conclusion of the thesis was the operating mechanism of the algorithm. The other factor was "sense-making", the meaning we gave to each question during the interviews with employees. This also means, that if we changed the meanings behind the different questions, the result might change too.

We believe that the results of our research contribute both to the literature of the areas concerned and to knowledge that can be implemented in practice. As further examination, we would like to investigate the binary mindset of the workers more deeply. We would like to find evidence to the existence of this phenomenon, and as another potential extension of the study, we would like to "experiment" in terms of sense-making. We want to investigate, how the employee mindset changes, if we give different meanings to the individual examination points and questions.

Acknowledgements

"Nothing in life is to be feared, it is only to be understood. Now is the time to understand more, so that we may fear less." (Marie Curie)

In my professional career and private life so far, I have often experienced the peculiar situation that when the negotiating parties have entered into a long-term, mutually beneficial deal, the opening discussion has taken place behind closed doors, where the parties could look into in each other's eyes. Any other documentation or technical detail may have been complicated in any form, but crumbs of trust in cooperation are formed by the negotiating parties facing each other and, for some inexplicable reason, mutual trust is developed. There are countless examples from my private life, from my childhood, that are built on this "tacit" trust. Trust is a concept that can be found in some form in almost every detail of both my business and my private life. The study of this phenomenon called me for this research work, every moment of which I carried out with great enthusiasm and humbleness.

I am extremely grateful for my supervisor, Professor Zoltán Baracskai, who always supported, smoothed my paths, steered my thoughts and carved them into my mind to use only pure concepts when I want to analyze or interpret anything.

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At last, but not least I am really thankful for my family who always stood behind me, they encouraged and supported me all the time, and they were always proud of me. Without this support, I could not make this research journey and finish my dissertation.

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1. Introduction

1.1 Research journey from the trust as non-measurable performance to the measurable performance

1.1.1 Concept of trust

Ever since Francis Fukuyama published in 1995 his famous book entitled "Trust: The social virtues and the creation of property", the examination of the topic of trust in different situations has increased significantly, which is well reflected in the number of published studies. The Google Scholar from 1995 to nowadays includes 24,100 studies to the keyword organizational trust. It demonstrates the popularity of the topic both in practice and research. The growing interest in the topic is also reflected in the fact that two-thirds of these articles have been published in the last 5 years. Although research on trust as a topic dates back to earlier times, its popularity has been promoted nowadays as well.

Trust as a concept is the central theme of all the mentioned literature, but individual studies have examined it from a different perspective, in a different context such as: trust in the cross-cultural studies, trust in marketing, trust in financial context, trust in leader-follower context or trust in knowledge management.

According to the more-sided feature of trust, there are several aspects which multiplied in the literature. Cross-cultural studies typically examine the appearance and importance of trust in countries, groups or nations with different cultural backgrounds and behaviors as same as Fukuyama wrote detailed in his book about the role and effects of trust. These studies describe the climate of trust in several circumstances, but all of them are clearly considered trust as the key factor of economic and social relations. Fukuyama describes in detail the behavior of individual countries in relationship with trust which can influence the economic structure, economic decisions and results, as well as in the building of economic relationships and sometimes in the elimination of business partnerships. With the help of the mentioned book, we could get a clear picture of the behavior of individual nations in each economic and social decision-making situation. "Fukuyama devotes much of the book to discussing case studies showing how the degree of mutual trust has affected the creation of wealth in different parts of the world" (Quddus et al., 2000).

One other group of trust-based studies examines primarily the financial, economic, and marketing effects of trust. Although the articles define these concepts in different ways and

as a field of research in the literature, we use these three concepts together to characterize the orientation of literature. Like cross-cultural studies, these studies find that trust is present as the key mediator in business decisions. The buyer-seller relationship and the appearance of trust in these relationships, the behavior of shareholders in stock exchange transactions or in the financial investments are examined in detail from several angles. These studies primarily prove the relationship between employee trust and turnover through empirical and questionnaire-based data collection. "In a market economy, trust comes from formal institutions (such as courts and its legal system) and from informal institutions such as business ethics" (Berger and Zviling, 2013). They also state about the business relationship with Russia that building a relationship with a partner as a marketing activity is enough for successful collaboration.

Trust also appears in the literature on knowledge management in those articles which investigate the direct or indirect effect of trust in knowledge sharing. These studies examine and describe the individual and organizational factors in the relationship with trust and knowledge sharing activities, and the researcher assumes a direct connection between a trustful atmosphere and innovations willingness, or between trustful atmosphere and creativity. These social studies have investigated the company performance where knowledge management is included in the corporate strategy.

Another part of the trust-based literature investigates the term of trust in the leadership context what means notably the relationship between leader and follower: which kind of leadership style can create or build a trustful environment? Which type of workflow requires a trustful atmosphere for the better corporate performance? The trust-focused literature examines most frequently the behavior of leader and follower (employee) that comes from the role or position. In a significant part of the studies focus on what kind of leader behavior is capable of creating trust and thus can have an impact on the entire atmosphere of the company. To demonstrate this leader behavior, numerous studies have presented it from different approaches. "CEOs who display relational leadership plays a major role in building positive relationships between members" (Carmeli et al., 2011).

Trust is also a core relational construct, commonly conceptualized as a psychological state in which individuals make themselves vulnerable in a relationship based upon expectations, assumptions, or beliefs that another's future behaviors will be positive, beneficial, or favorable. Bromiley and Cummings (1995) defined trust as "an individual's belief or a

common belief among a group of individuals that another individual or group makes good-faith efforts to behave in accordance with any commitments both explicit or implicit, is honest in whatever negotiations proceeded such commitments, and does not take excessive advantage of another even when the opportunity is available" (Bromiley and Cummings, 1995). Management behavior and style can also contribute greatly to the development of employees' trust and trustful atmosphere (DeConinck, 2011; Brashear et al., 2005; Elci et al., 2012; Waeraas et al., 2020; Tse et al., 2013), but it can also often contribute to its negative change. DeConinck (2011) examined the supervisory trust with 393 salespersons, finding that an employee's ethical work environment has a significant impact on the outcome of his or her work. He found "ethical climate is a direct predictor of both trust in the supervisor and job satisfaction, given the important role that trust plays in determining employee's job outcomes" (DeConinck, 2011). Similar to this article, the relationship between salespersons and the ethical work environment, and the impact of leaders on it was illustrated by Brashear, Manolis and Brooks's study, who also consider trust to be one of the most important drivers of company performance.

An ethical work climate involves the perceptions of rightness or wrongness present in the organization's work environment (Babin et al., 2000), and establishes the norms for acceptable and unacceptable behavior within the company. It is linked to the ethical behavior of employees (Trevino et al., 1998; Verbeke et al., 1996), employees' commitment to the organization (Trevino et al., 1998; Weeks et al., 2004), role stress (Babin et al., 2000; Mulki et al., 2006) and intention to leave (Mulki et al., 2006; Schwepker, 2001).

Studies showed a clear impact of leadership or mentor style on satisfaction and flexible organizational culture (Azanza et. al., 2013), or satisfaction, commitment and lower employee turnover (Jyoti et. al., 2017). "Employee satisfaction is greatly enhanced by the democratic style of leadership. It is because democratic leaders promote friendship, respect and warmth relationship among the employees" (Sageer et. al., 2012) and "simple organizational variables like a successful psychosocial work environment, employees' satisfaction, absenteeism, and presentism, job insecurity, and intentions to quit the organization, to name a few, could be appropriated to the leadership's efforts or lack thereof" (Olaniyan et. al., 2016).

1.1.2 Concept of performance

Several studies have investigated the impact of the presence of trust on individual performance. Brown, Gray, McHardy and Taylor (2015) proved the effect of employee trust to the individual, workplace performance through the empirical research method. He looked at the appearance of trust in a context where the focus was primarily on employee reactions. According to their assumption "employee trust in the workplace influences the behavior of the employees, which in turn affects firm performance" (Brown et al., 2015), therefore the measurement and management of the individual performance determined a significant part of the trust research. Gruman and Saks (2011) who analyzed the relationship of performance management and employee engagement, emphasized the importance of individual performance manageability as the first company priority, within the trust represent a significant place. "If the relationship between a manager and subordinate lacks trust, they are unlikely to have productive performance conversations that generate positive results" (Pulakos et al., 2008). "Trust climate could be regarded as a special facet of organizational climate, reflecting a general and diffusive evaluation for the trustworthiness of the environment in which employees perform their duties" (Ning and Jin, 2009). "Trust climate plays a central boundary role. If a high trust climate is created in the first stage of the VT development process, team goals should be better transferred in joint bonding behaviors (e.g. team cohesion) because the uncertainty and ambiguity of the other team members' behavior are reduced (Dirks and Ferrin, 2001), ultimately favoring performance" (Brahm and Kunze, 2012).

Leadership literature examines not only the impact or role of leader style on trust, but also the relationship of leader-follower context to individual performance, so the relationship between leader and employee affects the employees' workplace performance (Brown et al., 2015; Dirk, 1999; Gottfredson and Aguinis, 2017; Iqbal et al., 2013; Mayer and Gavin, 2005; Seijts et al., 2015; Srivastava et al., 2006; Sturm et al., 2017). The interpersonal trust between leader and employee has been a popular topic in human resource management literature since the 1990s. There have been countless studies, qualitative, questionnaire-based analyzes that have been focused primarily on the relationship between trust in an interpersonal context and group performance: "When the level of trust is increased, a group is expected to experience superior group processes (e.g., higher levels of cooperation) and higher performance; when trust is decreased, a group is expected to experience inferior group processes and lower performance" (Dirk, 1999). Bromiley and Cummings analyzed also the

effect of trust for the organization performance and proved the relationship between trust and costs. They stated that "lack of trust influences overall performance by increasing control costs, restricting change, demanding control systems that have undesirable side effects, and reducing intraorganizational cooperation" (Bromiley and Cummings, 1995), therefore they argue for trust-based leadership behavior. Alkahtani, Abu-Jarad, Sulaiman and Nikbin (2011) examined the attitude of the Malaysian leaders on the basis of the Big Five Personality Theory, which stated "some leaders might have a strong and weak personality that can influence others performance of the employee and determine the way of the organization perform (Ghani et al., 2016). Olver and Mooradian (2003) saw the personality traits of the leader as the key to his impact on workers, what they evidenced by their empirical research. "Personality can be described as the characteristics of someone act in a certain way. Hence, from the good personality of a leader, an employee can perform the job well, easily communicate with other team members and cooperate or give hand for each other in completing job" (Ghani, 2016) wrote Ghani in a study, who found the Big Five Personal Traits as the key determinant in the leader-follower performance concept. Payne, Moore, Griffis, Antry (2011) in the context of leader and follower (employee) social capital, described high-level knowledge sharing as a requirement of the performance. Carmel, Ben-Hador, Waldman and Rupp (2009) viewed the interaction between leader and employee as the driving force of individual performance, and Leana and Van Buren (1999) and Nahapiet and Ghoshal (1998) saw the flow of information and knowledge as the key to performance.

Workplace performance is one of the most significant areas in the company performance goals in which maintaining and continuously monitoring employee satisfaction is one of the most important leader tasks. Barrick, Parks and Mount (2005) clearly found a positive relationship between leader behavior and employee satisfaction and work performance. According to studies, the leader's role perception is reflected in employee performance, besides many other effects as job satisfaction, organizational commitment, or career commitment. In a study by Kalkavan and Katrinli, which analyzed the effect of these leader roles in an insurance company in Turkey, it was reported as one of the most significant effects on the organization. They found, that "the managerial coaching behavior in the insurance sector had a positive effect on the better understanding of the role by employees (role clarity), satisfaction with work, career commitment, the performance of the employee at work and the organizational commitment" (Kalkavan et a., 2014). The performance-oriented articles focus in some way on the relationship between manager and worker (Rego

et. al, 2017; Gaudet et. al, 2017), but several articles mentioned and investigated the ethical level and culture of the company or organization. The family business aspect appears also (Mahto et al., 2020; Eddleston et. al, 2014; Erdem et. al, 2015), which serves an interesting, special environment for the topic. The common approach these articles, that "while the importance of trust and performance among top leaders of non-family businesses is well established, the role of trust among leaders in family businesses is less clear" (Allen et al., 2018).

Several studies analyze performance in context with other concepts as satisfaction, employee well-being, respect, employee turnover or commitment. The concept of satisfaction which shows correlation with employee performance appears countless times in the literature on trust-performance. One approach draws attention to the importance of the role of interaction style (Lu et al., 2020), other studies observe cultural differences as forms of satisfaction. Wang, Shi and Barnes (2015) studied the emergence and interaction of the concept of trust-satisfaction in the cultural aspects of different countries. They found "trust plays a mediating role between satisfaction and long-term orientation and such an effect may be different across cultures" (Wang et al., 2015).

However, the satisfaction oriented articles show heterogeneity, one of the most significant manifestations of it is based on the articles which examine the concept of ethics in the trust-performance literature (Park et al., 2017; Yuan et al., 2018; Lu et al., 2020; Stathopoulou et al., 2016; Yi et al., 2011, Wang et al., 2015). Park, Kim and Kwon (2017) analyze their study of the effects of corporate social responsibility, which first appears in the strengthening of consumer loyalty and as a chain reaction also shows a positive correlation with the concepts of corporate commitment, trust and satisfaction. In their study, customer loyalty appears as the primary key to success in the comparative business environment, which has a positive impact on customer satisfaction. "When consumers are satisfied with the company, they are likely to form a continuous and affective commitment to its products" (Park et al., 2017), therefore it leads to the strengthening of the customer trust as well. They found evidence with an online survey research method in retail consumers in South Korea to the relationship between trust and loyalty and between trust and satisfaction. Similarly, the concept and impact of consumer loyalty appear in the writing of Ozdemir, Zhang, Gupta and Bebek, who examined trust types in the form of a qualitative research method at a national dairy company in China. Two types of trust were identified by them in corporate brand and consumer relationship circumstances. They state that "corporations enhance the odds of loyalty if they

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gain consumers' trust in their competence. Corporate brand competence represents the qualifications, skills and knowledge required to deliver effective performance, quality and value" (Ozdemir et al., a in p.). The phenomenon of loyalty is the central topic of Stathopoulou and Balabanis's article, who examined the direct effects of a customer loyalty program on satisfaction for a high- and low-end fashion retailer in the United States. They have found "satisfaction with and trust in the loyalty program are important drivers of loyalty to the retailer" (Stathopoulou et al., 2016).

Loyalty and the importance of ethical level as a concept also appear in the literature that is the committed branch of trust-performance-oriented literature. Yuan, Feng, Lai and Collins (2018) put in their work the trust-commitment relationship to the focus, which deals with these concepts in a supply chain environment "trust and commitment are considered important enablers of successful business relationships and can be a resource capable of generating sustainable competitive advantages" (Yuan et al., 2018). Yi, Nataraajan and Gong have already extended the circumstances of their studies and besides the commitment and satisfaction, the turnover intention appears in their trust-performance-based article and they "argue that customer participation behavior improves employee performance" (Yi et al., 2011).

A significant part of the research deals with the marketing aspects of performance-oriented articles, in which studies mostly demonstrate a direct relationship between performance and customer satisfaction through questionnaire-based analysis (Rajabi et al., 2021, Peterson et al., 2006; Stajkovic et al., 2001). One of the mentioned articles examined the indirect connection of the categories in a group of a salesperson and found "research has linked salesperson job satisfaction to a wide variety of antecedents and outcomes including: role ambiguity, role conflict, work-family conflict, family-work conflict, emotional exhaustion, mentoring, effort, performance appraisal criteria, and various leadership functions" (Rajabi et al., art in p). Other studies deal with the impact of the different indicators or incentives on the possible outcomes (Stajkovic et al., 2001; Peterson et al., 2006). Peterson and Luthans, who researched the role of different incentives in the daily motivations box, found that "both financial and nonfinancial incentive motivators have a positive impact on individual performance" (Peterson et al., 2006) they also emphasized the measurement difficulties arising from the nature of the topic.

Within the performance-oriented articles, several studies present the relationship between satisfaction and performance in the healthcare sector, because "in healthcare services and the nursing profession job satisfaction is considered one of the key factors shaping the growth of performance" (Platis et al., 2015). Based on questionnaires among 246 Nurse in Greek were surveyed, where first of all the intensities of different "types" of performance and satisfaction were analyzed with mathematical methods. Satisfaction with the leader, working hours, job security, work volume, productivity and quality improvement, among others were examined.

A special aspect of performance-satisfaction consistency was examined by a Turkish study, which investigated the mechanism of a full-time job and part-time job as an applied time framework of the company. The qualitative analysis was surveyed among salespeople in an international sportswear brand, which took the different demographic circumstances of the company into account and shows significant differences between the full-time and part-time job satisfaction and performance level. The results seethed forth, that "part-timers' job satisfaction and performance levels were found significantly higher" (Al et al., 2016).

Another special approach to the relationship between satisfaction and performance comes from the sports literature. In this field, the position and cohesion of team members play an extremely important role, in which satisfaction also appears as one of the cornerstones of performance. However, a study has also been conducted similar to the marketing-oriented literature, which examines the impact of customer satisfaction (in the present case fan satisfaction) on team performance. A questionnaire-based study of the 20 rugby teams found that "positive emotional feedback drives affective outcomes such as team attachment and cognitive outcomes such as satisfaction with team performance" (Prayag et al., 2020).

The appearance of performance in the project world also opens up a new surface for research, where each environmental condition places in a newer and newer environment in research. Among these factors appears respect, according to one research as the dimension of organizational culture (Zidane et. al, 2016).

Family businesses are unique in terms of the studied environment, and they also appear in the conceptual environment of commitment. The specificity of the circumstances is also reflected in the clarified framework and expectations in case of trust and performance expectations of the employees and leaders of a non-family business company (Carmeli et. al., 2012), these elements and roles do not separate so sharply in a family business. However,

regardless of the internal distribution, overall performance expectations are also significant for the family business and "trust within this group will have a significant impact on performance" (Allen et al., 2018).

In the United States, adoption of commitment practices accelerated in the 1990s and has largely been found effective in boosting firms' financial performance as well as employees' motivation (Benson et al., 2006). Yuan et al. (2018) investigated how commitment, trust, and learning orientation affect performance in the supply chain and found a clear correlation among these disciplines. Based on examination of 213 supply chain companies in China, they found "trust influences service effectiveness and this influence is also fully mediated by commitment" (Yuan et al., 2018)

1.2 Research question

In our study, we focused on the concept of trust as immeasurable performance and examined how we can demonstrate the benefits of trust in the operation of a business organization. Research shows that the presence of trust is a key matter for some actors in the economy; for instance at the macro and micro levels. Knack and Keefer (1996) examined the impact of trust on economic growth in a study. According to their research "trust and civic norms are stronger in nations with higher and more equal incomes, with institutions that restrain predatory actions of chief executives, and with better-educated and ethnically homogeneous populations" (Knack and Keefer, 1996). Paldam (2000) Danish researcher, like Fukuyama and Knack and Keefer looked at the trust on the macro level as a family of social capital. In addition to the macro-level examination of trust, its micro-level analysis can be observed at the level of companies, where the direct effect of trust can be observed in the process of decision-making or directly in the decision itself.

To find evidence of visibility and measurability of trust, we matched trust as a concept that cannot be measured by mathematical methods alongside a measurable concept. This concept was employee performance. Most of the studies see performance as a concept that can be controlled by human resource practices and systems, which can be measured and influenced by different methods (Posthuma et al., 2013; Jiang et al., 2012; Tzabbar et al., 2017; Jensen et al., 2013). However, one must be extremely careful in properly adapting and "adjusting" the used technics, methods and systems, as it can also have effects that run counter to the company's goals (Han et al., a.p.).
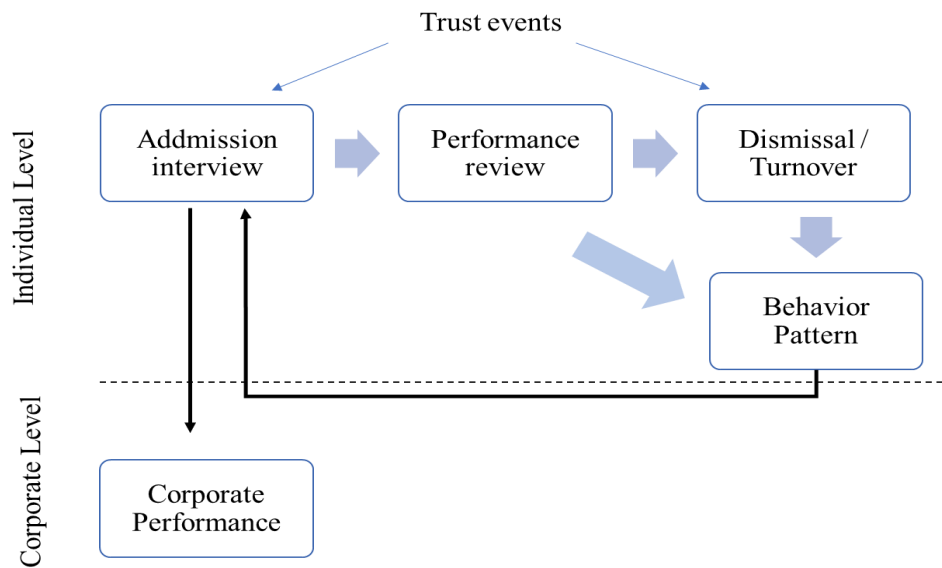
Figure 1.1: Modell of the research question
Source: own elaboration

In terms of the activities of a manufacturing company, we have defined the processes in which trust appears in some form during human interactions. These were the application interview and the resignation, as here, in addition to the measurable elements, the immeasurable factors also appear markedly. In both identified cases, patterning the behavior of manual workers was the focus of the research. During the recruitment interview, we used an environment where the recruitment process of manual workers consists of two parts: there is a performance-based practical task and a personal interview where the personal qualities of the prospective employee are examined. There is also a part of the resignation that may indicate poor worker performance. Thus, our research takes place on an individual level and in addition to measurable performance, immeasurable trust also appears as a concept to be examined. Performance measurement at a classical company is based on performance appraisal. "Performance appraisal is a crucial decision-making tool often used by an employer to assess and develop employee performance in organizations" (Ibrahim et al., 2016). We took the resignation as the starting point of our investigation and examined what the reasons for resignations were. In our research, we separated the concepts that work with measurable performance and examined a sample that could be an evidence of the research question. We examined only and exclusively those immeasurable concepts that served as the main reason for resignation. We assumed that if we find the pattern of behavior that triggers employees' intention to leave the company the most, and companies systematically monitor it already during the recruitment interview, companies can save time and money. Employee

turnover has not only financial implications but can also raise a number of moral issues, it can have an impact on team cohesion, where leadership needs to play an even bigger role (Kangas et al., 2018; Jianga et al., 2019). Thus, in addition to individual performance and immeasurable factors, the level of corporate performance can also be raised. This is the way how we got back to the starting point of the research model for the recruitment interviews, and through this, we find the indirect measurability of trust as an immeasurable concept to be justified.

1.3 Research field and group

As the focus of our thesis, we collected articles from the micro level of the trust examination. We have examined the typical operation chain in a classical production company. First of all, we have explored situations in which trust in the human-human relationship can appear and be examined. Good examples of this were the leader-follower context and interactions among team members. In the classical operation process of a company, we have selected those parts where a trustful atmosphere has some impact on the organization.

Therefore, in our thesis, we employed the classification principle to explore the areas where trustful atmospheres are present the most: where trust can be observed. Based on this logic, we divided the basic operation process of a production company into 5 parts. According to this classification, trust can be found first of all in procurement activities. Employees who are the actors of these activities are responsible for purchasing raw materials and other materials within a classic production company, so their activities have a direct impact on the company's financial results or balance sheet. The second activity of our study is the operational planning processes, which means the set of business processes in a company where the employees develop the most important way and methods of the company's operation. This group of employees is responsible for the synchronization of corporate goals and business trends. Based on our classification, the third group of corporate basic operation processes and activities is the operation itself, the activity that defines the main profile of the company. The fourth group of our chosen classification is sales activities. These processes cover all business operations related to the sale of finished products, where the trust between the leader and the employee or among team members can also be an interesting examination point. "In addition to justice and control, trust is also important in a salesperson – sales manager relationships. Greater trust between parties leads to higher levels of perceived

justice" (Brashear et al., 2005). As a closing operation of the company, we nominated corporate finance, which includes all the financial activities of the company.

