Saint Petersburg State University

Graduate School of Management

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*RESILIENCE-ORIENTED TALENT MANAGEMENT PRACTICES:*
*THE CASE OF RUSSIAN FIRMS*

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**ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ**

Я, Бородулькина Александра Леонидовна, студентка второго курса магистратуры направления «Менеджмент», заявляю, что в моей ВКР на тему «Практики управления талантами, ориентированные на организационную устойчивость: пример российских компаний», представленной в службу обеспечения программ магистратуры для последующей передачи в государственную аттестационную комиссию для публичной защиты, не содержится элементов плагиата.

Все прямые заимствования из печатных и электронных источников, а также из защищенных ранее выпускных квалификационных работ, кандидатских и докторских диссертаций имеют соответствующие ссылки.

Мне известно содержание п. 9.7.1 Правил обучения по основным образовательным программам высшего и среднего профессионального образования в СПбГУ о том, что «ВКР выполняется индивидуально каждым студентом под руководством назначенного ему научного руководителя», и п. 51 Устава федерального государственного бюджетного образовательного учреждения высшего профессионального образования «Санкт-Петербургский государственный университет» о том, что «студент подлежит отчислению из Санкт-Петербургского университета за представление курсовой или выпускной квалификационной работы, выполненной другим лицом (лицами)».

_____ / Бородулькина А. Л

(Подпись студента с расшифровкой)

31.05.2022 г.

(Дата)

## STATEMENT ABOUT THE INDEPENDENT NATURE OF THE GRADUATE QUALIFICATION WORK

I, Aleksandra L. Borodulkina, second year master student of the program "Master in Management", state that my master thesis on the topic "Resilience-Oriented Talent Management Practices: the Case of Russian Firms", which is presented to the Master Office to be submitted to the Official Defense Committee for public defense, does not contain any elements of plagiarism. All direct borrowings from printed and electronic sources, as well as from master, PhD, and doctorate theses, which were defended earlier, have appropriate references. I am aware that according to paragraph 9.7.1 of the Guidelines for instruction in major curriculum programs of higher and secondary professional education at St. Petersburg University "a master thesis must be completed by each of the degree candidates individually under the supervision of his or her advisor", and according to paragraph 51 of the Charter of the Federal State Institution of Higher Professional Education Saint Petersburg State University "a student can be expelled from St. Petersburg University for submitting course or graduation qualification works developed by another person (other persons)".

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31.05.2022
(Date)

# ABSTRACT

| Master Student's Name | Aleksandra L. Borodulkina |
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| Academic Advisor's Name | Marina O. Latukha |
| Master Thesis Title | Resilience-Oriented Talent Management Practices: the Case of Russian Firms |
| Description of the goal, tasks, and main results | The goal of this study is to understand what talent management practices can contribute to organizational resilience. The connection is reviewed with respect to employee resilience, which was proven to have a positive effect on organizational resilience and is considered a competence attributable to talents. The selection of resilience-oriented talent management practices is therefore conducted through the understanding of the role of employee resilience in the relationship between talent management and organizational resilience and a separate evaluation of the impact of talent attraction, development, and retention processes. The quantitative assessment is conducted on a sample of 75 Russian firms. The results of the study highlight the positive impact of performance-oriented feedback, job rotation, and the opportunity to suggest improvements to the way things are done. The research confirms both the direct impact of talent management on organizational resilience and its indirect impact through employee resilience. |
| Keywords | Talent management, organizational resilience, employee resilience, strategic human resources management, risk management, organizational performance |

# АННОТАЦИЯ

| | |
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| Название ВКР | Практики управления талантами, ориентированные на организационную устойчивость: пример российских компаний |
| Описание цели, задач и основных результатов исследования | Цель данного исследования - определить практики управления талантами, способствующие повышению организационной устойчивости. Взаимосвязь рассматривается в контексте индивидуальной устойчивости сотрудников, оказывающей положительное влияние на устойчивость организаций и рассматриваемой в качестве черты талантливых сотрудников. Отбор практик управления талантами проводится с учетом роли устойчивости сотрудников в отношении управления талантами и организационной устойчивости. Раздельно рассматривается влияние привлечения, развития и удержания талантов. Количественная оценка проводится на примере выборки из 75 российских компаний. Результаты исследования указывают на значительное положительное влияние ориентированной на прогресс обратной связи, ротации рабочих мест и возможности предлагать улучшения в работе. Таким образом, доказывается как прямое влияние практик управления талантами на организационную устойчивость, так и косвенное воздействие через индивидуальную устойчивость работников. |
| Ключевые слова | Управление талантами, организационная устойчивость, устойчивость сотрудников, стратегическое управление человеческими ресурсами, управление рисками, организационная эффективность |

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# INTRODUCTION

The operations of organizations highly depend on their environment: the risks that they are facing can have a significant impact on how companies reach their goals and conduct their activities. In a globalized world where information and innovations spread rapidly, such risks may appear in the least expected forms, be it a global crisis or a local emergency. Consequently, there has been increasing interest in the topic of organizational resilience in the last years, which can be observed in the academic world and is strongly supported by curiosity on the side of practitioners. The latter is expressed through a variety of reports on organizational resilience provided by consulting companies that reflects the general interest of senior executives in the topic, who see resilience as a priority due to economic and political uncertainty (Denyer, 2017; McKinsey & Co., 2021).

The problem of organizational resilience has become even more evident during the COVID-19 pandemic. The length of the crisis and the shutdown of various sectors of the economy forced businesses all over the world to close or significantly modify their operations (Bartik et al., 2020; McKibbin & Fernando, 2020). With ongoing debates about the perspectives of the pandemic and several possible growth scenarios (World Bank Group, 2021), it is still quite unclear how the economy will develop in upcoming years, given the effects the pandemic had on economic growth and social well-being (UNDESA, 2021). This uncertainty has significantly increased in the context of the political, social, and economic disruptions surrounding the situation in Ukraine, the consequences of which reach far beyond Europe. The visible economic effects include but are not limited to broken supply, R&D and production networks, rising commodity prices, and unstable financial markets (Deloitte, 2022; RBK, 2022). Rising inflation, tectonic shifts in global governance together with climate change pose serious challenges to the world economy (Georgieva, 2022; UN, n.d.).

In such an environment, the survival of businesses relies on their ability to prepare for and adjust to changes. Companies need to adapt their strategy, which inevitably means financial, operational, and structural adjustments. Thereby, much of the success depends on the speed of response, which in turn is heavily influenced by structural processes and employee capabilities. As a result, the topic of organizational resilience taps into the area of human resources management (HRM): how should a firm prepare and support its workers to foster decision-making that would contribute to the overall resilience of the company? The focus on strategic choices and resilience-oriented capabilities connects this study with a very specific area of HRM, namely talent management (TM).

The actuality of the problem of organizational resilience is heavily supported by the growing number of studies dedicated to its development and the potential role of human resources (HR) within that concept. Recent studies have confirmed the existence of a relationship between strategic HRM and organizational resilience, suggested potential practices and asked for the elaboration of resilience-oriented HR strategies. Nevertheless, despite the rising interest, few connections were confirmed empirically, and most models remain theoretical.

Furthermore, there is a limited number of studies that focus on the connection between HR and employee resilience, even though it is a trait whose positive effect on organizational resilience has been confirmed in multiple studies. There also is a lack of research that specifically focuses on the impact of TM on organizational resilience – a connection that arises from the focus on strategic employees, which results from the need for efficient and fast responses during crises and the potential role of individual employee resilience that is assumed to be fostered by on-work environments. Therefore, the research gap consists in the absence of studies on the connection between talent management, organizational and employee resilience, and a lack of specific and practical resilience-oriented recommendations for firms.

Thus, the aim of this study is to understand what TM practices can contribute to organizational resilience. To attain that goal, the following research questions are formulated:

1.  Is there any relationship between TM and organizational resilience?
2.  How does employee resilience affect the relationship between TM and organizational resilience?
3.  Which TM practices have the strongest positive effect on organizational and employee resilience?

To answer these questions, it is necessary to meet the following objectives:

–   Define the theoretical and methodological foundations of organizational resilience, employee resilience, and TM.
–   Explore the connection between specific TM practices, employee, and organizational resilience on the example of real companies.
–   Generalize findings to elaborate recommendations for the strengthening of organizational resilience through the implementation of specific TM practices.

The study is conducted on the Russian market due to the availability of businesses that have recently overcome challenges and still pertain in uncertain conditions. The latter include the Covid-19 pandemic and economic sanctions imposed on Russia by Western countries, both of which have heavily affected the way the firms operate (Russian Union of Industrialists and Entrepreneurs, 2020; 2022). This approach allows to accurately measure the impact of specific

TM practices because enough time had passed for the implemented measures to show an effect and for firms to adjust their operations based on previous experience.

The objects of the study thus include TM policies, employee resilience and organizational resilience of Russian firms. The subject, on the other hand, is the interaction of these dimensions.

# CHAPTER 1. THEORETICAL FOUNDATIONS OF ORGANIZATIONAL RESILIENCE AND TALENT MANAGEMENT

## 1.1. Definition of organizational resilience

The theory on organizational resilience is still in its formation stage. Even though the concept of resilience emerged in the late 1960s in the field of physics, it was not until the late 1990s that researchers started to research resilience within organizations (Chen et al., 2021a). Early concepts of organizational resilience tried to apply various approaches to business continuity management and subsequently relabeled them as resilience (Gibson & Tarrant, 2010). So far, most of the works have mainly focused on its definition and measurement, the factors influencing it, its mechanisms of operation, and its effects (Chen et al., 2021a). Nevertheless, despite the growing number of studies dedicated to that topic, there is no unanimity regarding the definition of organizational resilience.

Generally, until recently, there was a division into three perspectives on the concept of organizational resilience that Duchek (2020) defined the following way: resistance and recovery, adaptation, and anticipation. The appearance of these approaches can be ordered chronologically.

The first definitions have appeared in the late 1990s and mainly focused on the ability of a company to respond to critical situations and get back to normal – thus, the recovery dimension. For example, Horne and Orr (1998) defined resilience as a fundamental quality "to respond productively to significant change that disrupts the expected pattern of events without engaging in an extensive period of regressive behavior" (p. 31). This understanding later evolved in the term recovery resilience, defined by Boin and van Eeten (2013) as "bouncing back to the state of normalcy" (p. 431). Abdullah et al. (2013) indicate that these definitions resemble the concept of business continuity management and imply that there is one equilibrium state. As a result, this perspective alone is not enough, since systems evolve and undergo periodic cycles of change (Abdullah et al., 2013).

The aspect of adaptation, on the other hand, has been reflected in Reinmoeller and van Baardwijk's (2005) understanding of resilient companies as the "the capability of self-renew over time through innovation" (p. 61). A more elaborated definition was given by Lengnick-Hall et al. (2011), who saw resilience as a "firm's ability to effectively absorb, develop situation-specific responses to, and ultimately engage in transformative activities to capitalize on disruptive surprises that potentially threaten organizational survival" (p. 244). There are also more resource-based views. For instance, Sutcliffe and Vogus (2003) stated that "resilience results from processes and dynamics that create or retain resources (cognitive, emotional, relational, or structural) in a form

sufficiently flexible, storable, convertible, and malleable that enables organizations to successfully cope with and learn from the unexpected" (p. 3491, in Vogus and Sutcliffe, 2007). Even though it might resemble the previous recovery perspective, adaptation mainly focuses on what happens during a shock or critical situation whereas recovery describes what happens to a company after a crisis. Consequently, a third dimension appeared, which reflected anticipation and the capacity of a firm to prepare for uncertain conditions. Somers (2009) describes it as "identifying potential risks and taking proactive steps" (p. 13). Boin and van Eeten (2013) define it as precursor resilience that "prevents budding problems from escalating into a full-blown crisis or breakdown" (p. 431).

Recent academic literature sought to combine all perspectives into a single definition of organizational resilience. At the moment, it is usually described as the ability to anticipate, avoid and adjust to disruptions and changes (Ortiz-de-Mandojana & Pansal, 2016). For instance, Duchek (2020) defines organizational resilience as "an organization's ability to anticipate potential threats, to cope effectively with adverse events, and to adapt to changing conditions" (p. 220). Sometimes the adaptation and recovery stages are combined. For example, Burnard et al. (2018) defines organizational resilience as "the organisation's abilities to adapt, i.e., to flexibly allocate resources to respond to a disruption, and to prepare, i.e., to develop a systematic approach to manage risks" (p. 352).

However, according to Chen et al. (2021a), even these newly found definitions reflect four perspectives, which can be attributable to either more dynamic (capability and process) or rather static approaches (functional and outcome). For instance, the *capability* perspective treats organizational resilience as a dynamic and flexible organizational capability, which includes predictive capability, survival capability, adaptive capability, coping capability, and learning capability. The *process* perspective implies that organizational resilience is a dynamic and progressive process exhibited by firms in response to crisis or adverse situations, which is reflected through behaviors such as identity management, reintegration, improvisational coping, and emotional labor. The *functional* perspective sees organizational resilience as a function of the organization's ability to adapt to complex environments. Finally, the *outcome* perspective considers organizational resilience as the ability of organizations to remain in a positive adaptive state during crises.

The synergy of these concepts has been developed over time. For example, Abdullah et al. (2013) suggests that there are only two angles: the capacity for resilience and the mechanism of resilience. Latest research, however, has tried to incorporate all four perspectives. According to its logic, the organization operates in a dynamic environment, it reacts to crises through the reconfiguration of organizational resources, the reshaping of relationships, and the optimization of organizational processes to achieve recovery and grow. As a result, Chen et al. (2021a) suggest to

define organizational resilience as "the ability of an organization to reconfigure organizational resources, optimize organizational processes, reshape organizational relationships in a crisis, recover quickly from the crisis, and use the crisis to achieve counter-trend growth" (p. 5).

Therefore, further analysis should consider that organizational resilience manifests itself in different forms and at different stages of a crisis. To understand its connection to TM, it is necessary to investigate the underlying mechanisms in closer detail.

## 1.2. The role of employee capabilities within organizational resilience

The diversity of definitions applied to organizational resilience represents the number of attempts to describe how organizational resilience is generated and what elements it consists of. Therefore, to understand the connection between organizational resilience and TM, it is first necessary to investigate the resources, capabilities, and processes that shape organizational resilience and to define its link to human resources in general.

In practice, resilience is often applied to the supply chain context, where it is defined in terms of risk, redundancy, and agility or flexibility (Christopher & Peck, 2014; Sheffi & Rice, 2005). The practical application in this respect thus focuses on developing capabilities and reducing vulnerabilities (Pettit et al., 2010). Thereby, capabilities are defined as "attributes that enable an enterprise to anticipate and overcome disruptions" and depend on management controls (p. 6). The latter can include flexibility in sourcing, flexibility in order fulfillment, capacity, visibility, adaptability, anticipation, recovery, dispersion, collaboration, organization, security, and financial strength. Vulnerabilities, on the other hand, are conditioned by the forces of change (Pettit et al., 2010). An earlier study by Sutcliffe and Vogus (2003), on the other hand, describes resilience as a positive adjustment under challenging conditions where early experience shapes later experience. In their interpretation, it emerges from common adaptive processes, which promote competence, encourage growth, and restore efficacy, and the underlying structures and practices. Overall, there have been numerous attempts to describe organizational resilience, which is why Gibson and Tarrant (2010) proposed a division of existing approaches to resilience within six models.

First, the *principles model of resilience* (Appendix 1) relies on the assumptions that resilience is an outcome, that it is neither a static nor a single trait: it is treated as a multidimensional concept that exists over a range of conditions and is founded upon good risk management. Hereby, an organization's resilience is defined by the manner, in which the range of its resilience capabilities interacts with a changing context. This model emerged from comparisons of resilience in different disciplines and can be used for an entry point for the study of organizational resilience (Gibson & Tarrant, 2010).

The second model, the *integrated functions model* (Appendix 2), describes the approach inherent to early studies, mainly in the US and UK, where resilience is treated as an integrated model of security management, business continuity management, emergency management, and crisis management based around a robust risk management program. It is linked to a slightly standardized approach with the creation of 'resilience processes' and 'resilience systems', which makes it vulnerable to black swan events (Gibson & Tarrant, 2010).

Third comes the *attributed resilience model* (Appendix 3), which aims at the explanation of resilience from the perspective of the traits of organizations that are considered to be resilient. Therefore, it is centered around the organizational values and leadership, which foster a culture that is sensitive to internal and external changes. Enabled by communication and awareness, this fosters integration and the creation of interdependencies, which help the organization to work towards a common set of goals in times of a crisis by fostering agility (Gibson & Tarrant, 2010). An example of such a model could be drawn from Vargo and Seville's (2011) research where resilience is achieved depending on the approach to crisis strategic plannings, specifically in terms of leadership, culture, decision marking, situation awareness, and the proactive search of the 'silver lining'.

Fourthly, the authors introduce the *composite resilience model* (Appendix 4) that addresses the 'harder' elements of resilience, which the attributed resilience model overlooks. The key elements of this model are strategy and policy that establish an operational duality, which allows to operate in both routine and non-routine environments. These are then completed with processes, infrastructure, technology, resources, information, and knowledge. The adaptation of all these organizational elements is then driven by emergent leadership, which creates an improved understanding of the volatile environment (Gibson & Tarrant, 2010).

The fifth model is the *herringbone model of resilience* (Appendix 5), which is developed to encapsulate the concepts of the integrated functions, attributed resilience, and composite resilience models. Therefore, it acknowledges the existence of certain capabilities and activities that an organization undertakes to achieve resilience. The effectiveness of these capabilities and activities is defined by a set of characteristics that are inherent to the organization in question: acuity, ambiguity tolerance, creativity and agility, stress coping, and learnability. Resilience is defined by how all these elements adapt to a non-routine environment (Gibson & Tarrant, 2010). For example, Abdullah et al.'s (2013) understanding of the resilience process would likely be categorized as a principles model. In their understanding, organizational resilience mechanisms include a pressure or challenge, the environmental context factor (work environments, structure, culture, etc.), the internal resilience factor (social competence, problem-solving skills, etc.), a

transaction process between them, resilience processes, and a positive outcome or successful adaptation.

Finally, the authors propose the *resilience triangle model* (Appendix 6). It represents an attempt to encapsulate the complexity of the previous models in a simpler form. The sides of the triangle are represented by three types of capabilities: process capabilities, resources and infrastructure capabilities, and leadership, people, and knowledge capabilities. If you take out any side of the triangle, resilience diminishes. However, there are also organizational processes that continually review, assess, and adapt the mentioned capabilities: the fit for purpose, capacity, tenacity, and flexibility. The interaction between these elements implies that the loss of effectiveness of these capabilities could potentially degrade resilience (Gibson and Tarrant, 2010).