For the thesis, we select a small group of approximately 20 people from a large production company, in which group the interdependence among the workers is the nature of the activity and the members of the group are physical workers. We assume that the organizational trust of the employee can be observed in the individual performance of workers, which has a direct or indirect impact on corporate performance.

According to the model of our research field, our assumption chain led from the observation of trust in the operational environment between leader and employee through the individual performance to corporate performance. According to our assumption, the existence of a trustful atmosphere has a positive impact on the employees' individual performance which also has a significant positive impact on the company's performance. According to our opinion, there is a strong connection among the elements of the chain of this assumption line.
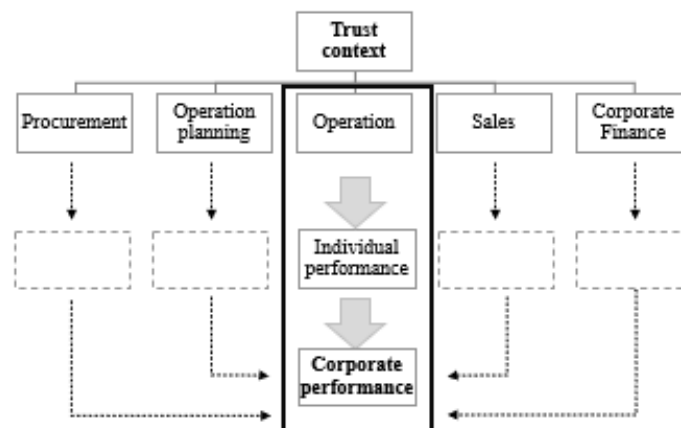
Figure 1.2: Identification of the target field of our examination
Source: own elaboration

Hence, the basic operations of a company is in the focus of our thesis. This is the area of business where we can combine the concept of trust with concept of quantitative, measurable performance.

The target group of our research was the small group of manual workers in a manufacturing company. The characterization of the company was unimportant, but the feature of the daily

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work was similar. These manual workers spent 8-12 hours next to the assembly line and worked with strong dependence with each other.

1.4 Approach

As methodological consideration of our study, we examined our research question from a transdisciplinary approach and analyzed the connected concepts from several aspects. According to the essence of the transdisciplinary approach, which was developed into a conception by Basarab Nicolescu, "it gives us an opportunity to create new knowledge" (Baracskai et al., 2017). Nicolescu identifies the concept of a transdisciplinary approach with a metaphor of a caged bird in which the bird and its approaches come to change as the environment changes. The bird's visions vary according to its condition. It shows a different behavior if you are alone in the cage, have company in the cage or if the cage is open or closed. With this metaphor, he emphasized the existence of different viewpoints and approaches, which can give a different meaning to an investigated question. "Classical binary logic confers its patent on either a scientific or non-scientific discipline. Thanks to these, rigid norms of truth, a discipline can pretend to contain all knowledge within its own field. If the discipline in question is considered as fundamental, as a touchstone for all other disciplines, its scope is thereby enlarge so that it appears to encompass all human knowledge" (Nicolescu, 2014).
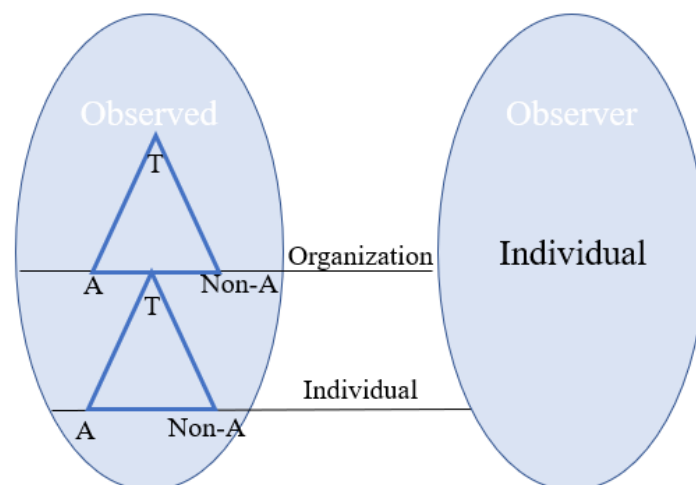
Figure 1.3: Research topic from transdisciplinary approach
Source: own elaboration

According to the transdisciplinary approach, our thesis examines two levels of reality or two levels of examination: individual and organizational (corporate). Based on the logic of this theory, the levels of reality consist of two components: observed and observer, in which the observed is the object of the examination and the observer is the subject of the examination. In our cases, the observer is exclusively the individual, the employee, the manual worker of a manufacturing company.

In the transdisciplinary approach, there are two statements as opinions of the observer in each level which are opposites of each other in content. One of them is the thesis (A) and another one is the antithesis (non-A). This symbolizes the different understanding of the same situation of issue. As a specialty of this approach, these statements can be solved as synthesis (T) only at a higher level, in our cases at the organization level.

In our study, the statements of the individual levels are employee well-being and lack of well-being, where their synthesis is the atmosphere of an organization. On the organizational level, the thesis is a trustful atmosphere against the antithesis: mistrust. The synthesis of these statements is trust, which is the focus of our research.

In reality, we made interviews with the employees at individual level and based on the opinions of the workers, we were able to conclude the common opinion of the organization. According to our transdisciplinary approach, the contradiction between thesis and antithesis on the individual level can be solved on the higher, organizational level. The reason, we chose this research method can be traced back to the fact, that individuals are able to formulate opinions, which served as a basis for our research, but we could not address or personalize an organization. Therefore, we could only draw conclusions about the opinion of the organization based on the individual opinions. Hence, the scope of domain of our research is the organization as well.

According to the above mentioned reasons, if we change one of the two factors or even both, the "new" result will not be the same as the result of the current research. So, we defined a situation for the study and identified the collective opinion of an organization. The processes and research methods we used in our research journey can be employed by other practitioners, however it is important to highlight, that the findings of our results cannot be used in every case in full detail as a general result.

As the method of our research, we used several research tools such as: title and abstract analysis or keyword research, and selected those concepts for our research, which served as

the basis of our conceptual framework. Our study contains both research methods: the qualitative and the quantitative research method in an interesting way. According to the classical distinctions of qualitative data collection methods, we used data collection through interviewing that we tested and validated on a focus group. This data collection method was the research tool of our first journal paper. During the interviews, we asked semi-structured, qualitative, in-depth interview questions; the conceptual scope used was the focus of the previously examined literature. Our focus group for the in-depth interviews was a small group of manual workers who worked at a manufacturing company in the same work environment and the feature of their daily tasks were the same as our sample in the second journal paper. The purpose of this examination was the understanding our chosen concept in the real-world environment and we wanted to map the lingo of the target group that described the way in which each concept appeared. In the interview, we wanted to listen to their stories with their own words. The used method provided us a good basis for examining and fine-tuning between the defined concepts from the literature and their real appearance in daily business.

The aim of the first journal paper was to get a basis for the second journal paper by exploring the lingo used in the field. Exploring the lingo allowed us to put together a questionnaire for the second journal paper which was therefore, more comprehensible for the target group. As the core of the second journal paper, we used a 73-item sample. The interviews of the sample were conducted in the form of personal conversations with pre-defined questions, in which the participants could choose the most appropriate answer to their behavior, opinion and impression from the pre-recorded answers to the different questions. Hence, our second journal article is also based on qualitative research method just like the first journal article. The used research in this study was already developed with the help of an expert system, which is a knowledge-based expert system and based on artificial intelligence.

"Since artificial intelligence first achieved recognition as a discipline in the mid 1950's, machine learning has been a central research area. Two reasons can be given for this prominence. The ability to learn is a hallmark of intelligent behavior, so any attempt to understand intelligence as a phenomenon must include an understanding of learning. More concretely, learning provides a potential methodology for building high-performance systems" (Quinlan, 1986). In the 1970s, the emergence of knowledge-based expert systems was able to make the abilities and potential of artificial intelligence-based systems and machine learning transparent. The name of knowledge-based expert system "suggests, these

systems are powered by knowledge that is represented explicitly rather than being implicit in algorithms" (Quinlan, 1986).

Our chosen knowledge-based expert system works basically with ID3 algorithm which was introduced by Quinlan in 1979 and since then it is the best-known knowledge-based expert system to model and present human mindset. With help of decision trees, the system is able to demonstrate a complex system of decision-making in an examined case. The algorithm works with attributes and it is able to take a reasonably good decision without computation. The system constructs generally easy, well-understandable rules from the pre-defined attributes. The structure of the system is iterative.

Later in the 1990s Quinlan further developed the algorithm under the name C4.5, which was a natural extension of the original algorithm. The C4.5 works with the same logic as the original algorithm, but this version of the algorithm is most sensitive to the high number of values. The Doctus knowledge-based expert system, what we used in our research works with an improved version of the ID3 algorithm which is very near to the applying of C4.5.

1.5 Our journey to explore the available knowledge, papers included and contribution

In our research, we wanted to find evidence of the measurability of trust. In order to reach this aim, firstly we were looking for the answer to why an employee leaves the company, what leads to resignation and what kind of mindset or behavior pattern leads to resignation.

As available knowledge, we have looked in the literature for concepts that can be related to human behavior in relation to resignation. We focused on research articles that deal with the relationship between trust and employee

The main part of our work consists of four problem areas that serve as the basis of the dissertation. These four parts of our work present the problem areas of the topic according to our perspective and it makes the process of understanding the research journey easy to comprehend. One of the special features of the study is the interlocking of the systematized problem areas, which means that the main topics of the dissertation have been processed in such an order, that it leads through the stages of the elaboration of the thesis. We have built up the four problem areas in such a way that the different parts can be read as a logical chain of the study. This topic processing method also implies that the conclusions developed by one problem area serve as a starting point for the next problem area. Due to this constellation,

each problem area was a conference paper or journal article and serves as a chapter of the dissertation as well.
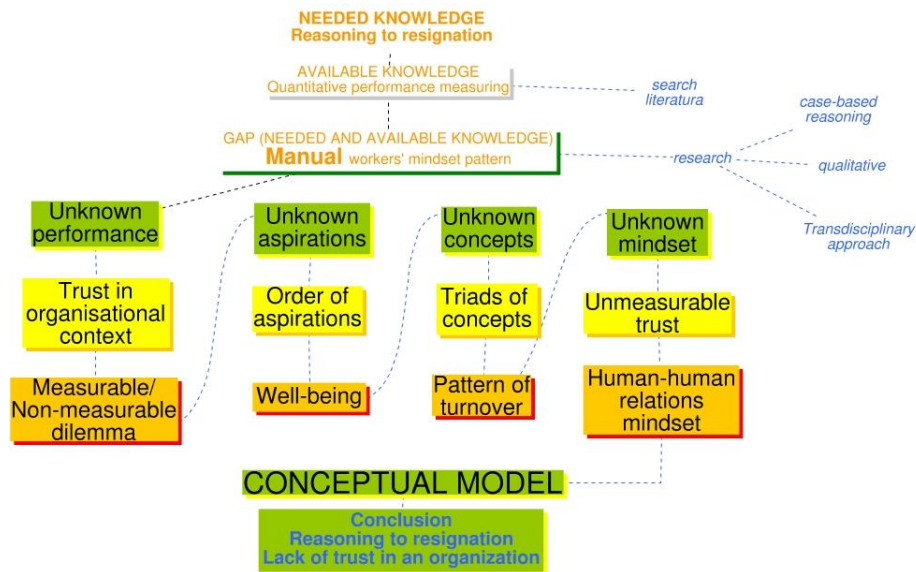
Figure 1.4: Conceptual model of our thesis
Source: own elaboration

The main starting point and problem area of the first part (**Chapter 2** - The engine of business performance: The role of trust in the managerial context) was defined as unknown performance. This study can also be considered as the first and therefore "half-backed" steps of our studies and aimed at unfolding and defining the notion of trust in an organizational context. The knowledge background of these articles which stay on the focus of this chapter deals with the following questions: "Why is research of trust important, how can the organization recognize a trustful atmosphere, how can trust be built up, what advantage does a company get if the workers have trust in the organization or how large is the damages if the company has not sufficiently invested in trust" (Domokos and Bencsik, 2019). It examines the emergence of trust as a concept from different approaches that can also be related to its impact on organizational performance. The study also examines the emergence of trust in different contexts, such a research environment as the relationship between the leader-follower, and the development of the leadership style in the last few decades. "A key challenge for managers seeking to promote subordinate cooperation is that they must manage the inherent tensions between control and trust. These tensions exist because control and trust motivate individuals through related but distinct and often opposing psychological mechanism" (Long, 2018).

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The aim of this chapter was the interpretation of the changing definition of trust and presentation of the different trust-contexts and environments such as ethical leadership or ethical work environment. Based on these articles, we could conclude the importance and role of a trustful atmosphere and the leader's role in it. Besides the role and performance-effect of trust, it has a strong correlation between leadership style and knowledge sharing, creativity and innovation, which also stimulates performance. In conclusion it can establish, that unmeasurable trust has augmented impact on extended parts of organizations.

Starting from the study of the effect of non-measurable trust and measurable performance on each other, we listed in **Chapter 3** (Consequences of judgment: Relationships between individual performance and employee turnover) the environmental elements that may influence this dual effect. During the preparation of the study, we focused on the organizational behavior-oriented articles which first of all deal with the connection between individual performance and employee turnover. We tried to find the common section and message of this literature for our further investigation. We know and experienced from our professional life that this is a clear trend in the business world to monitor only qualitative, measurable performance indicators in terms of individual performance and ignore non-measurable indicators with their impact on total individual performance at the same time. Even though the non-measurable elements of the performance are significant and important according to the literature, the business world neglects them. During our examination in the study, we investigated the work environment and its effect from the conceptual approach of "flow" by Csíkszentmihályi. "One of the key messages in the business ethics-related literature of Csikszentmihalyi is, the most important tasks of company executives must be to achieve the flow of employees" (Domokos and Baracskai, 2019). According to the literature, we clearly found that the work environment and climate has a significant effect on the individual performance in the workplace.

Over the past thirty years, countless human resource practices have become part of an organization that can have a positive impact on the performance of both the individual and the organization as a whole. However, the error lies primarily in their one-sided application, which focuses only on monitoring measurable performance elements. Csíkszentmihályi's vision brought new concepts into the research field in addition to human performance indicators, which can show a new path for all company managers or leaders. In our study, we also present the final status, which can be one of the possible outcomes from withdrawal behavior, voluntary employee turnover, lateness, or another negative phenomenon.

The concept of employee well-being was the starting point for **Chapter 4** (On the other side of Technology: Examining of different behavior patterns with Artificial Intelligence**)** of the dissertation, which examines the conceptual contexts of employee well-being in more depth. Chapter 4 of the dissertation aims to serve two purposes. On the one hand, it systematically selects and structures the concepts around employee well-being and restructures the identified concepts of literature. On the other hand, it transforms the applied concepts with the help of a small group of employees into the lingo. Therefore, this chapter synthetizes the first time theoretical terms into practice. So, the study consists of two parts and is based on a literature review, in which the employee turnover is in focus. In the first part, we start the examination by collecting requirements that are important from the viewpoint of the employees and build an understandable structure for those concepts which have a strong relationship with the investigated employee turnover. According to the concepts, we distinguish two aspects: personal triad and organizational triad. The personal triad deals with the most important concepts related to employee behavior, such as performance, satisfaction and commitment. The organizational triad examines the most important concepts related to the employee environment, such as trust, respect and well-being. This examination serves as the basis for the chosen concepts from the literature.

In the second part of this article, we validated our chosen concepts with a focus group. A focus group was selected according to a set of criteria for the members of the target group, whose answers helped to present the impact of the chosen six concepts on employee turnover. This part of the chapter serves to test the operation of a knowledge-based expert system. This type of examination makes the dissertation unique. The used expert system has two parts: case-based reasoning and rule-based reasoning. In this chapter, we used the rule-based part of the system and analyzed the operation of the system through the cases of the validation group. The used validation team consists of employees who have voluntarily resigned from a manufacturing company. For the study, we used an artificial intelligence-based counseling system that was also suitable for processing complex thought patterns. We had deep interviews with the members of the validation group and from their interviews, we compiled a questionnaire that served as the basis to further examination.

Hence, this chapter collected and structured the most typical concepts in connection with employee well-being, with an expert system demonstrate their relative relation to each other and compiled a questionnaire which was the basis of the examination in Chapter 5.

Chapter 5 (Action and reaction: Mapping of behavioral patterns) deals with the development of the behavioral pattern of employee turnover. This part of the dissertation serves as the end-stone of our research journey. The aim of the article was to present an employee's mindset pattern that demonstrates the impact of non-measurable concepts arising from human-to-human interactions in a workplace environment. The human-human interaction serves as a test point during sampling because that is the relationship in which the emergence of trust as a concept is most evident. In this part, we used a representative 73-element sample of the target group to the creation of the mindset pattern. In this part of the research, we used the case-based side of the knowledge-based expert system which employed statistical samples collected from employees with the same cultural background. To understanding human behavior and decision-making priorities, we used the compiled questionnaire of chapter 4 and we analyzed the employee's pre-defined answers in order to be able to interpret it more easily. We used non-numerical answers as values of the questionnaire in order to be able to express the differences between the responses in a more nuanced manner.

The fifth chapter of the dissertation as the last stage of the research journey contains the final conclusion of the whole research work in detail. In this chapter, we were able to come to the end of the research process and we established that non-measurable performance has an impact on quantitative, measurable performance. In our studies, we were able to draw a typical behavioral pattern of resignation, which was the goal of our research. Thus, we could define the human/employee expectations that can be taken into account in order to avoid resignation. In this stage of the study, we were also able to conclude that satisfaction and dissatisfaction cannot be described with the same expectations. Therefore, the fact that something leads to satisfaction doesn't necessarily mean that the opposite experience will lead to employee resignation.

Based on the results of the last milestone of our research, we can return to the starting point of the research as a whole. By creating a behavioral pattern, we were able to map latent knowledge that can be a useful aid in strategic decision-making in practice. More efficient corporate strategy can be built by considering a pattern of behavior that will save significant financial and non-financial resources for a company. So, we can find evidence that trust has measurable benefits in a corporate environment.

1.6 Conclusions and limitations

The title of the current work, "Trust and what is behind it: An examination of human mindset in relation to non-measurable performance" and the four problem areas making up the identified problem space evolved throughout our research journey.

Firstly, the aim of our research was the understanding of employee mindset by those employees who decided to quit from their workplace. Our target group of the examination was that group of manual workers who worked in a small group of a manufacturing company. This group has numerous common features in terms of work, work style and work environment, which are relevant to the research. All of the examined workers worked in the same group in terms of educational level, and although their qualifications could be different, they all worked in the same job. The characteristics of the target group and their environment were not foreign to us, which could greatly help us to carry out the research. Our personal experience with changing professions or workplace was a good source of inspiration in the construction of our study.

The research includes four sections to describe the following areas: the meaning of non-measurable performance or the dilemma between measurable and non-measurable performance, the correlation of employee turnover and performance, the conceptual environment of employee well-being and the investigation of employee mindset. These four chapters of the dissertation build on each other as a logical chain of the research question and demonstrate our path in the research topic. The presented set of papers draws upon organizational behavior, artificial intelligence and behavioral economics among other disciplines. The used research method was structured exit interviews with pre-defined questions or topics which were carried out by the company on the employee's last day. For the analysis of the answers to our questions, we used a knowledge-based expert system and we applied text answers as values of the system instead of the Likert scale, despite the fact that it is the most commonly used scale in sample analysis. This expert system was able to map the human mindset and it built up a mindset pattern from the expectations. With help of this system, we were able to interpret the results even clearer and easier for academics and practitioners.

The basis of our conceptual examination were those articles which originally deal with concepts of performance and employee turnover. We collected and classified them on the basis of the concepts in relation to which they have been examined. According to this

classification, we narrowed down our research field to the following concepts: employee well-being, individual performance, employee turnover, commitment, satisfaction and trust. Those articles which investigated the existence and effects of these concepts, served as knowledge background for our study. Based on the examined problem areas, we have drawn the appropriate conclusions and outlined possible further directions for research on each topic, which could be a valuable contribution to the disciplines of human behavior and decision-making.

In our research, we have drawn conclusions for both the individual parts and the research as a whole. The aim of the dissertation was to find evidence for the existence of trust. Through narrowing of the literature in line with the research direction provided sufficient space for the selection and examination of relevant concepts and we were able to set up a research model to the examined research question. With help of our applied research method and tool, we could demonstrate the existence and impact of trust on organizational performance. We came to this conclusion on the basis of the requirements of our examined cases where employees resigned on their own initiatives. In these cases, there were no objections from the company's point of view regarding the measurable performance of the employees, the employees' expectations regarding the work and the working environment arose in connection with the non-measurable performance. According to the decision tree of the employees what we investigated with the expert system in the sample, those concepts had significant impact on a final decision which cannot be modelled with numerical method. Hence, employees did not leave their jobs because they could not meet the measurable performance requirement of the company. They left the company, because their "non-measurable expectations" did not match with the given organizational environment. The cause of resignation can be readable from the branches of the decision tree or the rules of the system, which are stem from the concepts of the investigated literature.

The other two most important findings of the dissertation come from the investigation of the 73-item sample. With help of an expert system, we demonstrated which expectations are the most informative expectations of the human mindset in our examined sample. These expectations are readable from the "branches" of the decision tree and we can find these correlations like "if-then" logical rules of the expert system as well. The rules which describe human thinking and decision-making come from the expert system, where these rules are composed of expectations. Therefore, the more complex the set of expectations of employees, the system creates more rules in order to be able to describe it.

In our study, we assigned four values from completely satisfied to completely dissatisfied to each employee's expectations. These four values formed each branch of the decision tree. If we combine the individual branches in a bottom-up and if-than relation, we get the rules of the expert system. These correlations can also be found in the set of rules of the knowledge-based expert system. From the rules which were based on the sample, we can see that the completely satisfied and completely dissatisfied branches of the decision tree are describable very simply. It can be easily defined by some combination of expectations. From this phenomenon, we can conclude that the employee can formulate very simply what kind of expectations encourage them to stay or quit.

If we examine the rules created by the expert system, we can also see that the combinations of expectations in case of the rules of the completely satisfied value and the combination of expectations in case of the rules of the completely dissatisfied value are utterly different. This means that although both states can be easily defined from the opinion of the workers, the elimination of either rule does not change the decision itself. This means, if an employee quits from a company because the work atmosphere was uncomfortable and did not like to work with their colleagues, and the company changes these conditions, for example, putting him/her on another team, it does not necessarily mean that they will stay at the company. This statement is also true in the opposite situation. According to the examined sample, if an employee is satisfied with his or her work environment, it is not necessarily certain that if the company changed the work environment, he or she would quit. In summary, we can say that human expectations are clear, simple, and unambiguous in "extreme" situations, but the rules that describe these opposing rules, consist of different expectations. Therefore, it is not the same expectations that cause dissatisfaction as those that cause satisfaction.

The other finding which comes from the investigation of the sample is the above mentioned "clear rules", which refer to the binary thinking of workers. The employees can define what they like or dislike relatively easily, what causes satisfaction or dissatisfaction for them. This finding of the dissertation serves as a potential starting point of our examination. According to our assumption, the binary thinking can have two reasons: the editor of the questionnaire/interview questions does not formulate the right question in connection with the research or the respondents are thinking binary in reality as well. This two research topics can serve as potential extension of this study.

The research was carried out taking into account the following limitations, which basically come from the specifications of the knowledge-based expert system. The first limitation is sense-making, how we can interpret the different concepts, what kind of meanings we give to the phenomenon. The concept of sense-making was introduced in the 1970s by Karl E. Weick. In our research, we used pre-defined questions for the examination of the concepts and we gave meaning to each question according to our mindset, but the respondents' mindsets might be different. Therefore, the wording of the questions is very important. A new meaning/wording of the questions can cause different results in the examination. It could be the same situation if we change the employees/respondents. It might be sure, that the result of the examination will be different. The findings of our research are valid only and exclusively in the specific situation and for the specific employees.

The second limitation we needed to take into account is the logic of the algorithm what we used as expert system. Our expert system used an improved version of ID3 algorithm which is the most popular and well-known expert system for mapping of the human mindset and decision-making. This algorithm is able to handle a big number of data in a certain time and it is able to build up reasonable and simple decision trees. Based on the mechanism of the algorithm, it maps all possible decisions at a certain time and it chooses the most simple and the most informative decision model from there, which is a useful feature of the system. Although the algorithm is the most commonly used, its principles of operation were a given to us, which may be a potential limitation of the research.

2. The engine of business performance: The role of trust in the managerial context

Conference paper

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Abstract

From the 1950s onwards, trust, as a concept has served as an untapped resource for countless disciplines. Several fields of science, from several perspectives examined trust as a phenomenon and the impact of the lack of trust in a different context. These issues identify the most important research areas in the scientific world that have focused on trust in recent decades. In our accelerating economic world, building and maintaining trust is primarily necessary to strengthen the economic performance of companies. Researchers sought to answer the following questions during their scientific research: Why is the research of trust important, how can the organization recognize a trustful atmosphere, how can trust be built up, what advantage does a company get if the workers have trust in the organization or how large is the damages if the company has not sufficiently invested in trust.

This article is an extended literature review in connection with the concept of organizational trust, which defines a problem area in the relationship between knowledge management and leadership.

In our study, we researched scientific journals by using the phrase organization trust as the keyword, and within these, we highlighted the areas of research where the most significant relevant scientific literature was to be found, which was in close connection with our research field. The aim of this article is to summarize the most important issues of this literature, which have been studied within each discipline. The conclusion from this literature identifies a positive correlation between economic performance and organizational

trust; its measurability can be the key question for companies. In our study, we appointed the measurability of trust as the goal of future research.

2.1 Introduction

The definition of trust in the various fields of science has become part of the literature since the middle of the last century.

The research and analysis of the role and effect of organizational trust have a history of more than fifty years. Numerous organization scholars have emphasized the importance of trust in organizational settings, but all of these researchers have analyzed the role of trust in a slightly different way, from another scientific approach or in different contexts, but one element nevertheless is common in these researches: the role and importance of trust in an organization are indisputable.

According to interesting scientific research from the University Institute of Lisbon, there are five hormones in the human body responsible for our sensations and emotions. The researcher states the combination of these hormones has a positive correlation with the level of organizational trust because of the chemical reactions to the different emotions. For this reason, they measured with qualitative research the relationship among the different chemicals, leadership, motivation and organizational trust. The inspiration for this research came from the different feelings from a different work environment where the employee can feel the trust or lack of trust (Zak, 2018; Ferreira, Costa, Pereira, Jerónimo, Dias, 2018). Zak (2018) identify oxitocyn as trust hormone and Sinek (2016) provide with the logical way the indirect connection between the environment, leader behavior and motivation. He describes and emphasizes if the leader behavior causes trust in the workers, the level of oxytocin increase in the human body and the level of motivation increase as well (equilibrium theory).

2.2 Development of the trust definition

During these more than fifty years of trust research, science has defined trust in many ways. Cook and Wall (1980) defined organizational trust as "the extent to which one is willing to ascribe good intentions to and have confidence in the words and actions of other people".

Carnevale and Wechsler (1992) identified the definition of organizational trust as that it "involves faith or confidence in the intentions or actions of a person or a group, the expectation of ethical, fair, and non-threatening behavior, and concerns for the rights of others in exchange relationships". Mayer, Davis and Schoorman (1995) mentioned the term of trust as it refers to "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". Dietz and den Hartog (2005) concluded that "trust as a belief, as a decision and as an action" (Bakker, Leenders, Gabbay, Kratzer, Engelen, 2006) and Mayer (1995) and Gabbay and Leenders (2003) defined trust as "a set of beliefs about the other party (trustee), which lead one (trustor) to assume that the trustee's actions will have positive consequences for the trustor's self". (Bakker, Leenders, Gabbay, Kratzer, Engelen, 2006)

As the number of researches related to trust increases, the study areas and topics have started to develop dynamically. While in the 1980s most of the studies looked at the impact of trust on workers (Cook, Wall, 1980) and they focused on the long-term maintenance for an organization, in the early nineties, relationships with leaders were already being studied (Carnevale, Wechsler, 1992). After the turn of the millennium, the impact of trust on economic performance and financial gain has also shone in the spotlight, which is also the basis for long-term sustainability. Examining this relationship is a key element of survival in the global economy (Lams, Pucetaite, 2006).

In addition to the key actors in building confidence in an organization, the chosen articles on trust research gather around two approaches: psychological and social approaches.

From a psychological approach, Fehr (2009) described trust: "Trust plays a role in almost all human relationships." (Lusher, Robins, Pattison, Lomi, 2012). Lusher, Robins, Pattison, and Lomi have collected on trust relations within the top management team of a multi-unit industrial group and have modeled the expressed and perceived trust relationship in organizations. They proved the effect and role of trust with the mathematical model and suggested that the building and breaking of trust is based on a psychological mechanism. They stated that 171 collected articles write about trust in organizations that have been published over the last 48 years (McEvily and Tortoriello, 2011). In these articles, the researcher found 129 different measures of trust and they state in their work that "disagreement on measures notwithstanding, two identifiable trends seem to characterize

contemporary research on trust (and distrust) in the organizational context." (Lusher, Robins, Pattison, Lomi, 2012)

The definition of trust in social scientific studies is different from the psychological approach. Trust has been identified as "one of the central constructs in inter-organizational relationships" (Smith, Barclay, 1997) and it was described and examined in the different levels of the organization. In an article by Baek and Jung two important implications of trust were identified. First, they stated there is "sequential order between different types of trust in organizational settings. Second, interpersonal trust promotes organizational commitment only if it facilitates institutional trust." (Baek, Jung, 2018) They separated two types of trust in an organization: interpersonal trust and institutional trust and these two groups have modeled the effects of trust with a mathematical method.

However, there are regardless of the different approaches and definitions in connection with the term of trust, the concept or basis of the general definition was serviced by Rousseau for the scientific world. Rousseau state in 1998 that the "psychological state comprising the intention to accept vulnerability based upon positive expectation of the intentions or behaviors of another". (Baek, Jung, 2015)

Fukuyama, as the major researcher of this scientific area, analyzes in his book *Trust: The social virtues and the creation of property* (1995) the role of trust and the social capital is the different countries and nationalities. He describes culture "as a major contributing source and explanatory variable of varying prosperity around the world". (Quddus, Goldsby, Farooque, 2000) The book makes significant differences between the social behavior of the people in different countries and he prove that these differences in the behavior of cultures appear in all areas of business.

Although countless scientific researches describe the importance of the concept with various methods and mathematical models, their use is often difficult in everyday business life. Several factors affect the lives of economic operators (eg. the cooperation of multiple cultures within an organization, personal internal conflicts of interest) which make it difficult to build and maintain trust. However, this activity is a major element of the daily business in a company, it serves as a basis of knowledge sharing and continuous development as well.

Based on our chosen scientific articles we summarized the most important research field in the studies, but not all scientific examination is covered, this serves only as a sample of this short summary. For our analysis, we have chosen two concrete research areas: leadership

and knowledge management, because these are the two scientific areas that we will analyze deeper in connection with trust in our later research with empirical analysis and case study method.

2.2.1 Trust in the organizational context

Over the past 150 years, the image and concept of the leader have changed from time to time. These changes are mainly induced by environmental factors such as the political system of each country, the economic situation, technological development and generational changes that have emerged as a result of the present age. Although leadership as a practice has existed since prehistoric times, leadership theory models can be regarded as young.

Changes in the characteristics of the leadership role also followed this trend. The chronological changes of the visionary approaches such as the classical viewpoint, the human-centered viewpoint, the modern or the post-modern approach, have given managers new attributes and competence for the leading role according to the current driving characteristics and directions.

During the last three decades, ethical and transformational leadership get an important role in leadership styles. More studies examine the positive effect of this leadership within the different companies and in a different context. Ethical leadership is described in the literature as follows: "an effective predictor of job satisfaction, organization commitment, moral identity, voice behavior and organizational citizenship behavior" (Brown, 2005; Brown, Trevino, 2006) and the ethical leadership was defined as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision making (Brown, 2005). Brown and Trevion describe the ethical leaders as "who have the following characteristics: honesty, integrity, care for others, altruism, visibility, group determination, reliability, supporting proper rights, along with their particular conduct as principled folks who create well-balanced judgments". Bass (1985) as the most famous researcher in the transformational leadership described the leader as a motivator who is able to inspire, stimulate and empower people to a common goal. He specified the following characteristics: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration, and through these characteristics and empowering abilities, the transformational leader can build a more efficient organization than the other leadership styles, it is an effective form of leadership. Bass defined the transformational leaders "as

those motivating their followers to move beyond their individual self-interests for the good of the group, organization, and society" (Muchiri, McMurray, Nkhoma, Pham, 2019); Birasnav, Rangnekar and Dalpati (2011) emphasized, "transformational leadership is one of the most effective leadership styles for enhancing knowledge capital, human capital" (Le, Lei, Phouvong, Than, Nguyen, Gong, 2018) and some other scientific studies examine the employee behavior, trust, leadership style and employee performance in a common examination group. Our chosen studies have focused on the relationship between ethical leadership behavior, organizational trust, and employee performance, and these studies emphasized the positive relationship between the ethical leadership, the ethical work environment, and the organizational trust as well.

The role of trust appears as a key factor in the functioning of the organization. Several studies research and analyze the impact of trust in two or three indicators as motivation or employee engagement. "A key challenge for managers seeking to promote subordinate cooperation is that they must manage the inherent tensions between control and trust. These tensions exist because control and trust motivate individuals through related but distinct and often opposing psychological mechanism." (Long, 2018) Long has stated in his research that leaders have a significant role in building trust. He has pointed out the importance of this and the insights of trust levels at each level of leadership. In his examination, he used twenty-two in-depth, semi-structured interviews that were conducted with practicing managers who were also members of an executive MBA program in the eastern United States. He examined in the interviews the variety of the managerial role in the connection of building trust.

2.2.2 Trust in knowledge sharing and creativity

In our current accelerated world, quick response, good ideas and effective teamwork can be key issues, within knowledge sharing can help to fulfill the customer needs and avoid the problems in this everyday competition. New ideas and innovativeness of a company could be key determinants in this platform.

Most scientific research has examined the impact of ethical leadership on innovation and creativity, which is motivated not only by academic life but also by practice as well. Some studies prove with different methods the direct relationship between the leadership style and employee creativity. "Ethical leadership is seen as one of the main driving forces in developing and sustaining a culture of creativity" (Javed, Kahn, Bashir, Arjoon, 2016) and

the evidence this direct connection not only in the positive understanding but in the negative aspect as well. Hence, there is a positive relationship between ethical leadership and employee creativity and innovation, and there is a negative correlation between the authoritative leadership style and employee creativity as well.

According to the chosen studies the knowledge sharing as a term was described as the following: "the process of exchanging information among individuals to create a valuable knowledge base for one another" (Le, Phouvong, Than, Nguyen, Gong, 2018) and defined as the key element of the knowledge management. Study by Reid (2003) states that "knowledge sharing creates opportunities to maximize organization ability to meet those needs and generates solutions and efficiencies that provide a business with a competitive advantage". One of the processes which knowledge management aims at is knowledge sharing. Tuan (2012), Sandhu, Jain and Ahmad (2011) identified knowledge sharing as a process within the information exchange between the employee in a company that serves as a transfer of it.

Creativity is also an important issue in the increasingly competitive economic competition. A good idea that can make a positive difference can be of great importance to businesses that are under increasing pressure to survive, but this requires an inspiring, motivating, supportive environment where company employees can develop their knowledge and profit from a new idea business can be gained. Incorporate everyday life, the elements of the environment include, among other things, infrastructure elements, existing economic processes, workers and managers who support and manage them. This is the reason behind the research of Javed, Rawwas, Khandai, Shahid and Tayyeb, which focuses on trust. They examined small textile firms in Pakistan and concluded: "ethical leadership promotes creativity at a workplace, while trust in leader mediates the effect of ethical leadership on creativity" (Javed, Rawwas, Kandai, Shahid, Tayyeb, 2018). Pucétaité has analyzed the relationship between organizational innovativeness and ethical leadership on the basis of organizational trust with an empirical examination in Lithuania and recognized the statistically significant relationship between the ethical climate in the organizations and the organizational creativity or innovativeness.

2.3 Conclusion

The most important goal of the financial world according to the neoclassical studies is to gain economic benefits and profit. Based on the above, companies can achieve these benefits

through building and maintaining trust. Rabbiosi (2010) finds in a scientific study that trust serves as a basis for employee innovativeness, it has an impact on commitment and loyalty, according to Harvey (2011), and Dirks and Ferris (2002) find it has a strong connection with organization performance. Hence, there is a strong correlation among trust, creativity and leadership style that serve as a basis to the employee motivation, commitment, and better business performance of the company.

Nowadays, the acquisition, maintenance and expansion of knowledge are one of the most important competitiveness factors for companies. Due to the explosive technological, first of all, the information technology development, companies have all technical possibilities that can help in the growing competition in the business world, only human capital, knowledge and behavior can hinder or allow the development. The chosen literature shows a clear, positive correlation between the presence of trust, the performance of companies, the motivation and commitment of employees. Therefore, building and maintaining trust is crucially important for a company according to the summarized views and findings above.

The higher level of this research field can be the visibility and measurability of this impact. The research hasn't found yet an easy and quick way to measure trust, all studies find empirical data analysis and evaluation of surveys and questionnaires as a useful solution, but these research tools include a lot of subjectivity that can modify the results of the examination. We prefer the case study research methods and the data collection in an empirical way to our analysis. According to our opinion, these methods support with the help of the concrete example the better presenting of the economic impact of the lack of trust or atmosphere of trust in an organization.

3. Consequences of judgment: Relationships between individual performance and employee turnover

Conference paper

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Abstract

The general approach to individual performance has dynamically changed and evolved in the sociological and psychological literature over the last few decades. Earlier, practitioners in Human Resource Management had often been led to misguided or improper interpretations of employee performance, and companies only considered the measurable employee performance as the "real" whole individual performance and ignored the non-measurable effects on the outcome of the performance indicators. Based on the evolution of solutions in the literature and based on their own experience, companies have recognized the role and importance of employees in organizations, and they are making efforts to meet the physical and psychological expectations of this factor to improve individual performance. In compiling our knowledge base from the performance-oriented literature, we took into consideration the holistic nature of the topic, and we relied primarily on that literature and studies as the knowledge base of our research, which examined the non-measurable elements and their effects on individual performance.

In the introduction, we examine the meaning of individual "well-being" or "good work" in different literature as the starting point of our study. In the main part of the literature, we summarize the importance of individual performance in the relevant organizational behavior literature as one possible impact or element of the employees' well-being in the workplace. We describe the role and effect of the High-Performance Work Systems (HPWS) in performance measurement. Furthermore, we examine the turnover intention of the employees as possible outcomes of the lack of individual well-being. Our study proposes a

new conceptual framework for employees' well-being in organizations, one that focuses on the most disadvantageous outcomes of these employee turnover issues.

Keywords: employee turnover, individual performance, well-being

3.1 Introduction

Until the early twenty-first century, profit maximization was the basic approach and the driver of the business in the economy (Solomon, 1999). The indicators, which directly affect the operating of companies in the competitive sector, was singularly profit making. The corporate reports did not contain the conditions of the working environment, the employees' well-being or the performance, job satisfaction and commitment of the staff from a business approach.

However, this attitude changed dramatically in the late 1970s, when more and more literature began to address the workplace environment of an employee and its effects: both from physical and psychological sides. Considering an average employee's agenda, it is easy to recognize that a significant proportion of employees, depending on the nature of the job, spend at least 8-12 hours at work a day, where their "lived" experiences may have a significant impact on their private lives outside the workplace as well. Hence, the researchers recognized these issues and began to examine the role and impact of individual well-being in the organizational environment. One part of the research article, which deals with the environmental factors of the workplaces, examines the sound, light, air and other external factors, which impact on the individual's well-being was evidenced (Gifford, 1996, Badayai, 2012). Another part of these research studies deals with the social impact of employee well-being in the literature. This research has studied and described for instance the role of the leader in the team (Gjerlov-Juel, 2019; Koene et al., 2002). Gjerlov-Juel classified the environmental climate of the employees into five groups according to the effect's nature: leadership climate, empowerment climate, justice climate, operation climate or ethical climate.

With the strengthening of the business ethics' position in the daily business, the psychological aspects of workplace conditions have also come to the spotlight. Numerous studies and literature address the role of employee well-being in the work environment as a potential factor in the success of a company from the financial side. One of the most influential researchers of individual well-being and positive psychology research is

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Csikszentmihalyi et al. in the psychological-oriented literature, found the concept of creation and interpretation of "flow" as a common name of the emphasized phenomenon. He defined the "flow" experience as "moments when one reaches such equilibrium and one becomes completely engrossed in the enjoyment of one's work are described as an experience of flow" and he "asserts that the task of good managers and enlightened business leaders is to create a working environment which facilitates as many moments of "flow" as possible" (Vogt, 2005). Furthermore, he emphasized that the employees who work in an inspiring work environment, develop their personal skills and abilities, and simultaneously with it, they can grow their productivity as well (Csikszentmihalyi, 2003). Therefore, the company can reach a higher profit rate and it can keep its position in the business market. One of the key messages in the business ethics-related literature of Csikszentmihalyi is, the most important tasks of company executives must be to achieve the flow of employees. Csikszentmihalyi and his colleagues named the individual well-being in a workplace as "good work" (Gardner et al., 2001)

Besides Csikszentmihalyi's researches and articles, more researchers have examined the positivity and the effect of positivity in the workplace (Luthans et al., 2008; Spell et al., 2014). Spell, Eby and Vandenberg examined the power of the developmental climate for the organization and perceived competence. With a multilevel modeling technique, they take to evidence the meaningful impact of the developmental environment for organizational commitment, engagement and job performance, and they presented the downstream predictive effects of the work environment to the voluntary turnover and individual job performance. Luthans and Youssef (2007) also emphasized the inspiring role and importance of the positive organizational climate which serves as the basis of sustainable growth and performance in a company. Besides, some articles discuss and model the well-being effect of employee commitment and trust (Mo and Shi, 2017) or emphasize the role of the leader as one of the most relevant influencers of employee positivity, motivation and team cohesion.

The basis of our study originates from organizational behavior-oriented articles, which focus on the direct connection between individual performance and voluntary turnover of the employees.

3.2 Performance and performance measurement

The studies usually use performance as an umbrella term in the research, which was identified especially with the financial approach of the phenomenon (Kotter and Heskett, 1992; Huselid, 1995), for which there are different methods to measure, depending on the level of investigation that each research involves. The measurement of the corporate performance is one of the major figures of the company, which presents the place of the firm in the market competition, help the positioning of the company to the requirements and trends of the future and has a significant impact on the goal settings from the strategical approach.

Several studies have analyzed the performance on an organizational level from different perspectives with different figures and they emphasized the importance of the exact description of cases and the environment of the cases. Most articles identify the performance at organizational level with growth (Gjerlov-Juvel and Guenther, 2019), development level and expansion intensity of a company, but another part of the studies examined the individuals in a group context. All of them highlighted the relevance of environmental factors, which influence the appearance and measurement of performance. Bititci et al. (2012) collected and summarized the performance measurement as a research topic within a holistic systems-based framework and reorganized the performance measurement article in a slightly new way, which stresses the importance of performance measurement and consequently performance with the importance of strengthening and expansion for academics and practitioners.

A significant body of literature in connection with performance examines the effect of the different human resource practices and systems on the corporate performance which practices and systems have a strong influence on the success of the companies' business performance (Jiang et al., 2012; Tzabbar et al., 2017, Martin et al., 2005) or it can indicate a negative effect on the organizational performance (Jensen et al., 2013; Han et al., 2018) as well. A narrowed part of this literature are those research articles that examine the indirect effect of employee turnover on corporate performance. These researches have shown the turnover effect on the performance through the turnover indexes of the human research management area (Berry et al., 2012; Batt and Colvin, 2011; Hausknecht and Holwerda, 2013; Ton and Huckman, 2008).

3.2.1 High Performance Work System

In the last decades, the goal and task of the human resource management area as part of the companies' organization significantly changed. While earlier the recruiting process in case of a new workforce used to be part of the daily routine, this statement is not entirely right in the current situation. Some studies researched and presented the direct and indirect cost of recruiting a new employee, and these have also taken into account the "time consequence", which means recruiting a new staff member (Hausknecht and Holwerda, 2013; Trevor and Nyberg, 2008). Therefore, now the focus is on the retention of valuable staff in the daily business. The human resources articles emphasized that „people are the most important resource in every organization because they possess the knowledge of how to utilize and orchestrate the available specific resources" (Gjerlov-Juvel, Guenther, 2019; Martin et al., 2005). Therefore, new priorities were concluded: companies are able to achieve or maintain their competitive advantage by retaining and developing the skills of their employees, which generates later a higher level of performance for them. The human resource practices and human resources systems help the companies in this general issue, which combines the elements of these practices and processes. These systems are flexibly adapted to the circumstances to be primarily more efficient and less time available expressed in the company's strategic goals. Basically, "prior research identified various HR systems such as high performance work systems (HPWS), high commitment HR systems, high involvement HR systems and high investment HR systems" (Jiang et al., 2012). We utilized the high performance work system literature to our study, which examined the impact of human resource systems, processes and practices to the higher level of the individual and the company's performance as well.

The term of high performance work system was defined one of the first by Huselid in 1995, who analyzed the effect of human resources practices at an organizational level and identified the system which "include rigorous recruiting and selection protocols, performance management and incentive compensation systems, and employee training and development activities that are designed to acquire, refine, and reinforce employee skills and behaviors necessary to implement the firm's competitive strategy" (Huselid, 1995). Since then, numerous studies have examined the emergence and impact of the phenomenon in the organizational behavioral literature from several perspectives. For example, high performance work system was "defined as a series of performance-enhancing human resource management practices" (Han et al., 2019), or this is "a synergistic effect of certain

combinations of practices" (Hartog et al., 2004). "High-performance work systems (HPWS) have recently been defined as a group of separate, but interconnected human resource (HR) practices designed to enhance employees' skills and effort" (Messersmith et al., 2011). Based on McDuffy's definition: "it is the combination of practices into a bundle, rather than individual practices, which shapes the pattern of interactions between and among managers and employees" (Boxall and Macky, 2009). This is "a set of practices that typically comprise comprehensive recruitment and selection, incentive-based compensation, performance management, extensive employee involvement, and detailed training initiatives" (Jensen et al., 2013). "The term high performance work system is typically used to describe a system of integrated or combined HRM practices, work structures, and processes that are designed to produce high levels of employee knowledge, skill, attitude, motivation and flexibility" (Han et al., 2019).

However, the definitions and meanings of high performance work practices can be different in companies. Posthuma et al. (2013) made transparent this different meaning and they analyzed and classified the HPWS articles between 1992 and 2011, which was the basis of their comprehensive high performance work practices taxonomy. They described, "system which can enhance the employee competencies, commitment and productivity are often called high-performance work systems" (Posthuma et al, 2013). They restructured the mentioned research articles to a new conceptual framework, which can present the coalition of specific human resource practices, to facilitate higher organizational performance. It was interpreted in four levels (high performance work principle, high performance work policies, high performance work practices, high performance work products) and each level was identified in organizational and human resources architectures simultaneously, thereby systematizing the literary interpretations.

3.2.2 The dark side of high performance work system

"High performance work systems can improve financial performance through enhanced intermediate outcomes such as increased job satisfaction and productivity and also reduced turnover and less absenteeism" (Posthuma et al., 2013), but it can exert a negative impact to the performance, hence it has a dark side as well. The key to success is in the appropriate positioning of the human resource practices in the long-term strategy of the company (Jiang et al., 2012a; Jiang et al., 2012). Han et al. (2019) examined the possible investigation of negative high performance work system effect and classified it into four groups according

to why and when these effects occur. In the collecting of possible effects, we followed this classification.

One possibility of emerging negative effect of high performance work system can originate from employee perspectives, which mean the usage of human resource practices in the daily business. The different HR practices influence performance through the abilities and motivation of employees. As long as, one of these indicators is weaker, the aim of performance will not be achieved. "Employees will perform well when they are able, motivated, and given the opportunity (work environment) to do so" (Han et al., article in press), and any synergetic problem induce an unlikely effect on the corporate performance.