Later works further develop these concepts. For instance, the framework proposed by Burnard et al. (2018) suggests that adaptive capacity (that they use as a synonym for organizational resilience) is achieved through "fostering established links between organisational development, organisational competencies, and effective integration of environmental scanning and monitoring processes" (p. 356). According to their framework, the environmental scanning or monitoring process is followed by detection and impact evaluation that are conditioned by organizational policy, practice, and behavior. These then lead to activation and either to adjustment or response, which are followed by evaluation that either leads back to activation or response or, if successful, to environmental scanning and monitoring (Burnard et al., 2018).

Furthermore, Duchek (2020) suggests a capability-based conceptualization of organizational resilience where specific capabilities and processes are activated at different stages. The process relies on a prior knowledge base. Yet, organizational resilience itself consists of three stages: anticipation, coping, and adaptation. The first stage means observation, identification, and preparation and thus is directly influenced by resource availability. Coping implies accepting and developing and implementing solutions. This process relies on social resources. Finally, adaptation consists of reflection, learning, and change, where the defining capability is power and responsibility (Duchek, 2020).

As a result, even though it appears that researchers agree on the dynamic character of organizational resilience, there still is no agreement regarding the underlying mechanisms. Nevertheless, even though organizational resilience is modelled differently, researchers always indicate capabilities or processes, which belong to or are performed by the employees of a company. These include leadership, people, knowledge sharing, as well as coping and learnability capabilities (Gibson & Tarrant, 2010). After all, a company consists of people, and resilience characterizes how they cope with complexity to achieve success under pressure, change and disruptions (Abdullah et al., 2013; Nyaupane et al., 2021).

Consequently, most researchers recognize the important role that human resources play in the resilience of organizations and see an adequate number of human resources and the requisite skills as a critical contributor to resilience (Barasa et al., 2018). Reciprocally, research on HRM has taken upon a more strategic approach. For instance, Fottler (2002) defines strategic human resources management (SHRM) as a bundle of managerial activities that aim at the development and maintenance of qualified employees that contribute to the strategic goals of the organization. As part of that, researchers started to focus specifically on the contribution of HRM practices to organizational resilience (Lengnick-Hall et al., 2011; Mitsakis, 2019; Chen et al., 2021b) and confirmed their significant impact on the cognitive, behavioral, and contextual aspects of organizational resilience (e.g., Al-Ayed, 2019).

Therefore, it is possible to conclude that HRM directly contributes to organizational resilience by attracting and supporting resources that shape the company's ability to prepare for and adapt to disruptions. The variety of approaches described with respect to the possible models of organizational resilience only reflects the multitude of interpretations of how personal traits, organizational culture, and HR practices can affect it. However, that connection is often made through qualified employees (e.g., Fottler, 2002). For example, Lengnick-Hall et al. (2011) suggest that an organization's capacity for resilience is developed through strategically managing human resources to create competencies among *core employees* to make it possible for organizations to achieve the ability to respond in a resilient manner during severe shocks because these competencies are aggregated at the organizational level.

Consequently, it is needed to further specify the suggested HR practices and target them at strategic employees, which links organizational resilience to TM because talents are usually defined as "high performing and high potential strategic employees" (Collings & Scullion, 2008, p. 102), who have a high level of value-added competencies and significantly contribute to a firm's business success (McDonnell et al., 2010, in Lee et al., 2022), and TM is "the process through which organizations anticipate and meet their needs for talent in strategic jobs" (Cappelli & Keller, 2014, p. 307).

Nevertheless, before investigating the specific practices that contribute to organizational resilience, it is necessary to take into account the individual level of resilience, which is also mentioned as a comprising element of organizational resilience (e.g., Sutcliffe & Vogus, 2003, Abdullah et al., 2013) and demonstrates the traits of a valuable competence.

## 1.3. Employee resilience as a link between talent management and organizational resilience

Studies of individual resilience originated in the developmental and clinical psychology fields (Bardoel et al., 2014). In contrast to organizational resilience, individual resilience is directly connected to the characteristics of individuals, which can be defined through psychological and neurobiological constructs. The latter will mainly remain outside the scope of this work, but it has shown that a number of genetic and neuroendocrine factors are typical for more resilient individuals and are not fixed, which means that they can be developed through induced adaptations and situational reframing (Kuntz et al., 2017).

In terms of psychology however early scholarship treats individual resilience as hardiness and the ability to cope positively in the aftermath of the exposure to an adversity. For example, Bonanno (2004) states that resilience is conceptualized as a response when an individual: 1) has been exposed to subjectively significant threat, risk, or harm; 2) adapts positively; and 3) does not lose normal functioning. Later works, however, see it as the capacity to utilize and generate resources, stemming from the interaction between intrapersonal factors that affect one's ability to overcome challenges and a supportive environment (Kuntz et al., 2017; Shaw et al., 2016). For instance, Kuntz et al. (2017) name proactive personality, hardiness, psychological capital (it includes a set of positive and adaptive psychological resources, such as hope, optimism, efficacy, and resilience), and thriving. Abdullah et al. (2013) define the internal resilience factor as the profile of resilience, including social competence, the ability to act, problem-solving skills, autonomy, mental strength, motivation of behavior, and even philosophy of life and sense of purpose and future. These elements are associated with a positive effect on change-oriented behaviors, support-seeking, and adaptability; resource utilization, learning from challenges; the ability to bounce back from adversity and motivation for development; and vitality, learning at work, decision-making, and social support (Kuntz et al., 2017; Thompson, 2005; Maddi, 2013; Niessen et al., 2012).

Here it is necessary to mention that research indicates a difference between personal resilience and *employee resilience*, which lies in the availability and management of resources specific to occupational contexts (Kuntz et al., 2017). According to Kuntz et al. (2017) the following could be examples of resilient employee behaviors: network leveraging (for instance, collaboration with peers, seeking and exchanging resources), learning (utilizing mistakes for improvement, performance review, feedback), and adaptability (effective management of resources, engagement in effective crisis management, etc.). Moreover, research constantly mentions the ability to alleviate the negative influence of stress, to rebound from conflict and

failure while adapting to improve performance, and seeking out challenges (Sutcliffe & Vogus, 2003; Bardoel et al., 2014; Kuntz et al., 2017; Douglas, 2020). Studies also show that resilient individuals are better equipped to deal with changes on the workplace, which does not necessarily mean a more positive view of workplace changes (Bardoel et al., 2014; Tugade & Fredrickson 2004; Wanberg & Banas 2000). Generally, employee resilience is positively associated with organizational performance, work engagement, job satisfaction and organizational commitment and can lessen emotional exhaustion and burnout (Douglas, 2020).

Conceptually, there are two theoretical approaches to resilience applied to individuals in the workplace: positive psychology and conservation of resources theory (Bardoel et al., 2014). The former can be seen as an extension of the psychological capital that was mentioned in relation to personal resilience and is defined as positively oriented human resource strengths and psychological capacities that can be measured, developed, and managed effectively to improve performance (Luthans, 2002). Generally, positive psychology emphasizes the study of how people flourish, nurturing talent. In this tradition, resilience is treated as an essential virtue, both the source and the result of efficacy and mastery (Sutcliffe & Vogus, 2003). Conservation of resources theory (Hobfoll, 1989; 2010), on the other hand, was introduced to the research of employee resilience when Shin, Taylor, and Seo (2012) applied it to the understanding of management and organizational change and concluded that individual resilience is a resource that can potentially be developed and enhanced (Bardoel et al., 2014).

Consequently, research agrees on the notion that individual resilience can be fostered from the outside and HR practices can enhance organizational performance through increasing employee resilience because resilient individuals are considered to be more capable of coping with fast-changing workplaces and therefore uncertain conditions (McManus et al., 2008; Luthans et al., 2010; Bardoel et al., 2014; Hall et al., 2018; Douglas, 2020). Douglas (2020) even defines individual resilience as "an acquired skill supported by initiatives embedded in organizations to improve the performance of individuals necessary in positively responding to adversity in the workplace and coping with changing work environments" (p. 279).

Simultaneously, employee resilience is relevant within the context of the organizational level of resilience because it is assumed to be aggregated at the firm level. For instance, Riolli & Savicki (2003) propose a model (Appendix 7), which demonstrates that the integration of individual and organizational factors lead to organizational resilience in the information system context (Abdullah et al., 2013). Here, organizational factors include chronic stressors (organizational structures and processes) and extra-organizational factors, which together with acute stressors that also impact the individual dimension generate the following resilience factors: community, competence, connections, commitment, communication, coordination, and

consideration. On the individual level, acute stressors, situational demands, and constraints, as well as individual differences condition the person-environment relationship, appraisal, and coping techniques (Riolli & Savicki, 2003, in Abdullah et al., 2013). Later, Abdullah et al. (2013) builds upon that finding and concludes that the overall capacity for resilience is developed through the Environment Context Factor and the Internal Resilience Factor, where the former strongly conditions and provides social support for the latter. According to the organizational resilience model adopted by Abdullah et al. (2013) from Kumpfer (1999) (Appendix 8), external sources (such as economic downturn, disaster, competition) and internal sources (downsizing, reorganization, new technology) serve as stressors and challenges, which then interact with risk and protective factors at the individual and organization level. Through a transaction process they then shape the Internal Resilience Factor at both an individual and organizational level, resulting in resilience processes. Therefore, this model describes the complicated interaction between stressors and different types of resilience within an organization. In much simpler terms, the direct positive impact of employee resilience on organizational resilience was also confirmed in later studies (e.g., Liang & Cao, 2021).

Thus, the resilience of employees is proven to be a positive factor that can be leveraged within an organization. It is seen as a crucial capability for companies operating in uncertain environments and therefore should be included into their HR strategies. The fact that it is a trait that is mostly developed outside of occupational contexts but can be fostered in professional environments turns employee resilience into a talent competency, which confirms the need to explore its role and potential impact on the connection between TM and organizational resilience in further detail. Thereby, due to the common theoretical background of TM and HRM, the role of specific TM practices should be reviewed in connection with previous research conducted on the role of HRM within organizational resilience.

## 1.4. Resilience-oriented human resources management and talents

With the development of the concept of organizational resilience, researchers have increasingly focused on interventive measures in different areas of strategic management. For example, Mithani (2020) points out five resilience modes, which include avoidance, absorption, elasticity, learning, and rejuvenation, and two mechanisms (static and dynamic) that operate at the individual (well-being, dealing with frequent challenges, new experiences, and new beliefs) and organizational levels (prior planning and design, active engagement, and being reluctant to accept simple solutions).

This trend is also reflected within the studies of HRM. For instance, Bardoel et al. (2014) introduces the term resilience-oriented human resources management, which they define as "HRM

practices that are intended, implemented and perceived to offer employees opportunities to 'spring back' from adversity and to develop and maintain resources that strengthen the resilience dimension of psychological capital" (p. 283). In continuation, Mitsakis (2019) suggests building upon the concept of human resources development (HRD) resilience to start discussing its ability to substantially contribute to organizational resilience. HRD resilience should focus on particular HRD principles, such as individual development, performance management, career development, and organizational development, which would contribute to both individual and organizational resilience (Mitsakis, 2019).

However, the impact of HR on resilience has also been studied without the specification of particular frameworks. Usually, at least two building blocks are mentioned: the availability of adequate resources (human, social, emotional, and material to develop competence) and an active mastery motivation system (Sutcliffe & Vogus, 2003). Sutcliffe and Vogus (2003) summarize that organizations should increase the amount and quality of resources through improvisation and recombination, while developing a conceptual slack and generally fostering structures that allow flexibility in expertise rearrangement and transferring. Bardoel et al. (2014) then list developments of social support at work, work-life balance practices, employees' assistance and development programs, flexible work arrangements, rewards and benefits systems, occupational health and safety systems, risk and crisis management systems, and diversity management.

Barasa et al. (2018) further develop that theory and state that the resilience of organizations is affected by material resources, preparedness and planning, information management, collateral pathways and redundancy, governance processes, leadership practices, organizational culture, human capital, social networks, and collaboration. In their interpretation, governance practices include decentralization, non-linear planning, the degree of coordination between different functions and parts of the organization (Barasa et al., 2018). Under resilience-enhancing leadership practices, they understand dedicated leadership, shared vision, visibility, availability, inclusive decision-making, and transparency (Barasa et al., 2018). Moreover, two cultural practices are named: the organization's attitude towards everyday and acute challenges, and the support of creativity and innovation (Barasa et al., 2018). Latukha (2018) also highlights that one of the aspects, through which human resources development affects resilience, namely absorptive capacity, is the ability to acquire, assimilate, transform, and exploit knowledge. Another aspect that has been separately studied in the context of building organizational resilience is diversity (Duchek et al., 2020).

Some researchers also specifically focus on employee resilience. For example, Douglas (2020) considers the following bundles of HR practices to be measures that contribute to employee resilience development:

- Job design (designing gender-neutral jobs and the assignment of high impact projects in an equitable manner to reduce marginalization and promote participation),

- Supportive culture (supportive relationships foster the employees' belief that they have all the necessary resources to perform well),

- Training and development (associated with higher levels of satisfaction, an increased sense of belonging and support, influence on the perception of challenges and stress, encouraging learning from failures, etc.),

- Peer support and social interaction (support the belief system, promote resilience and positive coping strategies).

At the group level, on the other hand, research suggests increasing the effective utilization of resources through diversity and flexible structures that facilitate learning and skill-building and respective interaction, enhancing group knowledge through members with brand repertoires and experiences, and developing leadership that fosters belief in the group's conjoint capabilities (Sutcliffe & Vogus, 2003).

Overall, the HR approaches proposed can be summarized by Sutcliffe & Vogus' (2003) suggestion that resilience is enhanced when individuals have access to capital (human, social, and material) and when they have experiences that add to their growth, competence, and efficacy. For this, they need to exercise behaviors such as judgment, discretion, and imagination, when they can recover from mistakes and when they can observe role models who demonstrate these behaviors (Sutcliffe & Vogus, 2003). Externally, resilience can also be fostered through caring and support (for example, through encouraging autonomy, the expression of feelings, the provision of necessary resources, good relationship experiences and positive role models), high expectations (the maintenance of clear rules and regulations, clear expectations for behavior, support and warmth and beliefs that provide stability and meaning to an individual's life), and participation (opportunities to participate and contribute meaningfully) (Abdullah et al., 2013).

Nevertheless, most suggested HR practices target companies as a whole, whereas TM involves disproportionately investing resources into a smaller group of employees with specific knowledge, expertise, skills, and potential (Collings & Mellahi, 2009). Consequently, these findings need to be adjusted to the specificities of managing talent.

For most companies, TM is about current employees and the identification of individuals for development. The latter is achieved through the evaluation of performance and potential (Cappelli & Keller, 2014). Performance management is "a continuous process of identifying, measuring, and developing the performance of individuals and workgroups and aligning performance with the strategic goals of the organization" (Aguinis, 2019, p. 8), and it is often assessed through competences, which can be defined as "any individual characteristic that can be

measured or counted reliably and that can be shown to differentiate significantly between superior and average performers" (Spencer et al. 1994, p. 4). In that sense, potential is more complicated to find as it does not manifest itself explicitly. Yet, current practices usually rely on the assessment of abilities because knowledge and skills can be acquired (Fernández-Aráoz et al. 2011; Cappelli & Keller, 2014).

The complications associated with the definition and identification of talent results in two major approaches to TM that characterize the degree of differentiation between workers. The *inclusive* approach suggests that TM practices should be applied to all workers, thus indicating that all workers have potential to contribute to the organization. The *exclusive* approach, on the other hand, is based on the assumption that certain positions create disproportionate value (Gallardo-Gallardo et al., 2013; Cappelli & Keller, 2014). As it was shown in the previous paragraph, in the context of resilience, literature usually reflects the second approach, focusing on pivotal positions, relying on the assumption that the right people in the right places are crucial in times of crisis as they enhance organizational preparedness for external shocks and enable effective leadership, often providing innovative responses (Bundy et al., 2017; Collings et al., 2019; Caligiuri et al., 2020; König et al., 2020). Thereby, strategic jobs can potentially be located anywhere in the organization – not just on the executive level, depending on the strategic competencies of the organization (Cappelli & Keller, 2014). Therefore, potential strategies would go beyond top management, also including a pool of middle- and senior-level managers and other positions that contribute to the competitive advantage of the firm – in other words, it is a question of leadership and decision making (Lee et al., 2022).

Overall, TM covers a set of practices, which include workforce planning, talent gap analysis, recruiting and staffing, succession planning, employee development, and career management (Chambers et al., 1998; McDonnel et al., 2010; Cappelli & Keller, 2014; Latukha, 2015; Al Aina & Atan, 2020). Usually, these practices are divided into three stages or dimensions: attraction, retention, and development (Latukha et al., 2022; Stahl et al., 2007). The first stage - talent attraction – can be defined as the activities undertaken to identify and attract both internal and external talent to obtain necessary skills and meet organizational needs (Latukha et al. 2022; Collings & Mellahi, 2009). Talent development, on the other hand, describes activities that offer employees the opportunity to acquire strategically valuable knowledge, skills, and abilities, which would facilitate a sustained competitive advantage (Latukha et al., 2022; Collings & Mellahi, 2009). Finally, talent retention is used for activities that address the needs of talented employees to enhance their organizational commitment and job satisfaction and prevent them from leaving (Latukha et al., 2022; Michailova and Ott, 2019). These three dimensions reflect the strategic approach and the propositions about resilience-oriented HR practices discussed in the beginning

of this paragraph (e.g., Bardoel et al., 2014; Mitsakis, 2019), however, limiting them to employees whose skills or positions directly contribute to the strategic performance of companies.

Consequently, actual research on HRM, as well as the findings derived from the studies on organizational and employee resilience, lay a valuable foundation for the elaboration of resilience-oriented TM practices. However, in order to correctly expand the existing theory, it is necessary to fill in the research gap, which includes the absence of studies on the connection between TM, employee and organizational resilience. Therefore, it is required to answer the following research questions:

RQ1: Is there any relationship between TM and organizational resilience?

RQ2: How does employee resilience affect the relationship between TM and organizational resilience?

RQ3: Which TM practices have the strongest positive effect on organizational and employee resilience?

Subsequent chapters will thus build upon the discussed theory through an empirical assessment of the TM policies and resilience characteristics of companies operating in uncertain environments.