Based on the JDR model, another possibility of emerging negative performance-relevance effects can be the potential imbalance between job demands and resources, which define the social and physical abilities of the workplaces from the organizational approach on both sides. One of these articles analyzes and confirms the direct impact of imbalance between these two indicators through empirical examination in the governmental sector in Wales. According to the results of the research, there is a clear cohesion between high work demand and employees' anxiety, which spill over to employee turnover intention (Jensen et al., 2013). The same imbalance can also originate from a job resource approach, which resources support the individual's and company's goal achievement. In summary, the "job demands exert negative effects on job satisfaction and job resources exert positive effects on job satisfaction, however, these two factors exhibit weak interaction effects" (Han et al., 2019). Hence, the balance of job demands and resources appears as a critical element for the company primarily from management perspective.

The third potential indicator of the negative effect of high performance work system can be employee motivation, which has a significant, relevant impact on the performance at individual and organizational levels as well (Han et al., 2019). "The individual and collective levels are inextricably linked because the performance opportunities of individuals and their motivations are influenced by the quality of resources, collaboration and trust in their working environment" (Boxall and Macky, 2009). According to the organizational behavior-oriented articles, trust plays an appropriate part in the performance. The role of trust appears as a key factor in the functioning of the organization. Behind the spillover impact of trust, there are typically two or three indicators such as motivation or employee engagement (Long, 2018; Gardner et al., 2011). In the functioning of motivation, the leader's behavior

plays a specific role in the team, which was emphasized by the mentioned organizational behavior-oriented literature. Studies have shown, that we need to differentiate between the types of motivation. Whilst, the intrinsic motivation as one form of motivation can inspire appropriate and conscious trust-building, the organization can also determine the extrinsic motivation with results-oriented evaluation, external reward or other wide-used human resource techniques, but the company needs to continuously monitor the balance of these two motivation elements. A potential disbalance creates a negative effect on the organization.

At last but not least, the employee attitude or behavior can play a significant role in the nature and attributes of high performance work system's effects. The individuals evaluate the different cases, news, company's figures, attitudes or the whole company culture slightly different way, so the interpretation and implementation of the company's strategy and policy need to be close to the employee's understanding (Bowen and Ostroff, 2004). In that case, the company's goal and employees' goal don't overlap with each other, the company will lose valuable workers. The unacceptable behavior of the group leader or a repressive corporate culture means causes the same negative result on the high performance work system and corporate performance. Moreover, the role of corporate gossip is not negligible in these situations. Hence, the continuous monitoring of the employee's requirement and social demand can be the key task of the companies.

3.3 Employee turnover as negative consequence of employee well-being

In the nineties, several studies recognized the effect of voluntary turnover on organizational performance (Ton and Huckman, 2008; Hausknecht and Holwerda, 2013; Batt and Colvin, 2011). According to our examined researches, the appearance of turnover as a phenomenon among the members of a team has a significant negative effect on the team morale, commitment or job satisfaction (Meyer et al., 2015; Mackay et al., 2017; Boswell et al., 2017, Tarigan and Ariani, 2015), which provides further reasons to emphasize the importance and relevance of the topic.

The research articles analyze the topic from a different approach. One possible explanation of it is derived from the behavioral traits of an employee as latency, absenteeism and at last, voluntary turnover or turnover itself, which was referred to in the psychological articles as "withdrawal behavior" (Berry et al., 2012; Podsakoff et al., 2007; Eder and Eisenberger,

2008). This psychological understanding of the literature has been revised for instance by Berry et al. concern to the current labor market situation over the past ten years. They attributed the lack of job satisfaction and organizational commitment to the appearance of these three factors in their meta-analysis. Eder and Eisenberger (2008) described the withdrawal behavior with tardiness, lateness and absenteeism as typical signs of lack of job satisfaction or organizational commitment, and they compare the appearance and effect of these issues on the group and individual level.

Another possible explanation of turnover is based on its financial effect. Previous studies have already emphasized the high-cost relevance of the turnover which further provides the importance of the topic. Furthermore, Batt and Colvin (2011) noted the same impact in their study, in which they examined the relationship between performance and employee turnover along with a call center case. Eder and Eisenberger (2008) also point out these issues in their article, which served as the motivation of their research. Besides the mean statement of the mentioned turnover-oriented researches, according to which turnover and organizational performance correlate with each other, Batt and Colvin noted that companies were first abandoned by well-trained, experienced colleagues, which further supports the cost relevance of the initial assumption. These "side effect" of this relationship further proves the necessity of the research. But it's not only the recruiting activity that presents the cost consequences. The cost consequences of withdrawal behavior are as high as the cost of recruiting. If the worker arrives late for work, works slower than expected, takes a longer break than required or doesn't come to work at all, it has similar cost consequences as recruitment, therefore this aspect also needs to be taken into account by the company.

Along with these two approaches (psychological effect and financial effect of turnover), we return to our initial assumption that performance and turnover are related to each other. Although a significant part of the articles analyzed the employees' turnover intention from the psychological side, these studies are not part of our examination.

3.4 Conclusion

The purpose of the current study was to present the importance and impact of the work environment and workplace climate for organizations. According to the performance-oriented articles from the organizational behavior research area, the importance of individual well-being is incredibly important and these researches suggest continuous handling and

improving the potential indicators of it. In our short summary, we examined the positive impact of employee well-being on employee and organizational performance, and created a conceptual model, which presented our restructuring among the research articles of the mentioned area.
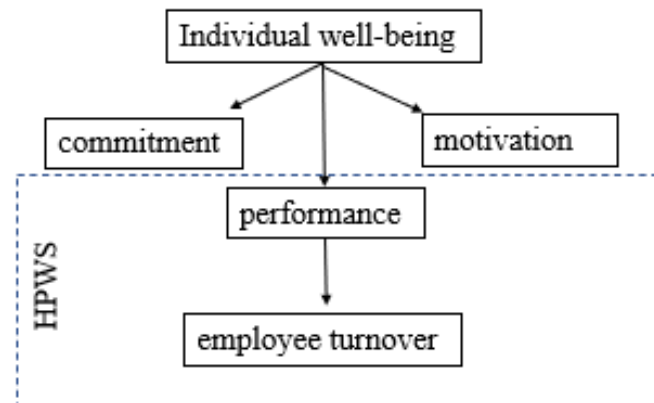
Figure 3.1: Illustration of the logic of the study
Source: own elaboration

We have collected and reorganized the research articles in the topic and according to the examination areas of the individual well-being oriented studies, we divided them into three groups as impact "area" of the employee well-being phenomenon, of which the performance-oriented literature provided the basis for our study. In these research articles and case-based studies, we sought to justify our assumption that the individual's well-being can be clearly demonstrated in the employee's performance and investigated individual well-being as an umbrella term. Hence, our assumption presents the path from individual well-being toward individual performance, where we found direct or indirect connection between them.

In our conceptual framework, we described the meaning of performance and the importance of performance measurement, and we chose the high performance work system as "work environment", in order to examine the effect of human resource practices, which serve as tools for stimulation of employee well-being and through it, the inspiration of employee performance. According to our collected literature, there are pros and cons to the high performance work system, which represented the negative side of the human resource practices and methods as well. At the end of our logical thinking remains the employee turnover, which symbolizes a possible outcome of the workers' "negative" well-being, which becomes even more salient due to this correlation.

The main conclusion of the study emphasizes the building, maintaining and developing of inspiring climate in the workplace, which appears as general support and fosters the individual well-being and performance. The present literature review offers usable knowledge for practitioners about the correlation between well-being and performance indicators in the work environment, and it might provide opportunities and resources for organizations.

4. On the other side of Technology: Examining different behavior patterns with Artificial Intelligence

Working paper

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Abstract

In this study, the initial problem is the capacity of the human mind to set up a conceptual model. The novelty of this article is that we show that defined concepts created by the human mind can be passed on to an artificial intelligence-based expert system. The expert system helps the human mind to settle the logical connections between the defined terms and the conceptual model thus the created model will be better than what man could have set up without an expert system. The appearance and role of employee turnover have become a more and more important factor in the daily business of corporate life. Scientific journals have examined the positive and negative effects of it, which has also provided useful knowledge for practitioners. These articles have examined the impact of employee turnover in countless aspects, but one aspect was the same in all literature: the impact of turnover on a company is not negligible and can be ignored in terms of neither material nor moral aspects. As a starting point for our research, we systematically reviewed the literature on employee turnover and selected six concepts that are bilaterally related to our phenomenon. Based on the terms and the correlation of it, we created a conceptual model that was examined with the help of an artificial intelligence-based system. To select a system, we reviewed the classifications of the artificial intelligence-based systems which can model human decision making and can help our research. Relying on the processing of the literature review articles, we selected and briefly characterized a rule-based reasoning system, and investigated the rule constellations of it, which can model the turnover cases as the topic of our study. Based on our experience in observing, consulting, and working with decision-makers, we examined the aspects of the employee turnover phenomenon in the analysis and we constructed a three-

level model that found logical relationships between each subcategory and was able to realistically reflect certain behavioral patterns of the physical workforce of a manufacturing company. The analysis was performed using a rule-based system, which used logical rules and found classical "if-then" connections in the employee behavior cases. According to our examination, our outcomes can provide credible results for further research activities as well as for practitioners.

Keywords: manual worker, rule-based reasoning, employee turnover

4.1 Introduction

In our competitive business world, different approaches and trends have been taking the importance and role of human resources into account more and more. The importance of knowledge and knowledge sharing of human workforces have become increasingly important over time. This is the reason why the retention of professional workers remained an increasing effort for the companies and this trend has also appeared in the increased number of articles about the phenomenon and impact of employee turnover.

„Turnover is costly because it incurs recruitment costs, training costs, and separation costs. Besides that, turnover also incurs indirect costs such as loss of productivity, reduced morale of the remaining employees, loss of quality, loss of clients, and additional work for the remaining employees. That is why organizations should strive to reduce turnover if possible" (Gim et al., 2015) and need to control it with several tools.

Numerous aspects and effects of employee turnover appear in each literature. Different approaches call attention to different centers and different levels of the topic. Most of the literature examines the individual aspects of employee turnover and not only treats the turnover itself as a possible output, but also distinguishes between turnover intention and turnover itself. All possible final form of employee turnover as employee behavior is mentioned under the name of withdrawal behaviors. According to the articles, the following "three key indicators from among the wide array of potential withdrawal symptoms: lateness, absence, and intent to leave work" (Shapira-Lishchinsky et al., 2011) are identified.

On an individual/personal level, a significant portion of the literature examined deals with employee satisfaction and its positive - negative impact on the organization. "Job satisfaction is among the most frequently assessed work outcomes of fit, not only due to its own

importance, but also because job satisfaction can play a key role in linking fit with other outcomes" (Ghetta et al., 2020). Satisfaction is the marketing and trade-oriented literature that was identified as "the end state of a cognitive process during which consumers compare their expectations with the subjectively perceived value, they receive from their consumption" (Ahrholdt et al., 2019).

Another part of the articles deals with employee commitment and emphasizes the positive impact on corporate performance. "Commitment to key customers, can be sources of competitive advantages that improve performance" (Yuan et al., 2018). "In the United States, adoption of commitment practices accelerated in the 1990s and has largely been found effective in boosting firms' financial performance as well as employees' motivation" (Benson et al., 2006).

Individual performance and its impact and results as one other potential approach are also examined in the studies from different aspects. "Employee turnover negatively affects performance, and indeed, higher turnover rates are associated with lower levels of productivity (Batt et al., 2011), customer service (Kacmar et al., 2006), and profits (Ton et al., 2008)" (Hausknecht et al., 2013), therefore, the investigation of it can be important.

When we examine the conceptual relationships at an organizational level in terms of employee turnover in the published literature as well, we can find numerous studies on organizational trust. According to the articles, trust is defined as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party" (Mayer et al., 1995) and symbolizes the non-measurable performance of the companies. Several studies and analyses deal with the problem field of corporate trust and investigate its impact on daily business (Brashear et al., 2005; Pitesa et al., 2017; DeConinck, 2011; Allen et al., 2018).

A significant portion of employee turnover studies of the organizational level found the answer for the phenomenon in the existence or non-existence of organizational well-being (Luthans et al., 2007; Koene et al., 2002; Spell et al., 2014; Badayai et al., 2012) and several published articles examined the concept of organizational respect (Brien et al., 2011; Rahimi et al., 2015; Hanaysha et al., 2016). These professional studies also research and analyze the impact of organizational respect on the organization as a whole structure.

4.2 Role and classification of Artificial Intelligence

4.2.1 Terminus technicus and metaphors

"The human brain is by far the most complex physical object known to us in the entire cosmos" states Owen Gingerich, an emeritus professor of astronomy at Harvard University. This short quote is a good symbol of the complexity and inexhaustibility of human thinking.

The unrecognizable maze of human behavior is an untapped resource for science. We make a myriad of decisions during the day or in our lives that can significantly affect our future. According to behavioral economics, there are not only „econs" (Thaler, 2008) in the world who rationally consider possible outcomes before each of their decisions. Behind every decision, there are thoughts, experiences, and associations, which people have lived and have collected intuitions about everything that they sense. Therefore, these turn into knowledge all of which can help them make decisions later. „Fast thinking includes both variants of intuitive thought – the expert and the heuristic – as well as, the entirely automatic mental activities of perception and memory, the operations that enable you to know there is a lamp on your desk or retrieve the name of the capital of Russia" (Kahneman, 2012).

Numerous researchers have tried and are still trying to map the functioning of our brain and the logic behind our decisions from different points of view. "Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature" states George Lakoff, a cognitive linguist and philosopher from the University of California, who introduced the conceptual metaphor theory in several parts of the scientific world also in mathematics. He led his study of the functioning of the human brain back to metaphors and found that "conceptual metaphor is a natural part of human thought. We don't have a choice as to whether to think metaphorically. Because metaphorical maps are part of our brains, we will think and speak metaphorically whether we want to or not…our brains are embodied, our metaphors will reflect our commonplace experiences in the world. Inevitably, many primary metaphors are universal because everybody has basically the same kinds of bodies and brains and lives in basically the same kind of environments, so far as the features relevant to metaphor are concerned" (Lakoff, 2003).

However, more systems have emerged in order to assist people in making certain decisions over time, these systems could not perfectly model reality and the diversification of human behavior patterns. "A lot of remarkably insightful mathematicians, logicians, linguists, psychologists, and computer scientists have designed objectivist models for use in the

human *sci*ences. Are we claiming that all of this work is worthless and that objectivist models have no place at all in the human sciences? We are claiming no such thing. We believe that objectivist models as mathematical entities do not necessarily have to be tied to objectivist philosophy. One can believe that objectivist models can have a function—even an important function—in the human sciences without adopting the objectivist premise that there is an objectivist model that completely and accurately fits the world as it really is" (Lakoff, 2003). Baracskai et al. (2017) wrote in an article, that "smartly prepared business decisions are born on the basis of "knowing" (Baracskai et al., 2017). Basically, these systems use human knowledge and experience to create quick and effective decisions, but the AI algorithm always behaves as an "econ". In 1989 Adelman was the first researcher, who dealt with the phenomenon of knowledge and identified five determinants of knowledge base quality as domain experts, knowledge engineers, knowledge representation schemas, knowledge acquisition techniques and problem domains (Adelman, 1989).

4.2.2 Expert systems

The expert systems are one of the most supportive systems in the human decision-making process of the business world. These systems are able to transfer human knowledge to a computer logic, which can simplify and model the reality in an AI environment, and through this mechanism, these computer-based solutions can serve as a good basis to find specific advice for business, organizational, engineering etc. problem if it is needed (Liao, 2005). Therefore, these systems can be applied to several parts of daily work and business. In the developing world, artificial intelligence is gaining ground, and its field of application can be quite diverse.

W.P. Wagner (2017) analyzed the dimension of expert systems in his comprehensive analysis from 1984 to 2016. In this study, 311 expert system case studies are identified painstakingly and these are defined as the areas of application that have made the most intensive use of artificial intelligence in this direction over the past three decades. He found that most of the industries, manufacturing, and banking, accounting services enjoy the potential of these systems. Besides the industries of application, he identified the potential problem domain of the system. The diagnosis, monitoring and planning are that areas, where the use of artificial intelligence-based systems is most prevalent (Wagner, 2017).
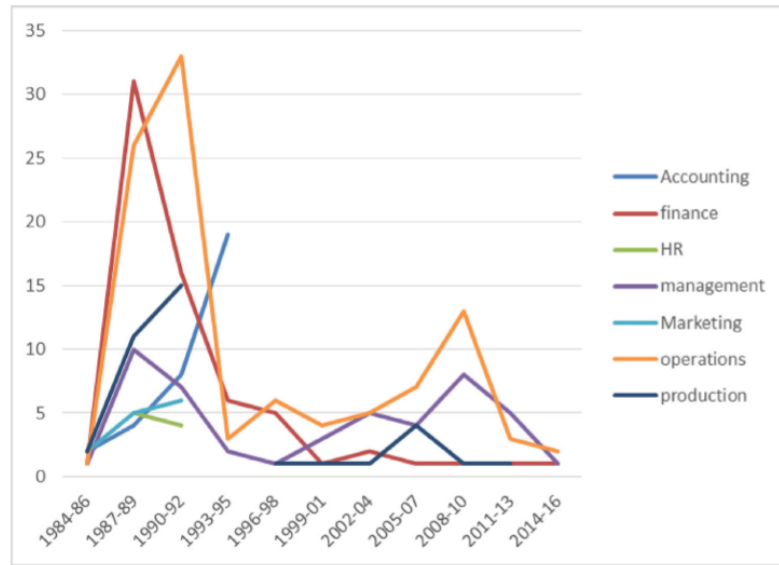
Figure 4.1: Expert system applications by the functional area over time
Source: W.P. Wagner, 2017

Shain et al. (2012) analyzed the hybrid expert systems approaches and their applications. Their examination is based on the classification of 91 published articles from the related academic journals, conference proceedings and literature reviews between 1988 and 2010. These systems use a combination of conventional symbolic rules and hybrid models as a solution in analyzing proposals to solve problems that arise (Sahin et al., 2012; Hatzilygeroudis et al., 2004). The paper categorized the different hybrid expert system papers "according to system structures such as neural network based expert systems, neuro-fuzzy expert systems and rough neural expert systems and several other criteria such as algorithms, application categories and building/implementation tools" (Sahin et al., 2012).

We consider the categories-classification by Liao (2005) as knowledge background for the theoretical basis of our study. He surveyed "the development of expert systems through a literature review and classification of articles from 1995 to 2004 as a basis exploring the expert system methodologies and applications during that period" (Liao, 2005). According to the screening of 166 articles from 78 academic journals, he identified eleven categories as classification, however out of these classifications, we focused on and investigated the rule-based systems, knowledge-based systems and the case-based systems as areas of interest for our examination and we examined the operation of these systems more thoroughly.

The rule-based systems as the first category of the classification (Hamada et al., 1995; Sabourin et al., 1996; Wu et al., 1999; Wu et al., 1997; Higa et al., 1998; Kim et al., 1995) deals with information from human observations and transforms it into classical rules. "Logical Elements Rule Method for assessing and formalizing clinical rules" (Zaraté et al., 2015). The typical basis of these systems is the "if-then" rule in the different decision making processes. According to the orientation of our topic, we have reviewed the literature and case studies regarding the applicability of the rule-based system that can primarily help in modeling the day-to-day problems of production companies. From the numerous fields of application of the system, we focused first of all on production planning, knowledge acquisition, material processing, automobile process planning oriented articles.

The knowledge-based decision support systems are systems that support decision-makers. The increasing use of AI-enabled systems in the late 1990s not only to fulfill this supporting function but also to provide an opportunity to map causes and relationships. Zaraté and Liu (2015) studied more than 70 journal papers and defined the most used technologies of knowledge modeling and technologies for reasoning (Zaraté et al., 2015). According to the study, it distinguished two technologies for knowledge modeling as: clustering and ontology, and five technologies for reasoning as: rule-based reasoning, case-based reasoning, narrative-based reasoning, ontology-based reasoning and genetic algorithm as another classification of expert systems (Dawood, 1996; Keefe et al., 1996; Mockler et al., 2000; Knauf et al., 2002).

"The basic idea of case-based reasoning is to adapt solutions that were used to solve previous problems and use them to solve new problems. In case-based reasoning, descriptions of past experience of human specialists, represented as cases, are stored in a database for later retrieval when the user encounters a new case with similar parameters" (Liao, 2005). "It is king of implementation of a sort of automatic ranking of past lessons and making available best practice cases" Therefore, this system works with cases from the past and the information about these cases can help for the diagnosis creation for the new ones, and it is able to make inference for the future, so the basis of practical advice comes from the past experience (Kolonder, 1994).

4.3 Conceptual framework and our examination method

In our research work, we examined the approaches and circumstances of the phenomenon which occur most typically in the context of employee turnover within the framework of a comprehensive literature review. Based on our systematic analysis, we have separated two levels of the phenomenon: the organizational level and personal or employee level. At these levels, we further examined the conceptual circles that can be logically related to the initial set of problems.

From the two examined categories, we furthermore identified three-three additional attributes (variables) that clarify and identify our used phenomenon on the second level and it characterizes them sufficiently for our research. At the personal / employee level, these attributes are measurable performance, satisfaction and commitment. Based on our model, we defined three values for the attributes that can be further chiseled in the future to increase the sensitivity of the research model. At an organizational level, we also identified three attributes: trust or non-measurable performance, respect, and organizational well-being, which have every three outputs.

Based on these, we identified two triads which also appear as two different organizational levels in the corporate environment.
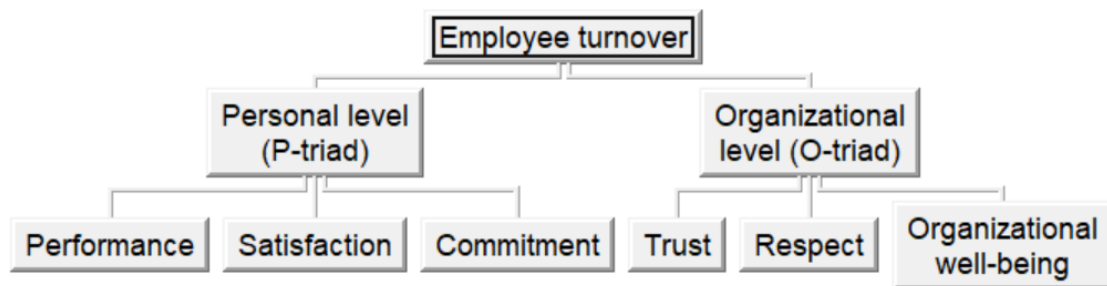
Figure 4.2: Graph of our conceptual model on the basis of the literature review
Source: own research result

According to our model, the logical relationships between the two triads serve to represent one of the values of turnover, which can be inferred from the appearance of the sub-values. The possible outcomes of employee turnover were also described by three values, which were named as often, occasionally and in the last case.

We tested our conceptual model with some well-distinguishable cases, which are based on our research in contexts of employee turnover. We were typically interested in the logical if-then rules, therefore we chose this examination category from the above-mentioned

classification. The used part of the Doctus[1] help us examine it in more depth. This system explores practical problems through rule-based reasoning and case-based reasoning technologies and models possible triggers and weaknesses. We used only the rule-based reasoning side of the system to model our examples.

This part of the program operates as a typically rule-based expert system and uses "symbolic representation, that is to say symbolic artificial intelligence" (Doctus, 2011). According to the system documentation, these "formalism in which knowledge is expressed by logical statements consisting of symbols, namely self-defined terms of the expert (i.e. words) connected by "if… then" rules, also called production rules. Therefore Doctus belongs to the domain of Symbolic Artificial Intelligence" (Doctus, 2011). This system works on different cases which are defined as decision alternatives, which can be useful for an organization in the decision-making process.

"The evaluation of cases is called reasoning. There are three types of reasoning in Doctus. If the expert can articulate the important aspects of the decision as well as the rules, the system will trigger these rules to get the evaluation. This is called deduction or Rule-Based Reasoning. It is used when there is no experience in the domain, therefore the situation calls for Original Decision (G-2)" (Doctus, 2011).

In our research, we primarily investigated the consistency of the selected if-then rules. As a result, four different termination situations served as test cases yielded three different values for employee turnover, i.e., the cases used authentically supported and modeled the reality. From this, we concluded that both the attributes and the values, as well as the defined rules between them, were parameterized well according to the purpose of the research.