# CHAPTER 2. METHODOLOGY OF RESEARCH AND DATA COLLECTION

## 2.1. Research approach and scope

The goal of the research is to understand what TM practices can be used to enhance organizational resilience. To achieve that goal, it is necessary to understand the underlying relationship between talent management and organizational resilience. The literature review has also demonstrated the importance of employee resilience in that context (e.g., Liang & Cao, 2021). Therefore, the aim of the practical part of this study is to produce generalizations on the connection between TM, employee and organizational resilience. As the literature review demonstrated a lack of studies on these interconnections, the current research should be considered *exploratory* and *inductive*.

For data availability reasons, it was decided to limit the scope of the study to a single market. The Russian market is chosen because of the recent incurrence of two major external events that affected economic activity and thus, the firms' need for resilience. The first event is the COVID-19 pandemic that first struck Russia in March 2020. The policies regulating the activities of organizations changed throughout the years of the pandemic depending on the severity of the outbreak and the affected regions (Our World in Data, n.d.). The strictest measures were in place in 2020. A study conducted by the Russian Union of Industrialists and Entrepreneurs (2020) shows that in that year about 87,4% of the companies continued their operations, out of which in only 29,3% all employees continued to work on-venue and 14% completely transferred to distant work. Thereby, the report also indicates differences between younger and older companies (especially those opened during Soviet times), different regions and industries. Such a variability in possible responses to the pandemic makes a review of the outcome especially interesting. As the restrictions in place were comparatively milder than in many European and Asian countries (Our World in Data, n.d.), it provided companies with the opportunity to adjust their operations, which makes them an interesting object of analysis from the perspective of organizational resilience.

The second challenge for companies operating in Russia is associated with the sanctions imposed on the Russian Federation that limit the access of Russian companies to financial and product markets. According to the Russian Union of Industrialists and Entrepreneurs (2022), about 48% of all reviewed companies indicated that the economic sanctions affected their activities, mainly because of the rise of commodity, equipment, and component prices, tightening credit availability, and fewer investments. As a result, companies are urged to adjust their operations and

to look for new partners and producers. The same report indicates that 52% of the respondents believe that the sanctions open a range of import replacement opportunities within their industry, which is why major changes could be expected in the upcoming periods.

As a result, the analysis of Russian firms would allow us to look at companies that are simultaneously experiencing the stages of resistance, recovery, adaptation, and anticipation (Duchek, 2020), which would expectedly provide us with an assessment of organizational resilience and recommendations for companies that are facing similar regulations and challenges. Furthermore, since the current disruptions are expected to spread worldwide, the experience of companies that were the first ones to be limited in their access to resources and markets can become valuable for the crisis response strategies of businesses in other affected countries.

## 2.2. Research design

Even though existing research confirms the existence of a connection between HR practices, employee and organizational resilience, the practical recommendations derived from such studies are very broad and there is a lack of research on TM specifically. The accurate measurement of this effect requires quantitative research, which however would be based on the elaborated research questions rather than hypotheses due to its exploratory nature. Therefore, ordinal data is collected on all three dimensions (talent management, employee and organizational resilience). For a higher level of accuracy, existing scales are selected with preference given to those that have been tested in multiple studies or specifically developed for the Russian market.

The survey has four sections: personal and company data, TM, employee resilience, and organizational resilience (Appendix 11). The first section includes a set of open-end and multiple-choice questions, which aim at the identification of participating companies. The sections devoted to the studied concepts consist of close-end questions where the respondents need to indicate their agreement with the given statements. A Likert scale is used where "1" means "completely disagree" and "7" – "fully agree".

After the data have been collected, the scales are tested for reliability with the application of confirmatory factor analysis and Cronbach's alpha. The research questions are then answered with the help of correlation and regression analysis.

## 2.3. Measurement scales for organizational resilience

The effectiveness of the research heavily relies on the selected measurement scales, which is why an overview of existing studies was required. The multitude of approaches to organizational resilience that has been identified in the literature review is reflected in numerous attempts to

develop a scale for its measurement, which is linked to the understanding of what factors contribute to organizational resilience in general.

In one of the first studies, Weick (1993) identified four potential sources of resilience, namely improvisation and bricolage, virtual role systems, an attitude of wisdom, and respectful interaction. Together, they foster sense making. A few years later, Mallak (1998) used confirmatory analysis to develop six factors as metrics of resilience: goal-directed solution seeking, avoidance or skepticism, critical understanding, role dependence, source resilience, and access to resources. These findings were complemented by Somers (2009), who developed the organizational resilience potential scale (ORPS) by including measures of decision structure and centralization, connectivity, continuity planning, and agency accreditation.

However, most existing scales are built upon McManus et al.'s (2008) work that aimed to facilitate the process of improving organizational resilience. The authors derive the key resilience indicators from the finding that there were three main barriers to organizational resilience: limited awareness of the organization's operating environment, the need to better identify and manage key vulnerabilities to prioritize available resources to best advantage, and the ability of organizations to remain flexible. According to the model, these three elements compose the relative overall resilience (ROR) of an organization. These factors are measured through fifteen indicators (five for each). Situation awareness is associated with roles and responsibilities, the understanding and analysis of hazards and consequences, connectivity awareness, insurance awareness, and recovery priorities. The management of keystone vulnerabilities is reflected through planning strategies, the participation in exercises, the capability and capacity of internal and external resources, and organizational connectivity. Finally, adaptive capacity is assessed through silo mentality, communications and relationships, strategic vision and outcome expectancy, information and knowledge, and leadership, management, and governance structures (Appendix 9; McManus et al., 2008; Lee et al., 2013).

McManus et al.'s (2008) theory was actively developed in the middle 2010s, when multiple research groups complemented their findings with factor analysis and other methods of research. For example, Godwin and Amah (2013) and Umoh et al. (2014) incorporated organizational learning. Lee et al. (2013) further developed the initial scale in an attempt to create a survey tool to measure and compare an organization's resilience that would be applicable to organizations, outside of McManus' (2008) case studies. The authors wanted to create a scale that would enable to assess the progress of a company and use leading indicators, which would measure observable processes, without the need to go through a critical situation. Lee et al.'s (2013) model implies that organizational resilience is comprised of two factors, planning and adaptive capacity, which are measured using 13 indicators: minimization of silos, internal resources, staff engagement and

involvement, information and knowledge, leadership, innovation and creativity, decision making, situation monitoring and reporting, planning strategies, participation in exercises, proactive posture, external resources, and recovery priorities (Appendix 10). Another example is Borekci et al.'s (2014) study, which suggested that organizational resilience includes structural reliance, organizational capability, and processual continuity. Richtnér and Löfsten (2014), on the other hand, suggested that organizational resilience included structural, cognitive, relational, and emotional competencies. Later, Kantur and Iseri-Say (2015), concluded that organizational resilience included robustness, agility, and integrity.

Overall, Chen et al. (2021a) were able to identify eleven different approaches to the development of a measurement scale for organizational resilience, which range from two to four different factors. One of the most recent scales developed by them bases on the idea that organizational resilience consists of five types of resilience: capital resilience (capital structure, cash reserve, and debt service), strategic resilience (survival crisis, price conflict, operation strategy, product features), relationship resilience (employee commitment, spiritual shaping, rigid and flexible, community sense), cultural resilience (emotional connection, reciprocal relationship, customer service, relationship enhancement), and learning resilience (emotional regulation, behavioral characteristics, positive awareness, learning ability).

Due to the necessity to refer to multiple stakeholders within a company and the usage of elaborated scales on talent management and employee resilience, for this study, it has been decided to use the scale developed by Kantur and Iseri-Say (2015), which has been applied in multiple studies that were investigating the relationship between organizational resilience and, for example, strategic human resources management practices and organizational sustainability (Bouaziz & Hachicha, 2018; Sezen-Gültekin & Aragon, 2020).

## 2.4. Measurement scales for employee resilience

In terms of measurement, there has been less disagreement on the usage of common scales for employee resilience than in the case of organizational resilience. Prior to the elaboration of employee resilience scales, there measurement focused on the innate abilities of people whereas employee resilience is enabled by organizations (Hystad et al., 2010; Näswall et al., 2019). Nevertheless, with the gradual development of the concept of workplace resilience, researchers started to propose separate scales.

An early attempt was made in the field of consulting by Russel and Russel (2006) and incorporated self-assurance, personal vision, flexibility and adaptability, problem solving, self-organization, interpersonal competence, social connectedness, and proactivity. Another scale was developed by Winwood and McEwen (2013) and included living authentically, finding one's

calling, maintaining perspective, managing stress, interacting cooperatively, staying healthy, and building networks.

However, the most commonly used employee resilience scale is originally developed and improved by Näswall and Kuntz (2015; 2019) and referred to as the EmpRes scale. It includes effective collaboration with peers, the successful management of high workloads, crisis resolution, learning from mistakes, performance reevaluation, response to feedback, seeking assistance when needed, the approaching of managers, and the perception of change as an opportunity for growth. Consequently, it was decided to use this scale for further analysis.

As the original scale is developed for the assessment of the individuals that are personally participating in a survey, the scale is adjusted for the purposes of this study: "I" is replaced with "Our employees", therefore aiming at a general characteristic of the resilience of the employees of the company. The limitations of this approach are discussed in further detail in the reliability and validity section.

## 2.5.    Measurement scale for talent management practices

Attempts to identify the dimensions of TM date back to the 1990s and originally were associated with performance management (Yener et al., 2017). Throughout the 2000s, numerous studies – both in academia and consultancies – attempted to further develop the theoretical basis of TM and suggested new dimensions. Sistonen (2005) highlighted the dimensions of attraction, retention, development, and transition, whereas Forman (2005) specified talent acquisition, deployment, retention, development, evaluation, and planning. The Society of Human Resource Management also contributed to this discussion by identifying the dimensions of talent recruitment, departure, and phase of transformation (SHRM, 2006; in Yener et al., 2017).

The 2010s built upon these initial findings. For instance, Tarique and Schuler (2010) developed a framework to conceptualize the major global talent management (GTM) challenges and major international HRM activities in GTM systems. The latter included, amongst others, the development of HR reputation, the attraction of individuals with interest in international work, recruitment based on positions, and others.

Soon, measurement scales were developed. For example, Farooq et al. (2016) proposed a measurement model for the assessment of TM practices that relied on talent identification, development, culture, and retention. Yener et al. (2017) proposed a measurement scale that included talent planning, workplace culture, talent recruitment and retention, talent development, professional advancement, and rewarding. Another scale was developed by Jayaraman et al. (2018) for a study of the Indian market with reference to identifying critical positions, competence training, development, and reward management. Al Aina and Atan (2020) proposed a scale that

incorporated talent attraction, talent retention, learning and development, and career management. Simultaneously, Yogalakshmi and Supriya (2020) suggested a model that would allow to assess a talent quotient through calling orientation, critical insight, continuous learning, collaboration, cohesiveness, and challenge drive.

In this study, however, due to the geographic scope selected for the study, it was decided to use the scale developed by Latukha (2015) specifically for the Russian market, which includes talent attraction, talent development, and talent retention. This division corresponds to the approach reflected upon in the theoretical part of this work and allows to measure the impact on different stages of talent engagement.

## 2.6. Data collection

The questionnaire was distributed online, and respondents were contacted personally. Respondents were selected on the basis of their position within the company and the geographic area that the company covered. The participants are either HR specialists or top managers of companies that are either headquartered in Russia or represent the local subsidiaries of foreign firms. In total, 120 human resources managers and top managers were contacted. 75 of them responded to the questionnaire, which means that the response rate was 62,5%.

The organizations that the respondents represent are very heterogeneous, varying in their age, size, and industries. The industries include but are not limited to arts and culture, medicine and pharmaceutics, science and education, resource extraction and processing, public organizations and charities, logistics, food, production, retail, marketing and production, and real estate, thus representing a large variety of businesses.

## 2.7. Data analysis

Data was processed in several phases. First, collected data was manually reviewed for outliers and repeated samples in Excel 2203. At this stage, two answers were deleted because they duplicated existing samples, which was identified with the help of the submitted company names and positions. Then, the statistical package IBM SPSS 28 was used to check the normality of the data and to apply descriptive statistics. In continuation, IBM SPSS 28 Amos statistical module was used to perform confirmatory factor analysis, as it was needed to test the scales and to retract the factors inherent to the applied scales for their subsequent measurement. After the results were retrieved, IBM SPSS 28 was used again to perform reliability analysis because the confirmatory factor analysis showed poor model fit for the talent management scale. When the final variables were identified, correlation and regression analysis were performed in the same software.

## 2.8. Validity and reliability of the study

The validity of the study is confirmed by the application of scales that were developed and tested in previous studies. Moreover, the scales are tested again with the help of confirmatory factor analysis and the subsequent measurement of Cronbach's alpha for all retracted factors. The value of Cronbach's alpha for almost all factors is above 0.80, therefore indicating high reliability. Only one factor demonstrates a lower yet acceptable value of 0.63, which however will be discussed in further detail in the corresponding section of the empirical part of this study.

As for the reliability, due to the snowball sampling technique and the fact that one respondent is filling in the data for an entire company, it is necessary to acknowledge the possible subjectivity of the results. Even though there was an attempt to minimize this risk by only sending the questionnaire to HR specialists and top managers who are assumed to have the best knowledge of the aspects included in the survey, it is impossible to avoid subjectivity completely without asking for multiple perspectives within one company. At the same time, the restrictions on the qualifications of the respondents resulted in a comparatively limited size of the data set, which is why it was important to verify the heterogeneity of the collected data. Therefore, the representability of the set was increased through collecting the answers of companies of different sizes, ages, and different industries.

Furthermore, data was only obtained for a given point of time, which does not allow to build time series and therefore draw conclusions on the causal relationships between variables and the changes in talent management policies. However, this limitation is partially compensated in the discussion part by the inclusion of references to previous research and theory.

Finally, certain constraints are also associated with the selection of measurement scales, for instance, with respect to the measurement of organizational resilience that differs from study to study. Therefore, the empirical conclusions strongly emphasize the impact on organizational resilience measured as robustness, agility, and integrity (Kantur & Iseri-Say, 2015). More tangible aspects (such as financial indicators), which are included in some of the other measurement scales, are not included in this study.

# CHAPTER 3. EMPIRICAL ASSESSMENT OF THE RELATIONSHIP BETWEEN ORGANIZATIONAL RESILIENCE AND TALENT MANAGEMENT IN RUSSIAN FIRMS

## 3.1. Preliminary data review

Before applying a theoretical model to the data, we have used descriptive statistics to define the overall characteristics of the submitted answers.

For talent attraction, the average mean for all variables is 5.64 with a standard deviation of 1.454 on average, thus indicating that most respondents considered their talent attraction practices to be quite developed (Appendix 12). The average mean for talent development practices is slightly lower – 4.27, with an average standard deviation of 2.03, which indicates a higher variation in answers (Appendix 13). For talent retention, the average mean is higher – 5.41, with an average standard deviation of 1.572 (Appendix 14). The average mean for employee resilience variables is 5.56 with an average standard deviation of 1.368 (Appendix 15), which shows that the respondents tend to characterize themselves and their colleagues as resilient.

The highest average values, however, can be found in the part of the questionnaire devoted to organizational resilience: the average mean is 5.78, with an average standard deviation of 1.312 (Appendix 16), which is not surprising given the intensity of the economic challenges that the companies have faced in recent years.

The tendency of the means to be on the higher part of the scale is also reflected in the skewness and kurtosis measures. Most data are not normally distributed as the skewness is often higher than 1 or lower than -1 (especially for talent attraction and organizational resilience), and kurtosis is mostly substantially higher than 1 or lower than -1, especially for the question about the organizational fit and the variables characterizing talent development and employee resilience.

Nevertheless, it is possible to proceed with the analysis, relying on the Central Limit Theorem, the heterogeneity of the companies in terms of size, industry and age, and the characteristics of the Russian market that caused resilient behavior on the part of most Russian companies.

## 3.2. Scales testing

The questionnaire consists of three scales: TM, employee resilience, and organizational resilience. Before the inclusion of the resulting variables into correlations and regression models, it is necessary to verify the scales through confirmatory factor analysis and reliability tests.

The TM scale consists of three factors: talent attraction, retention, and development. To test whether the scale measures a latent factor, all variables were included in a single SPSS Amos model (See Figure 1).
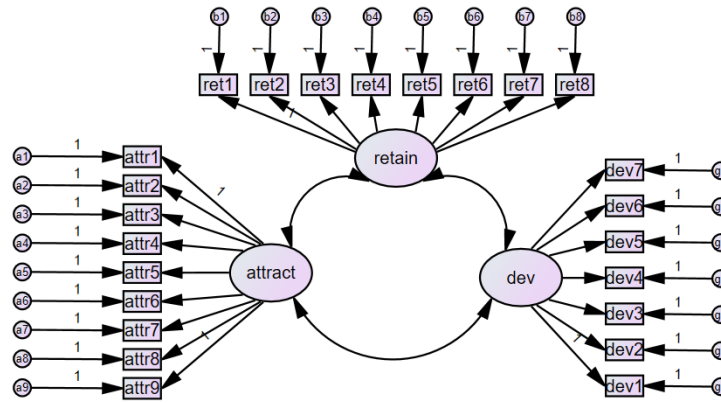


**Figure 1** Confirmatory factor analysis for talent management.

The analysis demonstrates that the model has a very poor fit, with the chi-square being significant (Appendix 17). All indicators either do not meet even the minimal required thresholds (CFI=0.736, GFI=0.620, TLI=0.708, PCLOSE=0.000) or significantly outperform the allowed maximum (CMIN/DF=2.248, RMSEA=0.130). To confirm the reliability of the sub-scales, the confirmatory factor analysis is complemented with a reliability test (Appendix 18). Cronbach's alpha for all three sub-scales is high: $\alpha_{ta}=0.831$, $\alpha_{td}=0.901$, and $\alpha_{tr}=0.889$. Therefore, TM should not be treated as a single variable, and all subsequent analysis should consider attraction, retention, and development separately.