4.4 Illustration
Our used artificial intelligence-based system works with different attributes along with rules. In the course of our research, we created the rules with the help of an expert that allows the system to evaluate behavioral patterns. Therefore, we have provided some attributes of our conceptual model with values that don't come from engineering terminology, not the results of specific measurements, but metaphors which are able to describe and characterize certain

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[1] The referencess that appear here are available at: www.doctus.hu/en

moments of human behavior within our concepts, which are based on our reorganized literature review. In our research, we have recognized, that although the appearance of our used terminology is the same in the daily language, in the consulting practice, and in the human resource jargon, but their meanings have some differences, therefore based on sense-making we made new sense. In determining the values that can be included in each concept, we sought to ensure the widest possible range of values. As a result, three values were determined, and the values of each attribute go far from the most unfavorable output to the most favorable. Regarding the number of values, we considered the three and four values to be ideal for tracking the operation of the system and the mapping of the rules. In the present case, three values were used to test the operation of the system.
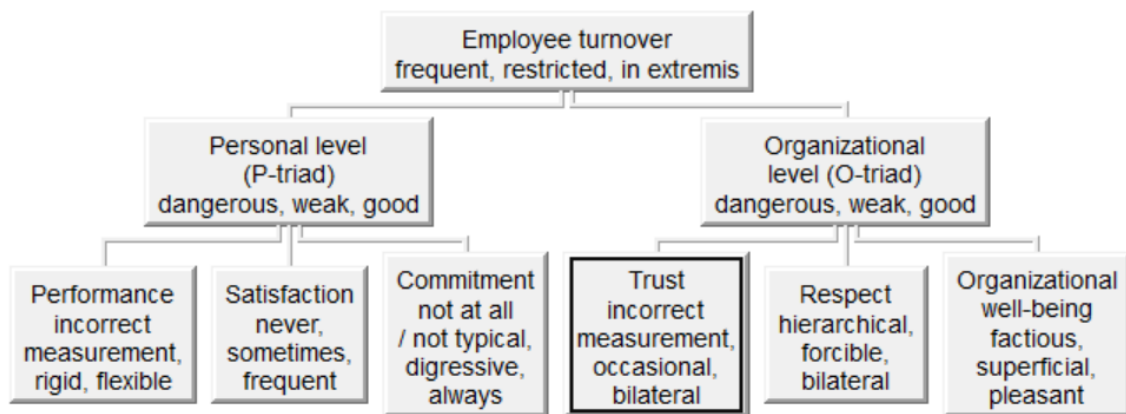
Figure 4.3: Our conceptual model with values
Source: own research result
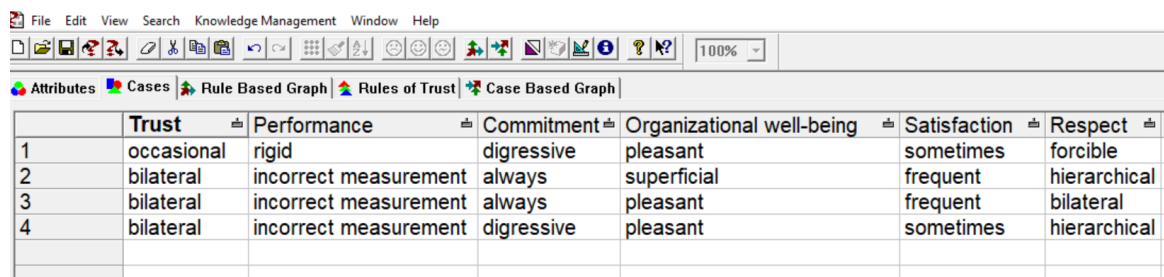
As can be seen from Figure 4.3, our predefined values to each concept's elements are not collected from a lexicon, but they well characterize the peculiarities of human behavior. For us, artificial intelligence is an integral part of our further work and we have called it to help in the creation of a more exact, clearer, faster and more valuable solution for the functioning of the human brain. With the help of applied information, the system is able to create and state complex rules in an incomprehensibly short period of time, what the human brain is unable to accomplish. The machine is fast, doesn't forget anything and is capable of handling dozens of data simultaneously. These are the endowments that appear as weaknesses when examining the functioning of the human brain.

At the creating of the conceptual framework, we built our model into three levels in order to form a transparent set of rules that can provide manageable and transparent information in each decision-making process. Therefore, under the main term (employee turnover), two

main groups have been implanted, which further systematize the individual attributes. If the second level had not been included in the structure of the model, all six attributes what we could relate to employee turnover from the literature review, would have been directly related to the main category, so six times we would have had to create three values in this case, that would have resulted in opacity.

As the next step in our work, we identified four typical employee turnover cases with the help of the expert that arose as a result of personal consultation with physical workers at a manufacturing company. It was necessary to know the cases, in order to create the rules as precisely as possible. We have placed great emphasis on case processing to demonstrate the proper functioning of the system and to ensure the most valuable benefit of the system, that information technology helps human thinking in which the human brain is not "strong" enough. It helps us to perform a quick and complex analysis of the combination of concepts and phenomena from the literature review and cases from practice.

File Edit View Search Knowledge Management Window Help

Attributes Cases Rule Based Graph Rules of Trust Case Based Graph

	Trust	Performance	Commitment	Organizational well-being	Satisfaction	Respect
1	occasional	rigid	digressive	pleasant	sometimes	forcible
2	bilateral	incorrect measurement	always	superficial	frequent	hierarchical
3	bilateral	incorrect measurement	always	pleasant	frequent	bilateral
4	bilateral	incorrect measurement	digressive	pleasant	sometimes	hierarchical

Figure 4.4: Cases with the possible answers
Source: own research result

Based on the uploaded data, our model looks like Figure 4.4. The values can be found under the concepts by each attribute. The information was provided by the employees who left the production company or organizational unit and their restrictive answers were channeled to each value after the discussion with the expert.

As we can see in the first case, the trust of the manual worker in the company was "occasional". According to the interview, it was influenced by the current company news, information and circumstances. The performance he assessed was less aligned with personal performance indicators, and was assessed solely on the basis of his measurable performance, therefore the performance value is "rigid" here. His personal commitment is "digressive", and its well-being is "pleasant" in the organization. In terms of satisfaction, it was only "sometimes" said to be so, and according to its assessment, the respect experienced in the

organization was "forcible". Based on the table of given answers, each case can be reviewed in detail in a similar way to the first. In case the system cannot interpret or work with a particular rule, a new rule must be defined for it. The graph of the model with values makes the result of our conceptual model transparent to us.

Figure 4.5: Conceptual model with cases and values
Source: own research result
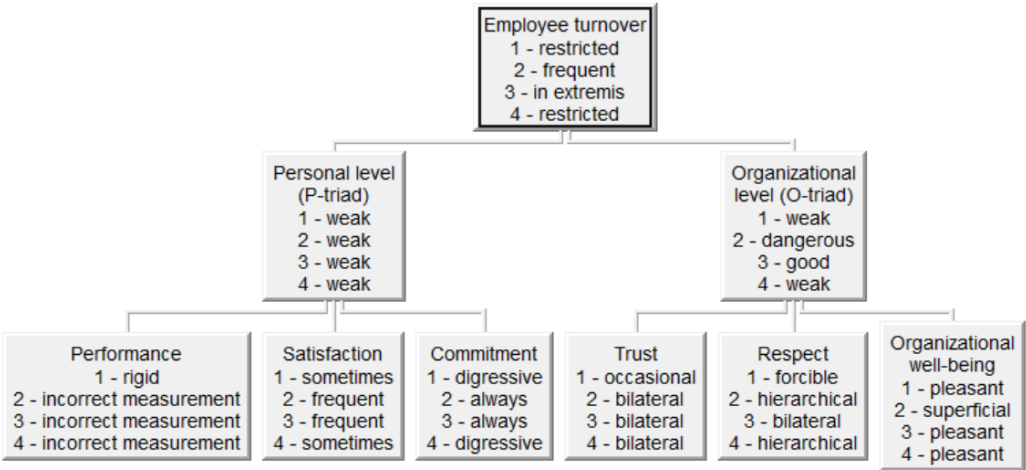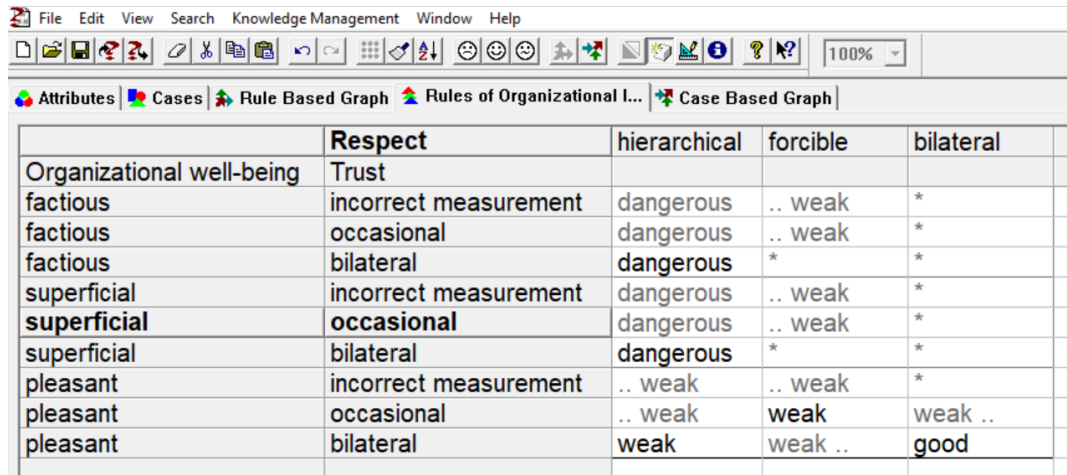
With the help of the intelligent information technology system, we have the opportunity to examine and if it is necessary to review those inferences, which were generated as conclusions by our rule-based system from the coded answers of the expert. The complex rules created by the intelligent system are shown in Figure 4.6 and Figure 4.7 for both personal-level rules and organizational-level rules.

Performance	Satisfaction	Commitment	Personal level (P-triad)
incorrect measurement	*	not at all / not typical	dangerous
*	never	.. digressive	dangerous
incorrect measurement	never	*	dangerous
rigid ..	never	always	weak
incorrect measurement	sometimes ..	digressive ..	weak
rigid ..	sometimes ..	not at all / not typical	weak
.. rigid	sometimes	digressive ..	weak
flexible	sometimes ..	digressive ..	good
rigid ..	frequent	digressive ..	good

Figure 4.6: Rules of personal level
Source: own research result

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It can be clearly seen from the two figures that the system processed answers that presumably processed reasonable, rational, consistent thoughts and answers, as we did not receive any negative feedback from the system and the attributes use all values in the model.
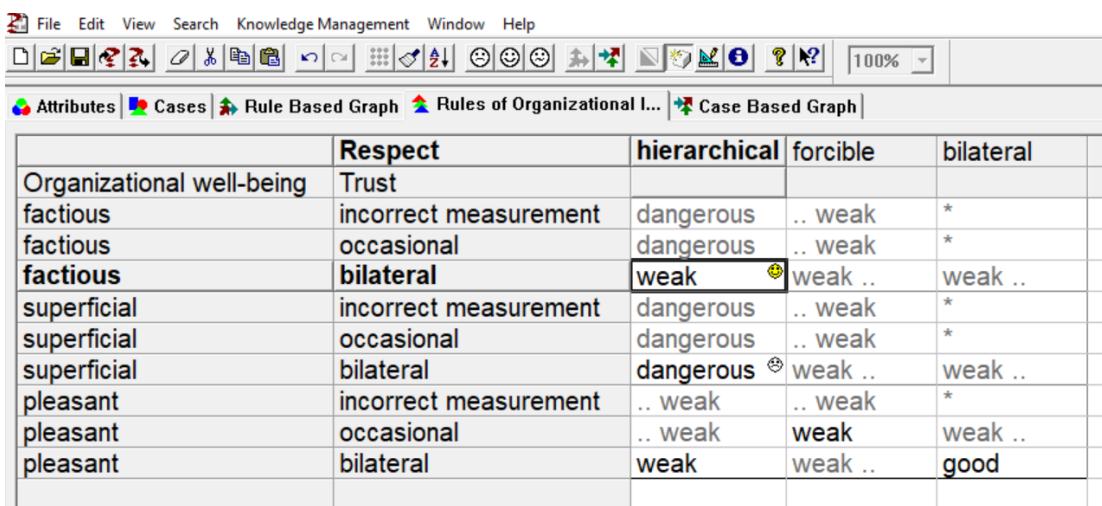
	Respect	hierarchical	forcible	bilateral
Organizational well-being	Trust			
factious	incorrect measurement	dangerous	.. weak	*
factious	occasional	dangerous	.. weak	*
factious	bilateral	dangerous	*	*
superficial	incorrect measurement	dangerous	.. weak	*
superficial	**occasional**	dangerous	.. weak	*
superficial	bilateral	dangerous	*	*
pleasant	incorrect measurement	.. weak	.. weak	*
pleasant	occasional	.. weak	weak	weak ..
pleasant	bilateral	weak	weak ..	good

Figure 4.7: Rules of organizational level
Source: own research result

If we assign a value to each attribute that does not conform to the ambiguous formal logic, the system draws attention to the error by adding "mood-indicating faces". In this case, we need to review each indicated line and find the cause of the error. Basically, these cases can be traced back to two typical problems. One possible reason is that the answer to the given question or concept was incorrectly coded by the expert, in which case the value must be specified for the given attribute. Another possible reason for the fault can be, that the given answers of the employee to the asked questions were not consistent.
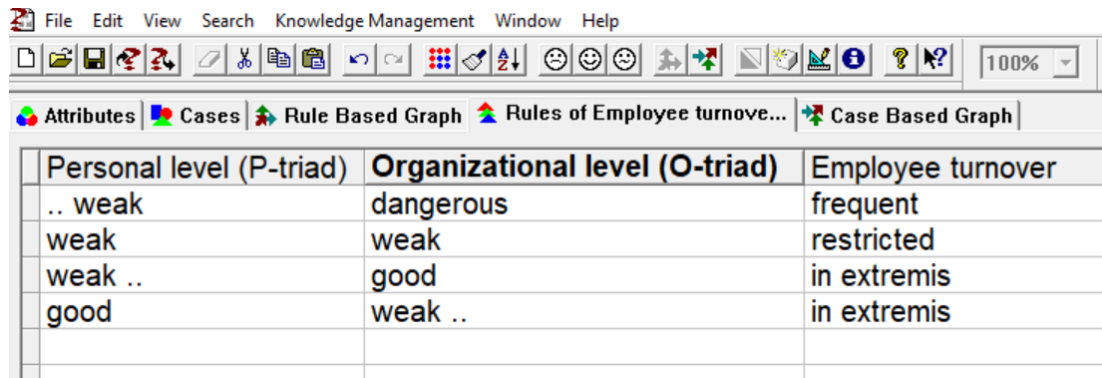
	Respect	hierarchical	forcible	bilateral
Organizational well-being	Trust			
factious	incorrect measurement	dangerous	.. weak	*
factious	occasional	dangerous	.. weak	*
factious	**bilateral**	weak	weak ..	weak ..
superficial	incorrect measurement	dangerous	.. weak	*
superficial	occasional	dangerous	.. weak	*
superficial	bilateral	dangerous	weak ..	weak ..
pleasant	incorrect measurement	.. weak	.. weak	*
pleasant	occasional	.. weak	weak	weak ..
pleasant	bilateral	weak	weak ..	good

Figure 4.8: Error message about a system rule conflict
Source: own research result

Among the rules, the system is able to create complex rules, which are based on the given answers. The monitoring of which can be a great help in a company's decision-making process and can indicate the points and problem areas that need more attention during the daily business.

Personal level (P-triad)	Organizational level (O-triad)	Employee turnover
.. weak	dangerous	frequent
weak	weak	restricted
weak ..	good	in extremis
good	weak ..	in extremis

Figure 4.9: Complex rules
Source: own research result

The system also marks separately the points that are irrelevant to the user of the evaluation in terms of the final result. These fields or intersections are marked with "*". In addition, the system is able to draw the user's attention to points from which each attribute cannot give a worse or better value. These values are marked in the field with "…".

If Personal-triad is "weak" or worse and Organizational-triad is "dangerous", then Employee turnover is "frequent". From this, we see that even the second level (weak) of the Personal-triad gives the least favorable value to the Employee turnover. Following this path, we can also read the other complex rules, but now we present only the last rule, which shows a completely different reasoning at the most favorable outcome than what it showed. The last complex rule is read so that if Personal-triad is "good" and Organizational-triad is "weak" or "good", we get the best result. If we go back to the complex rule in the third row, we can see that it gives the same result as the fourth row.

4.5 Conclusions

As a result of our research, we expect that with the improved version of this initial model, we will be able to validate situations from different behaviors that can help us identify situations and critical points that may be important to an organization or company. By creating, applying, and identifying these models, we can identify situations that require

intervention more easily and quickly, and our effectiveness can increase as a result. The model can be used to identify and avoid situations that can lead to employee turnover with high certainty, so the identification of it can also play a strategic role in the life of a company.

In our research, we have also formulated numerous limitations. We do not address the question of the level, which level of employee turnover in a company's life can be acceptable. Thus, the model does not give a value judgment on the basis of the recognition of situations and behaviors. Furthermore, the scope of the model was delimited. We deal only and exclusively with work environments and companies as cases to be investigated, which operate as production companies and employ manual workers. We excluded the intellectual workers of the companies from the analysis, because presumably their performance measurement system works differently and the nature of the tasks to be performed is different from the manual workers, therefore the model would not fully reflect the reality, and in this case we could draw erroneous conclusions from them.

5. Action and reaction: Mapping of behavioral patterns

Working paper

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Abstract

The environment of workplaces, the performance of the employee, and the different effects of withdrawal behaviors are a common interesting areas for many researchers. The scientific journals have published several aspects of the employee's behavior in the work environment to present the most important effects on it. This study organically combines the literature-defined concepts of behavioral patterns with a case-based analysis. We connect performance and employee behavior to the cognition of human behavior, human mindset, and the process of decision-making. The focal point is the conceptual triad of employee turnover, commitment, and satisfaction. It has been investigated from the trust approach because this is the environment in which we can set up a pattern of employee mindset at work that can help the company in the strategic decision-making process. 73 dismissal cases of manual workers from manufacturing companies served as the basis of investigation. Instead of the common Likert scale in surveys, this study modelled the human mindset based on logical correlations with help of an expert system that can provide a deeper insight into the human decision logic. The novelty of the research method creates an opportunity to represent information more nuanced than statistical methods. The paper discusses the potential implications of the model in terms of employee turnover and human decision-making priority.

Keywords: trust, employee turnover, work satisfaction, commitment, expert system, artificial intelligence.

5.1 Introduction

The employees' behavioral patterns are sensitive "bottleneck points" for most organizations. All aspects of employee behavior were investigated in literature in several contexts, we consider it from a different perspective. We connect performance and employee behavior to the cognition of human behavior, human mindset, and the process of decision-making.

The main objective of our research is to present the different effects in the relationship between employee and organization. During the cooperation of workers and organizations, numerous effects are generated, which can significantly impact the quality of the work. This relationship has identified two areas from the complex system of these effects: employee and performance. The relationship between these effects is an extremely complex issue, which contains numerous elements that can be classified using different approaches as long-term or short-term nature of the connection. It can be measured and evaluated with mathematical methods or cannot be measured in the traditional way.

Performance management is important and measuring performance is a major challenge in every sector of the business world. "Performance is so common in management research that its structure and definition are rarely explicitly justified; instead, its appropriateness, in no matter what form, is unquestionably assumed" (Richard et al., 2009) as it is cited from March and Suttor (1997). 10 years later, they analyzed 213 articles and found 207 methods for performance measures published between 2005-2007. Thus, in the past decades' companies developed several methods to measure performance, which is an integral part of everyday life. In addition to the development of these practices, the rapid development of information technology has also given a significant impulse to the diversification of performance measurement tools. The research on performance as a concept and its effects remained a central topic. The literature defined performance from several aspects and approaches, like "performance is defined as the realization of a task assigned to an employee based on his/her personal qualifications within reasonable limits" (Erdogan, 1991), or according to Pugh (1991) "performance was defined as the sum total of goods, services or thoughts obtained via the completion of a task assigned to an employee towards the realization of the organization goal in line with pre-determined criteria and the personal qualifications of the employee" (Kalkavan and Katrinli, 2014).

The literature also defines the concept of employment in several forms, which stems primarily from the fact that competitive market players and organizations examine different

segments of employment. "Employment shows the human power's level of being used, recruiting and working, who are able to participate in the economic activities in a country in a one-year period" (Halici et al., 2011).

The present study organically combines the literature review with case-based analysis. Based on this, the study can be divided into two major parts: the first part is a comprehensive literature review which serves as knowledge background, and the second part of the study is an analysis that examines a sample of 73 dismissal cases of manual workers from manufacturing companies. The social science articles investigating the two terms, performance, and employee, served as the basis of our framework. This paper surveyed several published articles from the most relevant journals, with the highest relevance nowadays. This study defines a discipline-triangle as a conceptual triad from literature and the cohesion is examined in the context of the other existing terms. The analytical part of the study is based on samples that take out one concept from the conceptual triad (employee turnover) to examine the appearance and behavior of the other two concepts (commitment, and satisfaction) under the circumstances defined in the literature review. By examining the conceptual triad in an everyday environment, human thinking and behavior become transparent, which serves as the background for each decision-making mechanism.

5.2 Literature review

5.2.1 Methodological consideration

This literature review and our research framework are focused on two terms that occur in several research articles: employee and performance. Although the literature included more opportunities for the potential examination towards several sub-topics, our literature review includes only one conceptual triad which was examined in the context of performance, trust, and employee well-being.

In the first step of our literature analysis, we have not made any differentiation or limitation in the employee and performance-oriented articles, to make the mixture of the research orientations transparent. As the second step of the literature analysis process, we clearly declared the aspects and approaches within the articles, which was the extended basis of our literature review.

Based on the second round of literature analysis, the title and abstract analysis, we investigated our selected articles according to the type of these research methods. We formed two groups using qualitative and quantitative research methods as research types. Nearly all papers of the performance and employee-focused articles used qualitative research methods, mostly survey or questionnaire-based studies. We searched that part of the published literature in which some level of synergy occurred between the different research areas of our research framework. Our study was not focused on keyword analysis, the content of the topics was examined in the articles. Also, we excluded from the study all literature that did not fit our chosen classification in terms of content. Moreover, our study handles the used terms as general, all-inclusive, umbrella terms and does not take into consideration the details of the conceptual elements.

The third level of our literature analysis was followed by hand search and citation tracking after the title and abstract analysis. We investigated cited articles of the topics, which fit the study and could be a valuable integral part of our work. Also, not only these valuable citations were included, but we also searched that authors who conducted more in-depth analyzes in each term and incorporated the essence of their previously published articles into the work.

The investigation of the two phenomena, employee, and performance were adopted in the same way in our literature review. Both sides were investigated from the behavioral side and emphasized the intrinsic attitude of the employee in connection with their workplace. We examined the potential relationship between worker and organization, which can occur in a workplace and plays a significant role in cooperation. It includes the effects of all human feelings that may occur and have significant positive or negative consequences for each other or have financial implications. However, our examination did not include the psychological aspect of the phenomenon. We gathered mainly descriptive articles which set forth the effect on the potential synergy of the principles.