A similar approach is implemented to measure the reliability of the organizational resilience scale (Figure 2; Appendix 19).
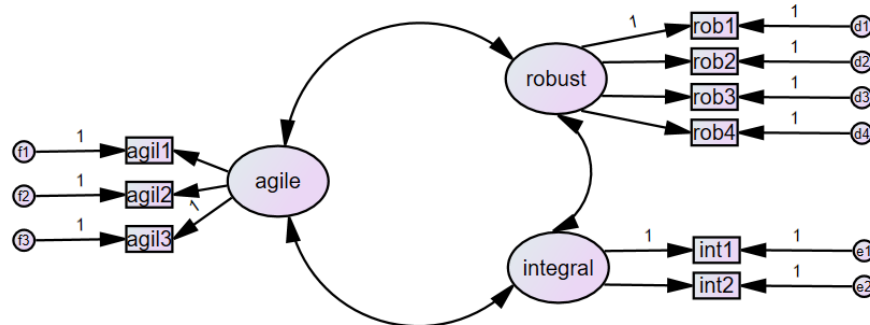


**Figure 2** Confirmatory factor analysis for organizational resilience.

In this case, the results are more contradictory: the chi-square is significant, which is generally treated as a sign of bad model fit. Furthermore, the Root Mean Squared Error of Approximation (RMSEA) is higher than the marginal fit of 0.100 (Dagnall et al., 2018). Yet, these statistics are sensitive to sample size (Dagnall et al., 2018; Byrne, 1994) and concern continuous data that is analyzed using the normal-theory maximum likelihood (Xia & Yang, 2019). The preliminary data review has demonstrated that the answers tend to be focused on the higher part of the scale, which might have affected the results of the analysis because the other statistics show a moderately good model fit, with CFI=0.920 and GFI=0.882. These results together with the specificity of measuring organizational resilience discussed in the literature review and the fact that the scale has been verified and used in other studies (e.g., Waribugo & Umoh, 2018; Dagohoy, 2021) allows us to proceed with the analysis. Nevertheless, subsequent analysis would also include separate calculations for the sub-scales of agility, integrity, and robustness, which are verified by the reliability test (Appendix 20; $\alpha_r$=0.630, $\alpha_a$=0.884, and $\alpha_i$=0.876). Despite the comparatively low value of Cronbach's alpha for resilience, it is above the accepted value of 0.600 (Pallant, 2001), which is why it can be incorporated into further analyses in the form of a single factor.

Finally, the confirmatory factor analysis is applied to the EmpRes scale (See Figure 3).
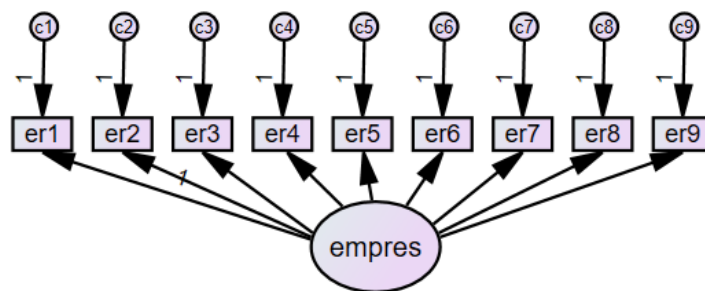


**Figure 3** Confirmatory factor analysis for employee resilience.

The results of the analysis are very similar to the results for organizational resilience (Appendix 21): the model is significant, RMSEA>0.100, CMIN/DF>2.000, but CFI=0.897, GFI=0.835 and TLI=0.853 indicate a relatively good fit. The individual factor loadings are also quite good (higher than 0.800). Consequently, it is assumed that the scale is subject to the same errors as in the case of the organizational resilience scale, and reliability analysis is used to verify it. The results indicate that Cronbach's alpha is 0.908 (Appendix 21), which corresponds to the value indicated in the original study (Näswall & Kuntz, 2015). Therefore, the employee resilience scale can be used for the assessment of employee resilience.

## 3.3. Relationship between talent management and organizational resilience

The first step towards the identification of resilience-oriented TM practices is the understanding of the impact of the cumulative effect of TM. However, since the confirmatory factor analysis demonstrated that the three stages of TM cannot be combined into a single variable, the impact of talent attraction, development, and retention are measured through separate variables.

For the first regression, organizational resilience is selected as the dependent variable. All variables are measured as the average value of the comprising variables and are centered to their means (Field, 2013). The initial regression with all factors included is significant (p<0.001) and explains about 48.3% of the total variance in organizational regression (Appendix 22). The overall effect is therefore moderate. However, the coefficient for attraction is insignificant (p=0.875), which is why the factor needs to be removed from the model. The resulting regression only includes development and retention:

*Organizational resilience = -1.601E-6 + 1.77\*Development + 0.422\*Retention*

The modification slightly increases the explanatory effect of the regression (to 49%) and highlights the comparatively high coefficient for talent retention. The only beta-coefficient that remains insignificant is the intercept. The insignificance of the constant is attributable to the complexity of the concept of organizational resilience, which cannot be reduced to the role of TM. As the literature review has demonstrated, it depends on numerous factors that are outside the scope of this study, which is why the constant cannot be interpreted (which will also be the case for all subsequent models).

However, as the scale reliability analysis has shown, it is also necessary to consider the three sub-scales of organizational resilience separately. Consequently, the same procedure is applied to the factors of robustness, agility, and integrity. The final regression results are provided in Appendix 23 and differ from the values for organizational resilience measured as a single factor:

*Robustness = 4.135E-5 + 0.343\*Development, $R^2_{adj}$=0.383*
*Agility = -2.111E-5 + 0.200\*Development + 0.471\*Retention, $R^2_{adj}$=0.389*
*Integrity = -2.300E-5 + 0.690\*Retention, $R^2_{adj}$=0.364*

Therefore, the impact of talent development and retention on organizational resilience is mainly attributable to its different dimensions: development is associated with the robustness of a firm and has an impact on its agility, whereas retention significantly contributes to the explanatory power of the models for agility and integrity.

Consequently, the connection between TM and organizational resilience is confirmed. The results demonstrate that TM accounts for about half of the variance (though it is less for robustness, agility, and integrity measured separately). Nevertheless, it is suggested to further look into the interaction of TM with employee resilience that surges from the connection between HRM and the individual level of resilience discussed in the literature review (e.g., Abdullah et al., 2013) before going into the impact of individual TM practices – one of the reasons for that is its potential contribution to the overall quality of the model.

## 3.4. The effect of employee resilience on the interaction between talent management and organizational resilience

The significant positive impact of employee resilience on organizational resilience has been confirmed in previous studies (e.g. Liang & Cao, 2021), and the assumption of the existence of a relationship between TM and organizational resilience strongly relies on the notion that individual resilience is a trait that distinguishes employees from one another. Consequently, employee resilience needs to be included into the assessment of resilience. Yet it is unclear how exactly the variable should be incorporated into the model: its effect could either be simply added to the effect of the separate TM stages or act as a moderator (See Figure 4).

**Model 1 – Linear interaction**          **Model 2 - Moderation**
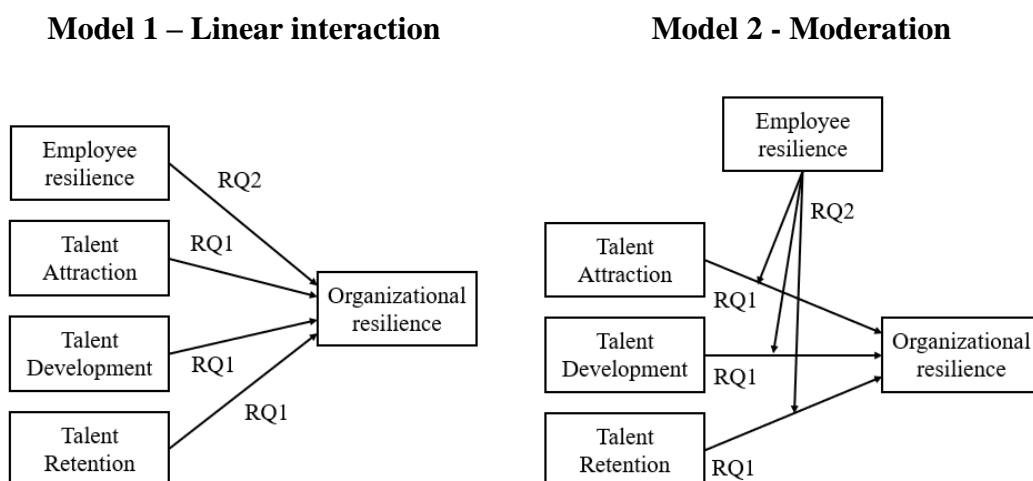


**Figure 4** Potential models reflecting the impact of employee resilience on the relationship between talent management and organizational resilience.

Consequently, the analysis applied to measure that relationship should incorporate an interaction term of employee resilience and each of the TM sub-scales.

To understand, which of the models is more accurate, all TM variables (attraction, development, retention), employee resilience, and their interactions are included in the regression. The initial regression with all variables is significant, with $p<0.001$ (Appendix 24). The adjusted R-squared is moderately high and implies that the model describes 66% of the variance. Nevertheless, the beta-coefficients for all variables, except development and employee resilience are not significant, which is why insignificant variables are gradually removed from the regression (starting with the highest significance values). Without two of the interaction variables, the model explains 64.2% of the total variance, yet most beta-coefficients remain insignificant. The complete removal of all interaction variables does not improve the situation. Finally, all beta-values (except the intercept) are significant when only retention and employee resilience are preserved in the model. The final regression thus reflects the following equation:

*Organizational resilience = -3.384E-6 + 0.324\*Retention + 0.501\*Employee resilience*

The model explains 62.4% of the total variance and shows that organizational resilience is positively affected by talent retention and employee resilience, which does not act as a moderator.

Interestingly, the regression differs from the first model derived for the impact of talent management on organizational resilience without the inclusion of employee resilience through the neglection of the development factor. Just like in the previous paragraph, the intercept cannot be interpreted.