5.2.2 Conceptual triads of employee turnover, satisfaction and commitment

Looking at the literature of the last twenty years, the different terms show different intensities concerning the published analytical literature. Although individual concepts can claim extensive literature on their own, the spectrum of their combination is significantly narrower. The examined terms can always be considered as subjective elements that cannot be directly

measured by traditional mathematical methods, but the perception and management of their impact are important in the approach of marketing, productivity, and finance. In this study, we focused on that articles which deal with one or two terms of our conceptual triad. The literature framework is illustrated in Figure 5.1.
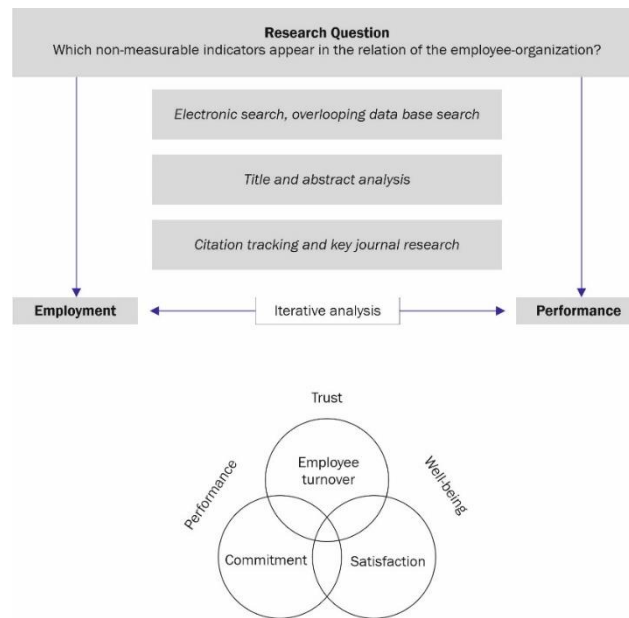
Figure 5.1: Literature review framework
Source: own ellaboration

5.2.2.1 The examined conceptual triad in performance approach

One significant part of the literature deals with employee satisfaction, commitment, and turnover from the performance approach (Tziner et al., 2015; Platis et al., 2015) and emphasized their strong relationship with each other. The synergy of employee satisfaction and performance measurement has been the basis of numerous studies since the mid-20th century. "The international literature shows that a large number of factors influence employee performance such as satisfaction from the profession, work environment, compensation policies, etc." (Platis et al., 2015), and the "performance appraisal is among the most important Human Resource practices" (Kuvaas, 2006), but these researches are relatively diversified and numerous additional classifications can also be formed from the literature. As from the opposite approach can be also sensible, while "dissatisfaction with performance appraisal influenced employees' intention to quit through reduced job satisfaction" (Kuvaas, 2006) and "the worker's dissatisfaction or 'psychological withdrawal' as the first stage that motivates the withdrawal behavior that eventually results in turnover" (Tziner et al., 2015).

From the commitment approach "the general consensus is that organizational commitment is strongly related to work outcomes and job performance" (Shapira-Lishchinsky and Even-Zohar, 2011), and it has "positively related to a variety of work outcomes (e.g., job performance, organizational citizenship behavior, attendance)" (Luchak and Gellatly, 2007).

The polar opposite of commitment and satisfaction are turnover and withdrawal behaviors, which have the opposite mechanism behind them. It "is a way that employees withdraw from work in response to unfavorable work attitudes such as job dissatisfaction and lack of organizational commitment" (Berry et al., 2012). The intention of employee turnover in an organization has always been a sensitive problem area, as it has an indirect effect on the financial performance of the company, where the employee's learning time and recruitment itself can be a significant cost in the life of a company, which can be realized in a short time. "Withdrawal behaviors are costly to organizations" (Berry et al., 2012), therefore numerous studies have been conducted in the context of turnover and performance, "Employee turnover is a dynamic phenomenon and firms and individuals adjust their turnover decisions in response to performance feedback and expectations about the future" (Eriksen, 2013), regardless of their circumstances as an individual or organizational performance (Berry et al., 2012).

5.2.2.2 The examined conceptual triad in employee well-being approach

Another significant part of the articles examines the appearance of the conceptual triad's terms in the employee well-being viewpoint (Platania et al., 2015).

"In the years since the "millennial issue" of American Psychologist (see Volume 55, Number 1, 2000) devoted to positive psychology, well-being and the factors contributing to it have been of great interest to many psychologists. The focus on optimizing human potential, in particular, the potential for happiness, was welcomed by nearly all" (Eggerth, 2008). Studies found evidence that work environment has a significant effect on work outcomes and it has several aspects in connection with an examination of features of outcomes. Kristof-Brown et al. (2020) investigated 172 studies about person-job, person-organization, person-group and person-leader consistency in their meta-analysis and found, the work environment has a significant and some way measurable impact on job satisfaction (Platania et al., 2015). "Within the workplace, well-being is important not only to individual employees in terms of maintaining their own good health, but also to managers and organizations as there is

evidence to suggest that poor well-being at work can have adverse effects on performance and overall productivity" (Kowalski and Loretto, 2017), but other studies also demonstrate positive effects of employee well-being for the organization which resource mostly from thriving in the workplace.

Studies and research clearly demonstrate the positive impact of employee well-being on the organization, which in the final case has a positive effect on the overall performance of the organization through individual performances. Individual well-being has a similar positive effect on commitment and motivation, which served as a further research field for several researchers.

The concept of commitment has a similarly significant role in the research area under study, which can also be interpreted as a manifestation of employee satisfaction. Demirtas and Tezer (2012) "examine the relationships between relationship status, romantic relationship satisfaction and career commitment, and subjective well-being of senior university students" (Demirtas and Tezer, 2012) and suggested a clear correlation between these indicators.

The opposite process highlighted in the present examined study which deals with the intention of employees to leave the company. Examining the relationship between the employee and the organization's environment studies found a clear link not only the appearance of satisfaction as a phenomenon, but the result is in the opposite direction, as turnover.

5.2.2.3 The examined conceptual triad in employee well-being approach

The third part of the literature investigates the conceptual triad of satisfaction, commitment, and employee turnover from the trust approach. In this study, we make transparent the effects of a trustful atmosphere in the human-human relationship, so this literature serves as the basis of our research. It was important to examine the atmosphere of trust because this is the environment in which we can set up a pattern of employee mindset at work that can help the company's professionals in strategic decision-making processes.

The phenomenon of trust appears in countless articles analyzing trust and its effect from different viewpoints and aspects. Based on the theory of Francis Fukuyama, who described the role of trust and the social capital in different countries and nationalities, Knack and Keefer (1996) study state "trust and civic norms are stronger in nations with higher and more

equal incomes, with institutions that restrain predatory actions of chief executives, and with better-educated and ethnically homogeneous populations" (Knack and Keefer, 1996), Cook and Wall defined trust as "the extent to which one is willing to ascribe good intentions to and have confidence in the words and actions of other people" (Cook and Wall, 1980). According to Bromiley and Cummings, "trust is an individual's belief or a common belief among a group of individuals that another individual or group makes good-faith efforts to behave in accordance with any commitments both explicit or implicit, is honest in whatever negotiations proceeded such commitments, and does not take excessive advantage of another even when the opportunity is available" (Bromiley Cummings, 1995). Dietz and Hartog (2005) examined trust as a belief, as a decision, and as an action, Lams and Pucetaite (2006) investigated the impact of trust on economic performance and financial gain. Fehr (2009) stated that "trust plays a role in almost all human relationships" (Fehr, 2009). These several visions and findings illustrate the versatility and complexity of the concept of trust.

The concept of satisfaction appears countless times in the literature on trust-performance. One approach draws attention to the importance of the role of interaction style, other studies observe cultural differences as forms of satisfaction. Wang et al., (2015) studied the emergence and interaction of the concept of trust-satisfaction in the cultural aspects of different countries. They found "trust plays a mediating role between satisfaction and long-term orientation and such an effect may be different across cultures" (Wang et al., 2015).

However, the satisfaction-oriented articles show heterogeneity, one of the most significant manifestations is based on the articles which examine the concept of ethics in the trust-performance literature (Park et al., 2017; Yuan et al., 2018; Stathopoulou and Balabanis, 2016; Yi et al., 2011, Wang et al., 2015). Park et al. (2017) analyze the effects of corporate social responsibility and they found that customer loyalty appears as the primary key to success in the comparative business environment, which has a positive impact on customer satisfaction. "When consumers are satisfied with the company, they are likely to form a continuous and affective commitment to its products" (Park et al., 2017), therefore it leads to the strengthening of the customer trust as well. The phenomenon of loyalty is the central topic of Stathopoulou and Balabanis (2016) article the direct effects of a customer loyalty program on satisfaction are examined for a high- and low-end fashion retailer in the United States. They have found "satisfaction with and trust in the loyalty program are important drivers of loyalty to the retailer" (Stathopoulou and Balabanis, 2016)

Loyalty and the importance of ethical level as a concept also appear in the trust-performance-oriented literature. Yuan, et al. (2018) put the trust-commitment relationship to the focus in a supply chain environment "trust and commitment are considered important enablers of successful business relationships and can be a resource capable of generating sustainable competitive advantages". Yi et al., (2011) extended their studies and besides the commitment and satisfaction, the turnover intention appears in their trust-performance-based article and they "argue that customer participation behavior improves employee performance".

Management behavior and style (DeConinck, 2011; Brashear et al., 2005; Elci et al., 2012) can also contribute greatly to the development of employee trust, but it can also often contribute to a negative change. DeConinck (2011) examined the supervisory trust with 393 salespersons, finding that an employee's ethical work environment has a significant impact on the outcome of his or her work. He found that "ethical climate is a direct predictor of both trust in the supervisor and job satisfaction, given the important role that trust plays in determining employee's job outcomes" (DeConinck, 2011). Like this article, the relationship between salespersons and the ethical work environment, and the impact of managers on it was illustrated by Brashear et al. (2005) study, considering trust to be one of the most important drivers of company performance. The role of the leader is significant, I can have a positive or negative effect on employee turnover (Yi et al., 2011). "Extant trust literature suggests that high levels of trust, based on credibility or honesty, offer assurances on the part of a salesperson that his/her sales manager is acting following appropriate norms and is considering the salesperson's best interests" (Brashear et al., 2005). The relationship between employee turnover and performance is also examined by Elci et al. (2012) in terms of ethical leadership, who see the cause of employee turnover primarily in leadership and work-related stress. They found "that while ethical leadership and leadership effectiveness negatively affects turnover intention of employees, work-related stress has a positive effect on employees' turnover intention" (Elci et al., 2012). Understanding the antecedents of turnover is important because of its costs to organizations.

5.3 Sample design and analysis

The second part of the study examined the concepts that occurred in the literature review with the help of a 73-items sample. The investigated sample focused on those phenomena in which workers decided to resign from their jobs or companies. One element of the

conceptual triad served as the basis of the analysis while the other elements are the different aspects of decision-making. The analysis finds evidence that the used terms in the literature are adaptable to practice as well.

We examined the resignation cases of 73 manual workers at a manufacturing company in Hungary. The items of the sample were randomly selected from the period 2017-2019 anonymously. A common feature of the sample is that the resignation took place on the workers' own individual initiative, not by company initiative. These workers work in shifts and spend 8 hours per day by the assembly line. They take lunch or coffee break in twenty minutes three times a day, but otherwise, they spend their entire day with statical standing in an area of about 1-2 square meters. They work according to a strict method and processes where the different steps of the assembly process are measured in time and they cannot decide about the "rhythm" of the work. Generally, they work in a small group (appr. 20-25 workers), where the individual steps of the work processes and the different workpieces and parts are built on each other.

At the time of their exit, we conducted a short interview with each of the workers on pre-defined keywords and issues along with the founded concepts in the literature. By the definition of the potential response options, we defined textual values instead of the common Likert scale to formulate and interpret differences when evaluating the sample. Our text values represent more precisely the opinion of respondents in everyday life at the company. Our interview subjects had to select the most characteristic experience, feeling, and impression from the given 4-item selection list including "completely satisfied", "rather satisfied", "rather dissatisfied" and "completely dissatisfied" in relation to the given keyword. These text answers help to code the responses and can more clearly interpret the professional jargon of the keywords.

The different answers of the participants were examined with an artificial intelligence-based expert system that can create complex rules and logical connections, to make the result analyzable. Based on the predefined answers of the sample, the used expert system analyzed and interpreted the potential "if-then" relationships among the keywords that the human brain is no longer able to handle. The aim of this examination was the mapping of the human mindset to understand the decision-making practices of the employees.

5.3.1 Decision-modeling

We placed the trust-focused approach to the center of the analysis, emphasizing the issues during the interview that is based on interactions between people. In our conceptual examination, we were primarily interested in the aspects of human relationships at the workplace. We wanted to find those keywords in the relationship between employee and manager, and between employees that play a major role in the decision of manual workers in a potential resignation. These were investigated also in our selected articles. The keywords (decision-influencer elements) as mental strain, carrier, etc. were identified during the study, and complex logical relationships were generated based on human thoughts. These thoughts were examined and presented in the above-mentioned relations. Firstly, the complex rules of human thinking in the manager-employee relationship made transparent the complexity of the human mindset.

Based on the operating mechanism of the used expert system, the keywords belonging to the predefined output value were determined. These keywords provide an answer to which attributes were important in the resignation of employees and which aspects were completely irrelevant in the decision. An artificial intelligence-based expert system was used in our analysis. This system uses the mentioned keywords which served as the basis of personal conversations as attributes of the system. During the study, 10 attributes were identified: mental strain, carrier, financial incentives, relationship with a colleague, working hours, work-life balance, other non-financial incentives, physical strain, salary, and distance from home.

Based on the attributes and items of examination, the analytical mechanism of the expert system ranks them which attributes have the greatest impact on the overall result. The expert system uses the informativity concept for this ranking, which is a specialty of our used expert system. Informativity serves as a scale of importance among the attributes of the system. For each attribute, the value of informativity can be interpreted relative to the maximum value of 1. Based on these, the lower the value is taken by the attribute, the less important it is in decision making. Based on this informativity ranking, we can decide which are the attributes that have the greatest influence on the end-effect of the assignment. In our case, it shows which factors and how intensively affect an employee's resignation decision. Based on the analysis, the attributes range from 0.1459 to 0.0726 in terms of informativity, so there is no dominant attribute among them. All attributes are relatively close to each other. According to the ranking of the expert system, expert logic found "mental strain" to be the most

sensitive attribute in the decision-making mechanism. The informativity of this attribute is 0.1459. Every other attribute of the model has less influence. In decreasing order, the informativity of the carrier is 0.1308, financial incentives are 0.1195, relationship with a colleague is 0.1132, working hours is 0.1032, work-life balance is 0.1011, other non-financial incentives is 0.0923, physical strain is 0.0919, salary is 0.0754, distance from home is 0.0726. Therefore, it can be asserted that the relationship with the manager in the studied work environment is primarily determined by mental strain.

In another aspect as the relationship among employees, all preferred human-human interactions of our examination can be covered in this study. However, a different informativity ranking can be found for the same attributes regarding the relationship among the employees compared to the case of the relationship with the manager. According to the informativity ranking of the relationship among workers, the scale spreads between 0.2354 and 0.0379. Examining the informativity value of each attribute shows that the existence of non-financial incentives dominates (0.2345) in the relationship between colleagues over mental strain (0.1276) and relationship with leader (0.1132) attribute. These three attributes have the first three positions. Besides it, "Comfort" attributes such as work-life balance (0.0389), working hours (0.0379) or distance from home (0.0624) are also there but in positions 9, 10, and 7 of the informativity scale.

According to the logic of the expert system from the viewpoint of the leader-employee relationship, the network of examined concepts is extensive, complex and does not follow the logic of human decision-making sufficiently clear and understandable. Therefore, we separated the most informative attributes of the concept from the less informative attributes, which are not directly related to the main concept. We left only the attributes in the model that received the most responses, which had the highest density. This ensured that the most informative attributes were included in our model.

In terms of informativity, the artificial intelligence-based expert system can also display the occurrence of the examined attributes and their values from the 73-item sample in the form of an induction tree. This helps to clarify the mindset pattern. If we want to understand and interpret the logic of the induction tree on the leader-employee relationships, we need to interpret each branch of the model that contains all the outputs, so the model finds the logical relationships for all the values.

According to the mindset pattern of a relationship with leader:

- if mental strain is "completely satisfied" and working hours are "completely dissatisfied", then relationship with leader is "rather dissatisfied".
- if mental strain is "rather satisfied", relationship with colleague is "completely dissatisfied", and salary is "rather dissatisfied", then relationship with leader is "completely satisfied".
- if mental strain is "rather dissatisfied", relationship with colleague is "rather satisfied" and working hours is "completely dissatisfied", then relationship with leader is "completely satisfied".
- if mental strain is "completely dissatisfied" and relationship with colleague is "completely satisfied", then relationship with leader is "rather dissatisfied".

Analyzing the branches of the induction tree helps the analyst and decision maker understand the logical relationships, but further analysis is needed to understand how the human mindset works in the case of decision making. Such an analysis is the examination of complex rules that include combinations of the relevant attributes and their values to the decision, which are based on the logical chains of the induction tree. The "if-then" logical connection helps to interpret the complex rules of the expert system. Unlike the interpretation of the branches of the induction tree, the interpretation of these logical rules has not overlapping nature, they appear as equal attributes. Therefore, each rule can be interpreted as a set of values taken by attributes and the attributes of each row in Table 5.1 can be interpreted only together.

Based on the logic of the expert system, the relationship with the manager within the social relations is influenced by three other attributes in addition to the mental strain: the relationship with colleagues, salary, and the working hours. Working hours mean a schedule that works according to a strict framework in the investigated sample. This means that a pre-set period of time cannot be applied flexibly during the day by the manual workers. Based on the four attributes, the expert system formed complex rules for the 73 adapted items that are capable of describing human thinking in this particular situation. According to the values, the "completely satisfied" opinion can essentially be described by four of the most informative criteria influencing the decision. Examining the other endpoint of the rules, based on the logic of the respondents, it is clear that, a "completely dissatisfied" opinion is also easily defined. It can also be seen from the model that for the two "end-values", which have the completely satisfied and dissatisfied values, the rules are much simpler, so it is clearer from the answers why workers would stay or leave unambiguously in case of the examined conditions.

mental strain	working hours	relationship with collegaue	salary	relationship with leader
completely satisfied	completely satisfied	*	*	completely satisfied
completely satisfied	rather dissatisfied	*	*	completely satisfied
rather satisfied	*	completely dissatisfied	rather dissatisfied	completely satisfied
rather dissatisfied	completely dissatisfied	rather satisfied	*	completely satisfied
rather satisfied	*	completely satisfied	*	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
completely satisfied	rather satisfied	*	*	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather satisfied	*	rather satisfied	*	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather dissatisfied	*	completely dissatisfied	*	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather dissatisfied	*	completely satisfied	*	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather satisfied	*	completely dissatisfied	completely dissatisfied	rather dissatisfied
rather dissatisfied	completely satisfied, rather satisfied, rather dissatisfied	rather satisfied, rather dissatisfied	*	rather dissatisfied
completely dissatisfied	completely dissatisfied	*	*	rather dissatisfied
rather dissatisfied	*	rather dissatisfied	*	rather dissatisfied
completely dissatisfied	*	completely satisfied	*	rather dissatisfied
rather satisfied	*	completely dissatisfied	rather satisfied	completely dissatisfied
completely dissatisfied	*	completely dissatisfied	*	completely dissatisfied

Table 5.1: Complex rules of leader-employee relationship
Source: own research

Examining one of the endpoints of our value scale, we can describe employee dissatisfaction with just two rules. If the workers are "completely dissatisfied" with their relationship with their leader, then they are "rather satisfied" with the mental strain and their salary, and "completely dissatisfied" with their relationship with colleagues. In this logical rule, the working hours do not play any role. According to the second dissatisfied rule, if the workers are "completely dissatisfied" with the mental strain and the relationship with colleagues, then they are "completely dissatisfied" with their relationship with their leader. The working hours and salary do not play any influence in this correlation.

If we provide to understand the formal logic of the expert system from the other end of the model, we need to investigate four complex rules which describe the positive side of the decision. According to these rules, if the company takes into account the received attributes of the model as a value in each of its decision-making processes, it can ensure the stability of the workforce.

If they are "completely satisfied" with their mental strain and their working hours, then the workers are "completely satisfied" with their leader. In this consistency, their relationship with their colleagues and their salary is absolutely irrelevant.

The second rule, which can be interpreted based on cases, is also based on the satisfaction of the relationship with the manager. According to the rule, if the relationship with the leader is "completely satisfied", then the workers are "completely satisfied" with the mental strain, but "rather dissatisfied" with the working hours. In this consistency, the relationship with colleagues does not play any role again.

The third rule shows ambiguity in its interpretation. Under this rule, a worker is "completely satisfied" in all respects with his or her manager if the workers are "completely dissatisfied" with their relationship with their colleagues and "rather dissatisfied" with the salary, "rather satisfied" with his or her mental strain, then workers are "completely satisfied" in all respects with their manager. Working hours do not play a relevant role in their decision. By logic, it is difficult to find a causal relationship in this rule, so it needs to be examined separately. The main question is how often the respondents gave such a combination of answers.

The fourth rule can be interpreted again, according to which the employee is satisfied with the relationship with the manager even if he is "rather dissatisfied" with the mental strain, "completely dissatisfied" with the working hour, but his relationship with colleagues is "rather satisfied". For this group of respondents, the salary was not a top priority.

In terms of reading complex rules, this group of workers is thought to have a much more dominant quality of personal relationships than a mental strain or working hour which interprets the quality and quantity of work.

5.3.2 Understanding and elimination of the inconsequent rule

It is clear from the above-investigated rules that employee satisfaction can be described by different levels of the combination of the four attributes (mental strain, working hours, salary, and relationship with colleagues). It is also concluded from the multiplicity of the rules that employee's well-being at the workplace and the relationship of the employees with the manager can generate significant results, but rules can also emerge which do not consistently describe human thinking. It is precisely this inconsistency that is made transparent by the third rule.

Based on the 73-item sample, it is possible to filter out the logical chain, which is or which are the items that give the basis of the third rule. According to the investigation, there is only one item that imposed this combination of attributes on the company and distorts the homogeneity of the result. As the study is used to detect the most pronounced attributes, we can eliminate that one item, one attribute-combination from the sample in order to get a clearer picture of employees' thinking (Table 5.2).

mental strain	working hours	relationship with collegaue	relationship with leader
completely satisfied	completely satisfied	*	completely satisfied
completely satisfied	rather dissatisfied	*	completely satisfied
completely satisfied	rather satisfied	*	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
completely satisfied	completely dissatisfied	*	rather dissatisfied
rather satisfied	*	completely satisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather satisfied	completely satisfied	rather satisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather satisfied	rather satisfied	rather satisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather satisfied	rather dissatisfied	rather satisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather satisfied	completely dissatisfied	rather satisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather satisfied	*	completely dissatisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather dissatisfied	*	completely dissatisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather dissatisfied	completely satisfied, rather satisfied, rather dissatisfied	rather satisfied	rather dissatisfied
rather dissatisfied	completely dissatisfied	rather satisfied	completely satisfied
rather dissatisfied	*	rather dissatisfied	rather dissatisfied
rather dissatisfied	*	completely dissatisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
completely dissatisfied	*	completely satisfied	rather dissatisfied
completely dissatisfied	*	completely dissatisfied	completely dissatisfied

Table 5.2: Complex rules after elimination of inconsequent rules

Source: own research result

According to the formal logic, only three attributes remained that determine the potential turnover intention of the staff: working hours, relationship with colleague, and mental strain. Due to the elimination, the number of rules has also changed, the system of clear attributes has been simplified. Based on the logic of the expert system, a completely satisfied opinion can now be formulated with only two complex rules, while a completely dissatisfied outcome can be formulated with one rule.

According to the first row, the workers are "completely satisfied" with the leader and their relationship, if they are "completely satisfied" with the mental strain and working hours and with the quality and quantity of the work, then the workers are "completely satisfied" with the leader and their relationship. Therefore, the atmosphere of the team is absolutely irrelevant them.

The second row modifies this clear requirement which slightly nuances the cohesion between the attributes involved. It shows, if the mental strain "completely satisfied" and the working hours is "rather satisfied", then the relationship with the leader will be "completely satisfied". The relationship with colleague is as irrelevant as in the first row.

The complex set of rules showing complete dissatisfaction has also been simplified. A combination of rules that is not acceptable to employees can already be presented with just one rule. If they are "completely dissatisfied" with the mental strain and their relationship with colleagues and leader are "completely dissatisfied", then it is almost certain, that the workers leave the company.

After elimination of the examined item, the induction tree of the model graph also transformed according to the following:

- if mental strain is "completely satisfied" and working hours is "completely dissatisfied", then relationship with leader is "rather dissatisfied".
- if mental strain is "rather satisfied", relationship with colleague is "rather satisfied" and working hours is "completely satisfied", then relationship with leader is "rather satisfied".
- if mental strain is "rather dissatisfied", relationship with colleague is "rather satisfied" and working hours is "completely dissatisfied", then relationship with leader is completely satisfied".
- if mental strain is "completely dissatisfied" and relationship with colleague is "completely satisfied", then relationship with leader is "rather dissatisfied".

Like the leader-employee relationship, the human mindset relationships can be mapped to the employee relationship as well, but there are some differences in the rules generated by the expert system compared to them. Most of these differences stem from the relationship among the participants of the study, in which the corporate culture differences can also play a significant role. In these circumstances, the expectation combinations of the rules are provided by combinations of other non-financial incentives, relationship with the leader and work-life balance. It is an interesting phenomenon that the relationship among humans appears similarly to the leader-employee relationship, which makes transparency to the importance of personal relationships in the human mindset. It can also be transparent from the set of rules that, similarly to the negative pole of the relationship with the leader, this relationship can be described by one rule, while the description of the endpoint showing satisfaction can be clearly described by 7 more rules. The multiplicity of rules that express satisfaction is primarily due to the fact of feelings, experiences, and thoughts which lead to a state of satisfaction that can be diverse.

Although the combination of satisfaction elements in the team member's relationship is more complex (Table 3), among the three most dominant attributes work-life balance appears to be the weakest. The relationship with leader and other non-financial incentives and their combinations appears the most noticeable among satisfaction attributes. The weakness of work-life balance as an attribute can be seen primarily on the basis of its values in the rules. Based on these, it took irrelevant values in three of the first seven satisfaction rules. These are marked with an * in Table 5.3. This irrelevant value appears in only one case in other non-financial incentives and relationship with leader attributes in the examined row of 7 satisfaction rules.

Opposite of the multiplicity of satisfaction rules, the rule of attributes describing employee dissatisfaction can be described very simply, with one rule, in the relationship between employees. This is a good illustration of the "simple" operation of human thinking, which can define as simply as possible the combination of attributes that cause it the least satisfaction for them.

other non-financial incentives	relationship with leader	work-life balance	relationship with colleague
completely satisfied	completely satisfied	completely satisfied	completely satisfied
completely satisfied	completely satisfied	completely dissatisfied	completely satisfied
completely satisfied	rather satisfied	rather dissatisfied	completely satisfied
completely satisfied	completely dissatisfied	*	completely satisfied
rather satisfied	rather dissatisfied	rather satisfied, rather dissatisfied	completely satisfied
rather satisfied	completely dissatisfied	*	completely satisfied
rather dissatisfied	*	*	completely satisfied
completely satisfied	completely satisfied	rather satisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
completely satisfied	completely satisfied	rather dissatisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather satisfied	completely satisfied	*	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
completely satisfied	rather dissatisfied	completely dissatisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
completely satisfied	rather dissatisfied	rather satisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
completely satisfied	rather satisfied	rather satisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
completely satisfied	rather dissatisfied	rather dissatisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather dissatisfied	rather dissatisfied	completely dissatisfied	completely satisfied, rather satisfied, rather dissatisfied, completely dissatisfied
rather satisfied	rather satisfied	*	rather satisfied
completely satisfied	rather satisfied	completely satisfied	rather satisfied
completely dissatisfied	*	*	completely dissatisfied

Table 5.3: Complex rules of team member's relationship

Source: own research result

5.4 Conclusion

The study examined concepts of the literature related to human behavior in decision-making and narrowed it down to a conceptual triad of satisfaction, commitment, and employee turnover, which was investigated in three conceptual contexts in the literature: performance, employee well-being, and trust. The primary goal of the study was to map and analyze a pattern of human mindset, to which we have chosen the trust approach as context to a deeper examination of the conceptual triad. According to our investigation, a trustful atmosphere is

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that environment in which in addition to measurable work-related factors such as performance, immeasurable factors also appear.

After the profound literature and sample analysis, the performance approach was completely excluded from the study because in our cases the employees decided to leave the company on their own initiative. So, there was no measurable expectation of their work that they could not perform at the expected level. Based on this fact, the focus was primarily on observing conditions that can only be measured indirectly with traditional mathematical tools. In compiling the interview questions, we focused on mapping this circumstance. Therefore, as we systematically examined the behavior of the conceptual triad, we came to the conclusions described below.

The other approach which was mentioned concerning the literature was the well-being of workers. Based on the answers of personal conversations, the importance of the work environment and employee well-being can be clearly observed. The complex rules generated by the expert system also support this statement. According to the literature which deals with well-being as a concept, several aspects of the terms appear in the responses, such as mental strain, working hours, or work-life balance. However, mental strain and working hours appear most prominently in the complex rules.

The third conceptual context, the trust-oriented articles, served as the basis of our examination. The focus of this investigation is based on the questions related to the relationship between the respondents and their leader and/or colleagues. Primarily, these are the remarkable points in the interviews where the presence or even lack of trust is most pronounced. Therefore, this conceptual context has become the focus of our studies. We investigated human behavior and decision-making activities from this perspective to create a clear picture of the human mindset.

With the help of the AI-based expert system, we explored all elements (attributes) of the human mindset from our 73-item sample that makes human thinking, human decisions transparent. We mapped expectations that were articulated by the manual workers who eventually decided to leave the company. We got the parts of their thinking and preference system as a result. The focus of our examination is based on the social side of a human relationship; therefore, we investigated the information from the viewpoint of the relationship between workers and their leader, and workers among each other.

Two basic conclusions can be drawn from the examined model. One conclusion points to the importance of sense-making. The concept of sense-making was first formulated through the thoughts of Weick (1996), who interpreted the phenomenon concerning a wide variety of everyday situations. He modeled behavior through the simplicity of complex problems and found that "simplicity is not that simple. Recall the idea that any explanation can be characterized by some degree of generality, simplicity, and accuracy, but at best, you only can attain two of the three. If you start with simplicity, you can move toward making that simplification more general but less accurate, or you can edge the simplicity toward accuracy and lose generality" (Weick, 1996).

In the examined model, the decision-maker has two positions that clearly define the direction of decisions: satisfied or dissatisfied. In the examination of the leader-employee relationship, it can map the two endpoints relatively easily, which can be derived from the complex rules. Therefore, the workers can decide from 1-2 attributes that they are satisfied or dissatisfied with the atmosphere where they work. According to the complex rules, employee satisfaction can be defined by 2 simple rules which present the simplicity of the decision. We get an even clearer picture of respondents' mindset when we examine the rules that describe dissatisfaction opinions. According to the logic of the expert system, dissatisfaction of employees can be formulated with only one complex rule. As it can be observed from a multiplicity of rules which describe the two endpoints, the decision logic and thinking of the respondents are clear at the two endpoints. Therefore, the employees can determine exactly what causes them satisfaction and what causes them dissatisfaction. It is also worth noting what values describe these two endpoints. It can be clearly seen from the combination of the attributes of the rules that the endpoints can be described with different levels of the values. The typification of rules that also interpret the relationship between colleagues shows a similar distribution, with the difference that satisfaction in this respect can be described by more rules. Overall, it can be stated that clear decisions are formulated by a simple human mindset with simple rules and logic.

The situation is more complicated or fuzzy concerning the rules between the two endpoints. According to the complex rules of both relationships: employees and their leader or employees among each other, the human mindset can be describable with 10 complex rules in both cases. Therefore, the identification of the human mindset cannot be simplified in the middle range of values (rather satisfied or rather dissatisfied). From this fact, we can

conclude that the respondents knew the aspects that had a strong influence on their decision, but for the other examined factors they could not give such a clear black-and-white answer.

"If you can't explain it simply, you can't understand it well enough" stated Albert Einstein, which quote simply presents human thinking and supports the findings of the present study. "What many people don't realize is that there are two kinds of simplicity: shallow simplicity and profound simplicity. Shallow simplicity consists of casual generalizations made by outsiders who notice only the most conspicuous, salient regularities and rely on these as good enough. Once you start to act on shallow simplicities, you soon discover that things are not simple" (Weick, 1996). For the sample underlying our study, we worked with a similar simplification method.

Another conclusion from the analysis of the model under study comes from the interpretation of the responses. Examining the set of complex rules, we can see that the set of rules of the dissatisfaction and satisfaction endpoints is not the opposite of each other. Therefore, the satisfied and dissatisfied states cannot be described with the same values. We cannot use the same scale to express the two statements. While a completely satisfied status can be achieved with the satisfaction or rather satisfaction of the mental strain and working hour, in the decision of dissatisfaction the most important factor is the mental strain and the relationship with colleagues, therefore the atmosphere of the workplace plays a decisive role.

Theoretical implications

This study primarily contributes to the literature by analyzing the process of human thinking and decision making. It examines the most characteristic features of human logic and human behavior from the trust approach that cannot be found in the published literature. Based on the human performance literature, the study analyzes the most important attitudes that lead to the dismissal of employees in a particular organizational environment. Hence, the results of the study can directly contribute to the development of the literature in this direction.

Another specialty of this study is the used method which interprets the results in a new form. Using the artificial intelligence-based expert system, the analysis found a logical relationship between the examined keywords that describe both poles of the decision and it could interpret them in a daily work language. This method can recognize nuance differences between the opinions of our respondents.

Managerial implications

In terms of practical applicability, this study assists both managers and HR practitioners in their everyday work. The work environment is an industrial environment in which each measurement is an integral part of the system. Following the individual workflows, measurements can be made at several points simultaneously at each step. This primarily guarantees the high quality of the activity performed. However, in addition to measurable elements, there are also non-measurable phenomena that can affect daily work. The study focuses on these non-measurable indicators and systematically examines their emergence and correlations step by step. It finds and analyzes through complex rules of an expert system that have a decisive influence even with their immeasurability.

For practitioners, understanding the examined solutions and insights can help to recognize and understand everyday phenomena and thus help to make long-term decisions that can be profitable when incorporated into corporate strategy. By avoiding the possible negative outcome that can be found by the expert system, the success of the company can be achieved much more effectively and purposefully. This can also save the company money and time. Besides, understanding the synergies that underlie individual employee decisions, our results can provide companies with useful information that can even trigger individual employer branding activities. If an organization knows the most important drives behind employee thinking and behavior, it may be able to turn them to its own advantage, thus benefiting even the profitability of the organization.

References

Adelman, L. (1989): Measurement issues in knowledge engineering, *IEEE Transactions on Systems, Man and Cybernetics*, Vol. 19, pp. 483-488

Ahrholdt, D.C., Gudergan, S.P., Ringle, C.M. (2019): Enhancing loyalty: When improving consumer satisfaction and delight matters, *Journal of Business Research*, Vol. 94, pp. 18-27

Al, A.D., Anil, I. (2016): The Comparison Of The Individual Performance Levels Between Full-Time And Part-Time Employees: The Role Of Job Satisfaction, *Procedia - Social and Behavioral Sciences*, Vol. 235, pp. 382 – 391

Allen, M.R., George, B.A., Davis, J.H. (2018): A model for the role of trust in firm level performance: The case of family businesses, *Journal of Business Research*, Vol. 84, pp. 34-45

Andrew, O.C., Sofian, S. (2012): Individual factors and work outcomes of employee engagement, *Social and Behavioral Sciences*, Vol. 40, pp. 498-508

Ayranci, E. (2017): Trust issue in family businesses and its relationships with institutionalization, *International Journal of Academic Research in Business and Social Sciences*, Vol. 7, No. 10, pp. 26-40

Azanza, G., Moriano, J.A., Molero, F. (2013): Authentic leadership and organizational culture as drivers of employees' job satisfaction, *Journal of Work and Organizational Psychology*, Vol. 29, pp. 45-50

Babin, B.J., Boles, J.S., Robin, D.P. (2000): "Representing the Perceived Ethical Work Climate Among Marketing Employees", *Journal of the Academy of Marketing Science*, Vol. 28, No. 3, pp. 345-358

Badayai, A.R.A. (2012): A Theoretical Framework and Analytical Discussion on Uncongenial Physical Workplace Environment and Job Performance among Workers in Industrial Sector, *Procedia - Social and Behavioral Sciences,* Vol. 42, pp. 486 – 495

Bakker, M., Leenders, R.Th.A.J., Gabbay, S.M., Kratzer, J., Engelen, Jo.M.L.V. (2006): Is trust really social capital? Knowledge sharing in product development projects, *The Learning Organization*, Vol. 13, No. 6, pp. 594-605

Baracskai, Z., Dörfler, V. (2017): An essay concerning human decisions, *Transdisciplinary Journal of Engineering and Science*, Vol. 8, pp. 71-82

Baracskai, Z., Velencei, J., Dörfler, V. (2005): Reductive Reasoning, *Montenegrin Journal of Economics*, Vol. 64, pp. 59-66

Barrick, M.R., Parks, L., Mount, M.K. (2005): Self-monitoring as a moderator of the relationships between personality traits and performance, *Personnel Psychology*, Vol. 58, pp. 745-767

Batt, R., Colvin, A. J. S. (2011): An employment system approach to turnover: HR practices, quits, dismissal, and performance, *Academy of Management Journal,* Vol. 54, No. 4, pp. 695-717

Benson, G.S., Young, S.M., Lawler, E.E. (2006): High-involvement work practices and analysts' forecasts of corporate earnings, *Human Research Management*, Vol. 45, pp. 519-537

Berger, R., Zviling, M. (2013): The Relationship between Stakeholder Marketing and Reciprocity in Eastern Europe: A Conceptual Analysis, *International Journal of Management, Knowledge and Learning*, Vol. 2, No. 2, pp. 149–164

Berry, C.M., Lelchook, A.M., Clark, M.A. (2012): A meta-analysis of the interrelationships between employee lateness, absenteeism, and turnover: Implications for model of withdrawal behavior, *Journal of Organizational Behavior,* Vol. 33, pp. 678-699

Bititci, U.S., Garengo, P., Dörfler, V., Nudurupati, S. (2012): Performance Measurement: Challenges for tomorrow, *International Journal of Management Review,* Vol. 14, No. 3, pp. 305-327

Bowen, D.E., Ostroff, C. (2004): Understanding HRM-firm performance linkages: The role of the "strength" of the HRM system, *Academy of Management Review,* Vol. 29, No. 2, pp. 203-221

Boxall, P., Macky, K. (2009): Research and theory on high-performance work systems: processing the high-involvement stream, *Human Resource Management Journal,* Vol. 19, No. 1, pp. 3-23

Brahm, T., Kunze, F. (2012): The role of trust climate in virtual teams, *Journal of Managerial Psychology,* Vol. 27, No. 6, pp. 595-614

Brashear, T.G., Manolis, C., Brooks, C.M. (2005): "The effects of control, trust, and justice on salesperson turnover", *Journal of Business Research*, Vol. 58, pp. 241 – 249

Brien, A., Smallman, C. (2011): The respected manager…the organizational social capital developer, *International Journal of Hospitality Management*, Vol. 30, pp. 639-647

Bromiley, P., Cummings, L.L. (1995): "Transactions costs in organizations with trust", *Negotiation in Organizations*, Vol. 5, pp. 219-247

Brown, S., Gray, D., McHardy, J., Taylor, K. (2015): Employee trust and workplace performance, *Journal of Economic Behavior and Organization*, Vol. 116, pp. 361-378

Brown, M.E., Trevino, L.K. (2006): Ethical leadership: A review and future directions, *The Leadership Quarterly*, Vol. 17, pp. 595-616

Brown, M.E., Trevino, L.K., Harrison, D.A. (2005): Ethical leadership: A social learning perspective for construct development and testing, *Organizational Behavior and Human Decision Process*, Vol. 97, pp. 117-134

Bryman A. (1993): Charismatic leadership in business organizations: Some neglected issues, *The Leadership Quarterly,* Vol. 4, No. 3/4, pp. 289-304

Carmeli, A., Ben-Hador, B., Waldman, D., Rupp, D. (2009): How leaders cultivate social capital and nurture employee vigor: Implications for job performance, *Journal of Applied Psychology*, Vol. 94, No. 6, pp. 1553–1561

Carmeli, A., Tishler, A., Edmondson, A.C. (2011): CEO relational leadership and strategic decision quality in top management teams: The role of team trust and learning from failure, *Strategic Organization*, Vol. 10, No. 1, pp. 34-54

Carmeli, A., Spreitzer, G.M. (2009): „Trust, connectivity, and thriving: Implications for innovative behaviors at work", *Journal of Creative Behavior*, Vol. 43, No. 3, pp. 169-191

Carnevale, D.G., Wechsler, B. (1992): Trust in the public sector, *Administration and Society*, Vol. 23, No. 4, pp. 471-494

Conger, J.A. (1993): Max Weber's conceptualization of charismatic authority: Its influence on organizational research, *The Leadership Quarterly,* Vol. 4, No. 3/4, pp. 277-288

Cook, J., Wall, T. (1980): New work attitude measures of trust, organizational commitment and personal need non-fulfilment, *Journal of Occupational Psychology*, No. 53, pp. 39-52

Csikszentmihalyi, M. (1990): Flow: The psychology of optimal experience, *Harper & Row*, New York

Csikszentmihalyi, M. (2003): Good Business: Leadership, Flow and the making of meaning, *Viking*, New York

Dawood, N.N. (1996): A strategy of knowledge elicitation for developing an integrated bidding/production management expert system for the precast industry, *Advances in Engineering Software*, Vol. 25, pp. 225–234

DeConinck, J.B. (2011): "The effects of ethical climate on organizational identification, supervisory trust, and turnover among salespeople", *Journal of Business Research*, Vol. 64, No. 6, pp. 617-624

Demirtas, S.C., Tezer, E. (2012): "Romantic relationship satisfaction, commitment to career choices and subjective well-being", *in Procedia proceedings of the 4th World Conference on Educational Sciences (WCES-2012) in Barcelona, Spain*, *Social and Behavioral Sciences*, Vol. 46, pp. 2542 – 2549

Dietz, G., Hartog, D. (2006): Measuring trust inside organisations, *Personnel review*, Vol. 35, No. 5, pp. 557-588

Dirks, K.T. (1999): The effects of interpersonal trust on workgroup performance, *Journal of Applied Psychology*, Vol. 84, pp. 445-55

Dirks, K.T., Ferrin, D.L. (2001): The role of trust in organizational settings, *Organization Science*, Vol. 12, No. 4, pp. 450-67

DiTomaso, N. (1993): Weber's social history and Etzioni's structural theory of charisma in organizations: Implications for thinking about charismatic leadership, *The Leadership Quarterly,* Vol. 4, No. 3/4, pp. 257-275

Doctus documentation (2011) Retrieved 19.08.2020 from http://www.doctus.hu/en/software

Dvir, T., Eden, D., Avolio, B., Shamir, B. (2002): Impact of transformational leadership on follower development and performance: A field experiment, *Academy of Management Journal,* Vol. 45, No. 4, pp. 735-744

Eddleston, K.A., Morgan, R.M. (2014): Trust, commitment and relationships in family business: Challenging conventional wisdom, *Journal of Family Business Strategy*, Vol. 5, pp. 213-216

Eder, P., Eisenberger, R. (2008): Perceived organizational support: Reducing the negative influence of coworker withdrawal behavior, *Journal of Management,* Vol. 34, No. 1, pp. 55-68

Eggerth, D.E. (2008): "From Theory of Work Adjustment to Person–Environment Correspondence Counseling: Vocational Psychology as Positive Psychology", *Journal of Career Assessment*, Vol. 16, No. 1, pp. 60-74

Elci, M., Sener, I., Aksoy, S., Alpkan, L. (2012): „The Impact of Ethical Leadership and Leadership Effectiveness on Employees' turnover intention: The Mediating Role of Work Related Stress", *in Procedia proceedings of the 8th International Strategic Management Conference in Barcelona, Spain, Social and Behavioral Sciences*, Vol. 58, pp. 289 – 297

Epitropaki, O., Kark, R., Mainemelis, C., Lord, R.G. (2017): Leadership and followership identity processes: A multilevel review, *The Leadership Quarterly,* Vol. 28, pp. 104-129

Erdem, F., Atsan, N. (2015): Trust based relationships between family members and long-term employees of family-owned SMEs, *International Business Research*, Vol. 8, No. 4, pp. 223-232

Eriksen, B.H. (2013): "Should they stay or should they go? Sorting versus human capital loss in employee turnover", *available at: http://dx.doi.org/10.2139/ssrn.1535969* (accessed 10 April 2021)

Fehr, E. (2009): "On the Economics and Biology of Trust", *in proceedings of the Twenty-Third Annual Congress of the European Economic Association in Milan, Italy, Journal of the European Economic Association*, Vol. 7, No.2/3, pp. 235-266.

Ferreira, F., Costa, R., Pereira, L., Jerónimo, C., Dias, Á. (2018): The relationship between chemical of happiness, chemical of stress, leadership, motivation and organizational trust: A case study on Brazilian workers, *Journal of International Business and Economics*, Vol. 6, No. 2, pp. 89-100

Gardner, H., Csikszentmihalyi, M., Damon, W. (2001): Good Work: When excellence and ethics meet, *Basic Books*, New York

Gardner, T.M., Wright, P.M., Moynihan, L.M. (2011): The impact of motivation, empowerment, and skill-enhancing practices on aggregate voluntary turnover: The mediating effect of collective effective commitment, *Personnel Psychology,* Vol. 64, pp. 315-350

Gaudet, M-C., Tremblay, M. (2017): Initiating structure leadership and employee behaviors: The role of perceived organizational support, affective commitment and leader–member exchange, *European Management Journal*, Vol. 35, No. 5, pp. 663-675

Ghani, N.M.A., Yunus, N.S.N.M., Bahry, N.S. (2016): Leader's Personality Traits and Employees Job Performance in Public Sector, Putrajaya, *Procedia Economics and Finance*, Vol. 37, pp. 46 – 51

Ghetta, A., Hirschi, A., Wang, M., Rossier, J., Herrmann, A. (2020): Birds of a feather flock together: How congruence between worker and occupational personality relates to job satisfaction over time, *Journal of Vocational Behavior*, Vol. 119, pp. 103412

Gim, G.C.W., Desa, N.M., Ramayah, T. (2015): Competitive psychological climate and turnover intention with the mediating role of affective commitment, *Procedia - Social and Behavioral Sciences*, Vol. 172, pp. 658 – 665

Gjerlov-Juel, P. (2019): Executive turnover – Firms' subsequent performances and the moderating role of organizational characteristics, *European Management Journal,* article in press

Gottfredson, R.K., Aguinis, H. (2017): Leadership behaviors and follower performance: Deductive and inductive examination of theoretical rationales and underlying mechanisms, *Journal of Organizational Behavior*, Vol. 38, pp. 558–591

Gruman, J.A., Saks, A.M. (2011): Performance management and employee engagement, *Human Resource Management Review*, Vol. 21, No. 2, pp. 123-136

Guillén, L., Mayo, L., Korotov, K. (2015): Is leadership a part of me? A leader identity approach to understanding the motivation to lead, *The Leadership Quarterly,* No. 26, pp. 802-820

Halici, A., Yilmaz, B., Kasimo, M. (2011): "Employment Predictions in Secretarial Occupation", *in Procedia proceedings of the 7th International Strategic Management Conference in Paris, France, Social and Behavioral Sciences*, Vol. 24, pp. 435–443

Hamada, K., Baba, T., Sato, K., Yufu, M. (1995): Hybridizing a genetic algorithm with rule-based reasoning for production planning, *IEEE Expert*, Vol. 35, pp. 60–67

Han, J., Sun, J-M., Wang, H-L. (2019): Do high performance work systems generate negative effects? How and when?, *Human Resource Management Review,* article in press

Hanaysha, J. (2016): Testing the Effects of Employee Engagement, Work Environment, and Organizational Learning on Organizational Commitment, *Procedia - Social and Behavioral Sciences*, Vol. 229, pp. 289 – 297

Hartog, D.N.D., Verburg, R.M. (2004): High performance work systems, organizational culture and firm effectiveness, *Human Resource Management Journal,* Vol. 14, No. 1, pp. 55-78

Hatzilygeroudis, I., Prentzas, J. (2004): Integrating (rules, neural networks) and cases for knowledge representation and reasoning in expert systems, *Expert Systems with Applications,* Vol. 27, pp. 63-75

Hausknecht J., Holwerda J. A. (2013): When Does Employee Turnover Matter? Dynamic Member Configurations, Productive Capacity, and Collective Performance, *Organizational Science,* Vol. 24, No. 1, pp. 210-225

Higa, K., Lee, H.G. (1998): A graph-based approach for rule integrity and maintainability in expert system maintenance, *Information and Management*, Vol. 33, pp. 273–285

Huselid, M.A. (1995): The impact of human resource management practices on turnover, productivity, and corporate financial performance, *Academy of Management Journal*, Vol. 38, pp. 635-672

Ibrahim, Z., Ismail, A., Mohamed, N.A.K., Raduan, N.S.M. (2016): Association of Managers' Political Interests towards Employees' Feelings of Distributive Justice and Job Satisfaction in Performance Appraisal System, *Procedia - Social and Behavioral Sciences*, Vol. 224, pp. 523 – 530

Iqbal, N., Bhatti, W.A., Zaheer, A. (2013): Corporate ethical values, group creativity, job commitment and performance: The effect of work response on work context, *Management and Marketing Challenges for the Knowledge Society*, Vol. 8, No. 1, pp. 79-94

Javed, B., Rawwas, M., Khandai, S., Shahid, K., Tayyeb, H. (2018): Ethical leadership, trust in leader and creativity: The mediated mechanism and an interacting effect, *Journal of Management and Organization*, Vol. 1, pp. 1-18

Jensen, J.M., Patel, P.C., Messersmith, J.G. (2013): High-performance work systems and job control: Consequences for anxiety, role overload, and turnover intentions, *Journal of Management,* Vol. 39, No. 6, pp. 1699-1724

Jiang, K., Lepak, D.P., Han, K., Hong, Y., Kim, A., Winkler, A-L. (2012): Clarifying the construct of human resource systems: Relating human resource management to employee performance, *Human Resources Management Review,* Vol. 22, pp. 73-85

Jiang, K., Lepak, D.P., Hu, J., Baer, J.C. (2012): How does human resource management influence organizational outcomes? A meta-analytic investigation of mediating mechanisms, *Academy of Management Journal,* Vol. 55, No. 6, pp. 1264-1294

Jianga, W., Wang, L., Chud, Z., Zhenga, C. (2019): Does leader turnover intention hinder team innovation performance? The roles of leader self-sacrificial behavior and empathic concern, *Journal of Business Research*, Vol. 104, pp. 261-270

Jyoti, J., Sharma, P. (2015): "Empirical investigation of a moderating and mediating variable in between mentoring and job performance: A structural model", *Journal of Work and Organizational Psychology*, Vol. 33, No. 1, pp. 55-67

Kacmar, K.M., Andrews, M.C., Van Rooy, D.L., Steilberg, R.C., Cerrone, S. (2006): Sure everyone can be replaced…but at what cost? Turnover as a predictor of unit-level performance, *Academic Management Journal,* Vol. 49, pp. 133-144

Kahneman, D. (2012): Thinking Fast and Slow, *UK: Penguin Books Ltd*

Kalkavan, S., Katrinli, A. (2014): "The Effects Of Managerial Coaching Behaviors On The Employees' Perception Of Job Satisfaction: Organisational Commitment, and Job Performance: Case Study On Insurance Industry In Turkey", *in Procedia proceeding of the 10th International Strategic Management Conference in Rome, Italy, Social and Behavioral Sciences,* Vol. 150, pp. 1137 – 1147

Kangas, M., Kaptein, M., Huhtala, M., Lämsä, A.-M., Pihlajasaari, P., Feldt, T. (2018): Why Do Managers Leave Their Organization? : Investigating the Role of Ethical Organizational Culture in Managerial Turnover, *Journal of Business Ethics*, Vol. 153, No. 3, pp. 707-723

Keefe, R.M., Preece, A.D. (1996): The development, validation and implementation of knowledge-based systems, *European Journal of Operational Research*, Vol. 92, pp. 458–473

Kim, T-Y., Kim, M. (2013): Leaders' moral competence and employee outcomes: The effects of psychological empowerment and person-supervisor fit, *Journal of Business Ethics,* Vol. 112, No. 1, pp. 155-166

Kim, K.H., Park, J.K., Hwang, K.J., Kim, S.H. (1995): Implementation of hybrid short-term load forecasting system using artificial neural networks and fuzzy expert systems, *IEEE Transactions on Power Systems,* Vol. 10, pp. 1534–1539

Knack, S., Keefer, P. (1997): "Does Social Capital Have an Economic Payoff? A Cross-Country Investigation", *The Quarterly Journal of Economics*, Vol. 112, No. 4, pp. 1251-1288

Knauf, R., Gonzalez, A.J., Abel, T. (2002): A framework for validation of rule-based systems, *IEEE Transactions on Systems, Man, and Cybernetics—Part B: Cybernetics*, Vol. 32, pp. 281–291

Koene, B.A.S., Vogelaar, A.L.W., Soeters, J. L. (2002): Leadership effects on organizational climate and financial performance: Local leadership effect in chain organizations, *The Leadership Quarterly,* Vol. 13, pp. 193-215

Kolodinsky, R.W., Giacalone, R.A., Jukiewicz, C.L. (2008): Workplace Values and Outcomes: Exploring Personal, Organizational, and Interactive Workplace Spirituality, *Journal of Business Ethics,* Vol. 81, pp. 465–480

Kolonder, J.L. (1994): Case-based reasoning, *New York: Morgan Kaufmann*

Kotter, J. P., Heskett, J. L. (1992): Corporate culture and performance, *The Free Press*, New York

Kowalski, T. H. P., Loretto, W. (2017): „Wellbeing and HRM in the changing workplace", *International Journal of Human Resource Management*, Vol. 28, No. 16, pp. 2229–2255

Kristof-Brown, A.L., Zimmerman, R.D., Johnson, E.C. (2005): „Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person group, and person-supervisor fit", *Personnel Psychology*, Vol. 58, No. 2, pp. 281–342

Kuvaas, B. (2006): "Performance appraisal satisfaction and employee outcomes: mediating and moderating roles of work motivation", *International Journal of Human Resource Management*, Vol. 17, No. 3, pp. 504–522

Lakoff, G.P., Johnsen, M. (2003): Metaphors we live by, *Afterword 2003 by The University of Chicago*, ISBN: 0-226-46801-1

Lams, A.M., Pucetait, R. (2006): "Development of organization trust among employees from a contextual perspective", *Business Ethics: A European Review*, Vol. 15, No. 2, pp. 130-141

Le, B.P., Than, T.S., Nguyen, T.M.A., Gong, J. (2018): Self-efficacy and optimism mediate the relationship between transformational leadership and knowledge sharing, *Social Behavior and Personality*, Vol. 46, No. 11, pp. 1833-1846

Leana, C.R., van Buren, H.J. (1999): Organizational Social Capital and Employment Practices, *The Academy of Management Review*, Vol. 24, No. 3, pp. 538-555

Lee, Y., Mazzei, A., Kim, J-N. (2018): Looking for motivational routes for employee-generated innovation: Employees' scouting behavior, *Journal of Business Research*, Vol. 91, pp. 286-294

Liao, S. (2005): Expert system methodologies and applications – a decade review from 1995 to 2004, *Expert systems with Applications*, Vol. 28, pp. 93-103

Lin, H. (2007): Knowledge sharing and firm innovation capability: An empirical study. *International Journal of Manpower*, Vol. 28, pp. 315-332

Long, C.P. (2018): To control and build trust: How managers use organizational controls and trust-building activities to motivate subordinate cooperation, *Accounting, Organizations and Society*, Vol. 70, pp. 69-91

Long, C.P., Sitkin, S.B. (2018): Control–Trust Dynamics in Organizations: Identifying Shared Perspectives and Charting Conceptual Fault Lines, *Academy of Management Annals*, Vol. 12, No. 2, https://doi.org/10.5465/annals.2016.0055

Long, C.S., Ghazali, N.I., Rasli, A., Heng, L.H. (2012): The relationship between Knowledge Sharing Culture and Innovation Capability: A proposed model, *Journal of Basic and Applied Scientific Research*, Vol. 9, No. 2, pp. 9558-9562

Lu, L., Cai, R., King, C. (2020): "Building trust through a personal touch: Consumer response to service failure and recovery of home-sharing", *Journal of Business Research*, Vol. 117, September 2020, pp. 99-111

Luchak, A.A., Gellatly, I.R. (2007): "A Comparison of Linear and Nonlinear Relations Between Organizational Commitment and Work Outcomes", *Journal of Applied Psychology*, Vol. 92, No. 3, pp. 786 –793

Lude, M., Prügl, R. (2018): Why the family business brand matters: Brand authenticity and the family firm trust inference, *Journal of Business Research*, No. 89, pp. 121-134

Lusher, D., Robins, G., Pattison, P.E., Lomi, A. (2012): "Trust Me": Differences in expressed and perceived trust relations in an organization, *Social Networks*, Vol. 34, pp. 410-424

Luthans, F., Norman, S.M., Avolio, B.J., Avey, J.B. (2008): The mediating role of psychological capital in the supportive organization climate – Employee performance relationship, *Journal of Organizational Behavior,* Vol. 29, pp. 219-238

Luthans, F., Youssef, C.M. (2007): Emerging Positive Organizational Behavior, *Journal of Management,* June, pp. 321-349

Mahto, R.V., Vora, G., McDowell, W.C., Khanin, D. (2020): Family member commitment, the opportunity costs of staying, and turnover intentions, *Journal of Business Research*, Vol. 108, pp. 9-19

Maley, J.F., Moeller, M. (2014): Global performance management systems: The role of trust as perceived by country managers, *Journal of Business Research*, Vol. 67, pp. 2803-2810

Mayer R.C., Gavin, M.B. (2005): Trust in management and performance: Who minds the shop while the employees watch the boss?, *Academy of Management Journal*, Vol. 48, No. 5, pp. 874–888

Mayer, R.C., Davis, J.H., Schoorman, F.D. (1995): An integrative model of organizational trust, *Academy of Management Review*, Vol. 20, No. 3, pp. 709-734

McEvily, B., Tortoriello, M. (2011): Measuring trust in organizational research: Review and recommendations, *Journal of Trust Research*, Vol.1, pp. 23-63

McMahon, S.R., Ford, C.M. (2013): Heuristic transfer in the relationship between leadership and employee creativity, *Journal of Leadership and Organizational Studies*, Vol. 20, No. 1, pp. 69-83

Messersmith, J.G., Lepak, D.P., Patel, P.C., Gould-Williams, J.S. (2011): Unlocking the Black Box: Exploring the Link Between High-Performance Work Systems and Performance, *Journal of Applied Psychology,* Vol. 96, No. 6, pp. 1105–1118

Mo, S., Shi, J. (2017): Linking Ethical Leadership to Employee Burnout, Workplace Deviance and Performance: Testing the Mediating Roles of Trust in Leader and Surface Acting, *Journal of Business Ethics,* published online: 27 August 2015, DOI 10.1007/s10551-015-2821-z

Mockler, R.J., Dologite, D.G., Gartenfeld, M.E. (2000): Talk with the experts: learning management decision-making using CAI, *Cybernetics and Systems: An International Journal*, Vol. 31, pp. 431–464

Muchiri, M.K., McMurray, A.J., Nkhoma, M., Pham, H.C. (2019): How transformational and empowering leader behaviors enhance workplace safety: A review and research agenda, *The Journal of Developing Areas*, Vol. 53, No. 1, pp. 257-266

Mulki, J.P, Jaramillo, F., Solomon, P. (2006): "The Role of Ethical Climate on Salesperson's Role Stress, Job Attitudes, Turnover Intention, and Job Performance", *The Journal of Personal Selling and Sales Management*, Vol. 26, No. 3, pp. 271-282

Nahapiet, J., Ghoshal, S. (1998): Social Capital, Intellectual Capital, and the Organizational Advantage, *The Academy of Management Review*, Vol. 23, No. 2, pp. 242-266

Nedkovski, V., Guerci, M., Battisti, F., Siletti, E. (Article in press): Organizational ethical climates and employee's trust in colleagues, the supervisor and the organization, *Journal of Business Research*

Nicolescu, B. (2014): From Modernity to Cosmodernity, *State University of New York Press*

Ning, L., Jin, Y. (2009): The effects of trust climate on individual performance, *Front. Business Result China*, Vol. 3, No. 1, pp. 27–49

Olaniyan, O.S., Hystad, S.W. (2016): "Employees' psychological capital, job satisfaction, insecurity, and intentions to quit: The direct and indirect effects of authentic leadership", *Journal of Work and Organizational Psychology*, Vol. 32, No. 3, pp. 163-171

Olver, J.M., Mooradian, T.A. (2003): Personality traits and personal values: a conceptual and empirical investigation, *Personality and Individual Differences*, Vol. 35, pp. 109-25

Owens, B.P., Hekman, D.R. (2012): Modeling how to grow: An inductive examination of humble leader behaviors, contingencies and outcomes, *Academy of Management Journal,* Vol. 55, No. 4, pp. 787-818

Ozdemir, S., Zhang, S., Gupta, S., Bebek, G. (2020): „The effects of trust and peer influence on corporate brand—Consumer relationships and consumer loyalty", *Journal of Business Research*, Vol. 117, pp. 791-805

Paldam, M. (2000): Social Capital: One or Many? Definition and measurement, *Journal of Economic Surveys - special issue on political economy,* http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.194.3259&rep=rep1&type=pdf, http://www.martin.paldam.dk

Park, E., Kim, K.J., Kwon, S.J. (2017): „Corporate social responsibility as a determinant of consumer loyalty: An examination of ethical standard, satisfaction, and trust", *Journal of Business Research*, Vol. 76, pp. 8-13

Payne, G.T., Moore, C.B., Griffis, S.E., Autry, C.W. (2011): Multilevel Challenges and Opportunities in Social Capital Research, *Journal of Management*, Vol. 37, No. 2, pp. 491-520

Peterson, S.J., Luthans, F. (2006): The impact of financial and nonfinancial incentives on business-unit outcomes over time, *Journal of Applied Psychology*, Vol. 91, No. 1, pp. 156 – 165

Pitesa, M., Thau, S., Pillutla, M.M. (2017): Workplace trust as a mechanism of employee (dis)advantage: The case of employee socioeconomic status, *Research in Organizational Behavior*, Vol. 37, pp. 83-101

Platania, S., Santisia, G., Magnanob, P., Ramaci, T. (2015): "Job Satisfaction and Organizational Well-Being Queried: A Comparison Between The Two Companies", *in Procedia proceedings of the 6th World Conference on Educational Sciences in Malta, Social and Behavioral Sciences*, Vol. 191, pp. 1436 – 1441

Platis, Ch., Reklitis, S., Zimeras, S. (2015): "Relation between job satisfaction and job performance", *in Procedia proceeding of the 3rd International Conference on Strategic*

Innovative Marketing (IC-SIM 2014) in Madrid, Spain, Social and Behavioral Sciences, Vol. 175, pp. 480 – 487

Podsakoff, N.P., LePine, J.A., LePine, M.A. (2007): Differential challenge stressor-hindrance stressor relationships with job attitudes, turnover intentions, turnover and withdrawal behavior: A meta-analysis, *Journal of Applied Psychology,* Vol. 92, No. 2, pp. 438-454

Posthuma, R.A., Campion, M.C., Masimova, M., Campion, M.A. (2013): A high performance work practices taxonomy: Integrating the literature and directing future research, *Journal of Management*, Vol. 39, No. 5, pp. 1184-1220

Prayag, G., Mills, H., Lee, C., Soscia, I. (2020): Team identification, discrete emotions, satisfaction, and event attachment: A social identity perspective, *Journal of Business Research*, Vol. 112, pp. 373-384

Pulakos, E.D., Mueller-Hanson, R.A., O'Leary, R.S. (2008): Performance management in the United States, Performance management systems: A global perspective, *Routledge, New York,* pp. 97-114

Quddus, M., Goldsby, M., Farooque, M. (2000): Trust: The social virtues and the creation of prosperity – A review article, *Eastern Economic Journal*, Vol. 26, No. 1, pp. 87-98

Quinlan, J.R. (1986): Induction of Decision Trees, Machine learning, Vol. 1, pp. 81-106

Rahimi, F., Fallah, S. (2015): Study of Organizational Life Cycle And Its Impact On Strategy Formulation, *Procedia - Social and Behavioral Sciences*, Vol. 207, pp. 50 – 58

Rajabi, R., Boles, J., Alejandro, T.G.B., Sarin, S. (2021): Revisiting and replicating the dominant logic on salesperson job satisfaction, organizational commitment, and turnover, *Journal of Business Research*, Vol. 126, pp. 524-532

Rego, A., Owen, B., Leal, S., Melo, I.A., Pina e Cunha, M., Goncalves, L., Ribeiro, P. (2017): How leader humility helps teams to be humbler, psychologically stronger, and more effective: A moderated mediation model, *The Leadership Quarterly*, Vol. 28, No. 5, pp. 639-658

Richard, P.J., Devinney, T.M., Yip, G.S., Johnson, G. (2009): "Measuring organizational performance: Towards methodological best practice", *Journal of Management*, Vol. 35, No. 3, pp. 718-804

Sabourin, L., Villeneuve, F. (1996): OMEGA, an expert CAPP system, *Advances in Engineering Software*, Vol. 25, pp. 51–59

Sageer, A., Rafat, S., Agarwal, P. (2012): Identification of Variables Affecting Employee Satisfaction and Their Impact on the Organization, *IOSR Journal of Business and Management*, Vol. 5, No. 1, pp. 32-29, ISSN: 2278-487X

Sahin, S., Tolun, M.R., Hassanpour, R. (2012): Hybrid expert systems: A survey of current approaches and applications, *Expert Systems with Applications*, Vol. 39, pp. 4609-4617

Schwepker Jr., C.H. (2001): "Ethical climate's relationship to job satisfaction, organizational commitment, and turnover intention in the salesforce", *Journal of Business Research*, Vol. 54, No. 1, pp. 39-52

Seijts, G., Gandz, J., Crossan, M., Reno, M. (2015): Character matters: Character dimension's impact on leader performance and outcomes, *Organizational Dynamics,* Vol. 44, pp. 65-74

Senthilnathan, S., Rukshani, K. (2013): A review on the relationship variables to employee morale and organizational trust, *International Journal of Innovative Research and Practices*, Vol. 1, pp. 8-15

Shapira-Lishchinsky, O.S., Even-Zohar, S. (2011): Withdrawal Behaviors Syndrome: An Ethical Perspective, *Journal of Business Ethics*, Vol. 103, pp. 429–451

Smith, J.B., Barclay, D.W. (1997): The effects of organizational differences and trust on the effectiveness of selling partner relationships, *Journal of Marketing,* Vol. 61, No. 1, pp. 3-21

Solomon, R. (1999): A Better Way to Think About Business: How Personal Integrity Leads to Corporate Succes, *Oxford University Press, New York*

Spell, H.B., Eby, L.T., Vandenberg, R.J. (2014): Developmental climate: A cross-level analysis of voluntary turnover and job performance, *Journal of Vocational Behavior,* Vol. 84, pp. 283-292

Srivastava A., Bartol, K.M., Locke, E.A. (2006): Empowering Leadership in Management Teams: Effects on Knowledge Sharing, Efficacy, and Performance, *Academy of Management Journal,* Vol. 49, No. 6, pp. 1239-1251

Stajkovic, A.D., Luthans, F. (2001): Differential effects of incentive motivators on work performance, *Academy of Management Journal*, Vol. 4, No. 3, pp. 580-590

Stathopoulou, A., Balabanis, G. (2016): "The effects of loyalty programs on customer satisfaction, trust, and loyalty toward high- and low-end fashion retailers", *Journal of Business Research*, Vol. 69, No. 12, pp. 5801-5808

Sturm, R.E., Vera, D., Crossan, M. (2017): The entanglement of leader character and leader competence and its impact on performance, *The Leadership Quarterly,* Vol. 28, pp. 349-366

Tarigan, V., Ariani, D.W. (2015): Empirical study relations job satisfaction, organizational commitment, and turnover intention, *Advances in Management & Applied Economics,* Vol. 5, No. 2, pp. 21-42

Thaler, R.H., Sunstein, C.R. (2008): Nudge, Improving Decisions About Health, Wealth, and Happiness, *Yale University Press*

Ton, Z., Huckman, R. S. (2008): Managing the impact of employee turnover on performance: The role of process conformance, *Organization Science,* Vol. 19, No. 1, pp. 56-68

Treviño, L.K., Butterfield, K.D., McCabe, D.L. (1998): "The Ethical Context in Organizations: Influences on Employee Attitudes and Behaviors", *Business Ethics Quarterly, Psychological and Pedagogical Issues in Business Ethics*, Vol. 8, No. 3, pp. 447-476

Trevor, C.O., Nyberg, A.J. (2008): Keeping your headcount when all about you are losing theirs: downsizing, voluntary turnover rates, and the moderating role of HR practices, *Academy of Management Journal,* Vol. 51, No. 2, pp. 259-276

Tse, H.H.M., Huang, X., Lam, W. (2013): "Why does transformational leadership matter for employee turnover? A multi-foci social exchange perspective", *The Leadership Quarterly*, Vol. 24, No. 5, pp. 763-776

Tzabbar D., Tzafrir S., Baruch Y. (2017): A bridge over troubled water: Replication, integration and extension of the relationship between HRM practices and organizational performance using moderating meta-analysis, *Human Resource Management Review,* Vol. 27, pp. 134-148

Tziner, A., Rabenu, E., Radomski, R., Belkin, A. (2015): „Work stress and turnover intentions among hospital physicians: The mediating role of burnout and work satisfaction", *Journal of Work and Organizational Psychology*, Vol. 31, No. 3, pp. 207-213

Verbeke, W., Ouwerkerk, C., Peelen, E. (1996): „Exploring the Contextual and Individual Factors on Ethical Decision Making of Salespeople", *Journal of Business Ethics*, Vol. 15, No. 11, pp. 1175- 1187

Vogt, C.P. (2005): Maximizing Human Potential: Capabilities Theory and the Professional Work Environment, *Journal of Business Ethics,* Vol. 58, pp. 111-123

Waeraas, A., Dahle, D.Y. (2020): „When reputation management is people management: Implications for employee voice", *European Management Journal*, Vol. 38, No. 2, pp. 277-287

Wagner, W.P. (2017): Trends in expert system development: A longitudinal content analysis of over thirty years of expert system case studies, *Expert Systems With Applications,* Vol. 76, pp. 85-96

Wang, C.L., Shi, Y., Barnes, B.R. (2015): "The role of satisfaction, trust and contractual obligation on long-term orientation", *Journal of Business Research*, Vol. 68, No. 3, pp. 473-479

Weeks, W.A., Loe, T.W., Chonko, L.B., Wakefield, K. (2004): "The effect of perceived ethical climate on the search for sales force excellence", *Journal of Personal Selling & Sales Management*, Vol. 24, No. 3, pp. 199–214

Weick, K.E. (1996): "Speaking to Practice: The Scholarship of Integration", *Journal of Management Inquiry*, Vol. 5, No. 3, pp. 251-258

Wu, T.P., Chen, S.M. (1999): A new method for constructing membership functions and fuzzy rules from training examples, *IEEE Transactions on Systems, Man, and Cybernetics—Part B: Cybernetics*, Vol. 29, pp. 25–37

Wu, C.H., Lee, S.J. (1997): Enhanced high-level Petri nets with multiple colors for knowledge verification/validation of rule-based expert systems, *IEEE Transactions on Systems, Man, and Cybernetics—Part B: Cybernetics*, Vol. 27, pp. 760–773

Yidong, T., Xinxin, L. (2013): How ethical leadership influence employees' innovative work behavior: A perspective of intrinsic motivation, *Journal of Business Ethics,* Vol. 116, pp. 441-455

Yi, Y., Nataraajan, R., Gong, T. (2011): "Customer participation and citizenship behavioral influences on employee performance, satisfaction, commitment, and turnover intention", *Journal of Business Research*, Vol. 64, No. 1, pp. 87–95

Yuan, Y., Feng, B., Lai, F., Collins, B.J. (2018): The role of trust, commitment, and learning orientation on logistic service effectiveness, *Journal of Business Research*, Vol. 93, pp. 37-50

Zak, P.J. (2018): The neuroscience of high-trust organizations, *Consulting Psychology Journal: Practice and Research*, Vol. 70, No. 1, pp. 45-58

Zaraté, P., Liu, S. (2015): A new trend for knowledge-based decision support systems design, *International Journal of Information and Decision Sciences*, Vol. 8, No. 3, pp. 305-324

Zidane, Y. J-T., Hussein, B.A., Gudmundsson, J.O., Ekambaram, A. (2016): Categorization of organizational factors and their impact on project performance, *Procedia - Social and Behavioral Sciences*, Vol. 226, pp. 162 – 169