The analysis is proceeded with a similar algorithm for all sub-scales of organizational resilience (Appendices 25, 26, 27). The final models are all linear, thus indicating that Model 1 from Figure 4 is more accurate, and no moderation takes place:

*Robustness = 4.016E-5 + 0.239\*Development + 0.306\*Employee Resilience*
*Agility = -2.606E-5 + 0.448\*Retention + 0.393\*Employee Resilience*
*Integrity = -1.033E-5 + 0.310\*Retention + 0.750\*Employee Resilience*

The share of variance explained by the three models is lower than in the case of the model measuring total organizational resilience: $R^2_{adj.robustness}=0.471$, $R^2_{adj.agility}=0.423$, $R^2_{adj.integrity}=0.585$. The constant is also insignificant. Generally, it is possible to notice that the inclusion of employee resilience decreases the significance of the TM factors with smaller beta-coefficients, which results in their complete removal from the model. Moreover, in two of the models (robustness and

integrity) the effect of employee resilience measured by the beta-coefficient is much higher than for the corresponding talent management variable.

Nevertheless, it stems from the literature review that employee resilience can also be affected by HRM (e.g., Douglas, 2020; Bardoel et al., 2014) and thus potentially also by TM. Consequently, it needs to be tested whether TM also indirectly contributes to organizational resilience through employee resilience (See Figure 5).
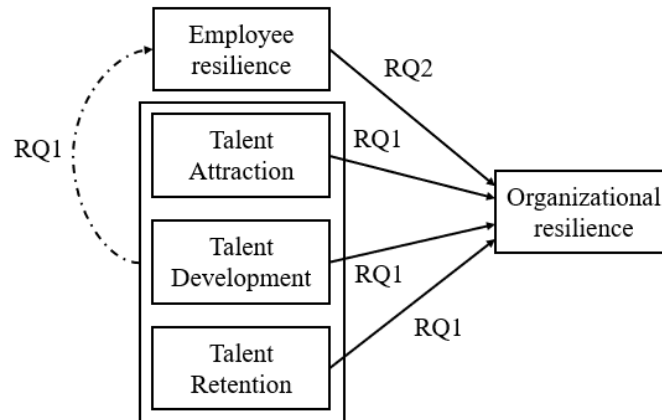


**Figure 5** Indirect impact of talent management on organizational resilience through employee resilience

For that purpose, another regression is run, in which employee resilience is selected as the dependent variable, whereas attraction, development, and retention represent the independent variables. The initial regression is significant (p<0.001), yet it describes only 37.6% of the variance and the coefficients for all variables except retention are insignificant (Appendix 28). The removal of the development variable helps to slightly increase the adjusted R-squared ($R^2_{adj}$=0.379) and make all beta-coefficients (with exception of the intercept) significant:

*Employee resilience = -2.635E-5 + 0.356\*Attraction + 0.316\*Retention*

Consequently, attraction and retention somewhat contribute to employee resilience. Their overall effect however is quite low (only 37.9% of the variance), which together with the fact that development is excluded from the regression goes in line with the theory that individual resilience is a trait that is mostly conditioned by factors that are not related to the work environment. Nevertheless, it is possible to conclude that there is a small indirect impact, which confirms the model proposed in Figure 5, with the only clarification that the effect stems specifically from attraction and retention.

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## 3.5. The impact of talent management practices on organizational and employee resilience

Having defined the factor-level interactions between TM, employee and organizational resilience, it is now possible to move on to the third research question and go into further detail on the specific talent management practices accountable for the identified effects.

Due to the size of the TM scale, the data set was first checked for correlations to select the variables with the highest correlation coefficients (Appendices 29, 30, 31). Correlation analysis is conducted separately for all variables of organizational resilience against all measures of talent attraction, talent development, talent retention, and employee resilience. The Pearson coefficient is selected for the preliminary correlation analysis, relying on the assumption that the relationship between the variables is linear.

The results of the correlation analysis for the variables reflecting the factors of organizational resilience and talent attraction showed that there is a correlation between most variables, which however mostly is $r<0.400$ (Appendix 29). Seven pairs of variables are in the interval $0.400<r<0.500$, namely the successfulness in the generation of diverse solutions with the importance of brand image at the stage of recruitment ($r=0.415$) and the offering of interesting jobs with challenging assignments ($r=0.438$); rapid action and the emphasis on the potential of new hires to grow within the company ($r=0.449$); the development of alternatives to benefit from negative circumstances and the selection of employees on the basis of their overall fit with the organization ($r=0.454$); agility in taking required action when needed and great effort in selecting the right person for every position ($r=0.406$); acting as a whole with the employees and the selection of the right person for every position ($r=0.414$), as well as the selection of the employees on the basis of their overall fit with the organization ($r=0.422$). The highest correlations are associated with the strength of the brand image: $r=0.545$ for the ability to preserve the company's position and $r=0.568$ for the generation of diverse solutions. These are followed by the correlation between the effort in selecting the right person for every position and the development of alternatives to benefit from negative circumstances. The lowest correlations overall are associated with broadly designed jobs. All provided Pearson coefficients are significant at the 0.01 level (two-sided).

The correlations between the variables of organizational resilience and talent development are slightly stronger, with 17 coefficients being $0.400<r<0.500$. Four out of seven variables of talent development have a moderate correlation within this interval associated with the ability of the company to stand straight and preserve its position, the successfulness in the generation of diverse solutions, as well as rapid action (Appendix 30). However, the latter two also demonstrate

a high correlation with job rotations and flexible work assignments (r=0.557) and a good mentoring system (r=0.518) correspondingly. Other high Pearson coefficients are indicated for the correlations between a developed mentoring system and agility in taking action when needed (r=0.556), as well as job rotation and flexible work assignments and the fact that the company does not give up and continues its path (r=0.508). These coefficients also are significant at the 0.01 level.

As for the correlation analysis for the variables of organizational resilience against talent retention, there have been fourteen pairs of variables with 0.400<r<0.500 and fourteen with r>0.500 (Appendix 31). Hereby, it is necessary to mention that this part of the correlation analysis for organizational resilience has the highest coefficients (which could be expected given the results of the regression analysis), most of which are associated with the orientation of the employees appraisal toward their development: r=0.531 for the successfulness in the generation of diverse solutions, r=0.614 for rapid action, r=0.597 for the development of alternatives to benefit from negative circumstances, r=0.679 for agility in taking required actions when needed, r=0.699 for the company being a place where all employees are engaged in the work that they do, and r=0.702 for acting as a whole with all employees. The regularity of feedback also seems to correlate relatively highly with agility in taking required actions (r=0.535), the high level of employee engagement (r=0.555), and the company acting as a whole (r=0.559). Comparatively high correlation coefficients are also associated with the provision of opportunities to suggest improvements, namely with the development of alternatives to benefit from negative situations (r=0.532), the agility in required actions (r=0.540), and the high level of engagement of employees (r=0.550). The analysis also shows that when companies invite employees to participate in problem solving, such companies also have a higher engagement of employees in general (r=0.514). As in the previous sets of correlation analysis, all named Pearson coefficients are significant at the 0.01 level.

Based on these results, nine variables with the highest Pearson correlation coefficients are selected for the regression analysis:

- Attraction: "Our company spends a great effort in selecting the right person for every position", "Our company has a strong employer brand".
- Development: "Our company has a good mentoring system to support new hires", "Our company emphasizes employees' job rotation and flexible work assignments in different work areas".
- Retention: "Employees' performance appraisal is oriented toward their development and progress at work", "Employees receive performance feedback on a routine basis", "Employees are invited to participate in problem solving and decisions", "Employees

are provided the opportunity to suggest improvements in the way things are done", "Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc.".

Employee resilience is also included in the model due to the significance of its impact on organizational resilience, which was confirmed in previous regressions.

The initial regression describes about 54.7% of the variance and is significant, with $p < 0.001$ (Appendix 33). Yet, most of the beta-coefficients have insignificant p-values, which is why the model needs to be adjusted. After the stepwise removal of all insignificant coefficients, the model looks the following way:

$$OR = 7.407E\text{-}4 + 0.345*ER + 0.334*Ret_2 + 0.101*Dev_6,$$

where $Ret_2$ corresponds to performance appraisal that is oriented toward development at work, and $Dev_6$ to the emphasis on job rotation and flexible work assignments. $OR$ and $ER$ are used as abbreviatures of organizational and employee resilience correspondingly.

This adjustment of the model significantly increases the quality of the model, improving the adjusted R-squared to 0.725, which means that the regression explains 72.5% of the total variance. The model overall and the beta-coefficients of the variables are significant. Just like in all previous regressions, however, the constant remains insignificant because it cannot be interpreted within the scope of this study. Interestingly, this regression is more accurate than the model that described the relationship between organizational resilience and talent attraction, development, and retention overall (72.5% against 62.4% of the variance), which indicates that the variables $Ret_2$ and $Dev_6$ account for most of the effect.

The same procedure is applied to measure the relationship between the nine selected variables and robustness. The first regression explains 61.9% of the variance, is significant overall ($p < 0.001$) but only has three significant beta-coefficients (Appendix 34). After the removal of all insignificant variables, the adjusted R-squared decreases to 0.589. The final coefficients are all significant (except for the intercept) and comprise the following model:

$$Robustness = 3.333E\text{-}5 + 0.240*ER + 0.168*Att_9 + 0.169*Dev_6,$$

where $Att_9$ corresponds to the perceived strength of the employee brand.

For agility, the initial model is also significant ($p < 0.001$) and explains 54.7% of the variance ($R^2_{adj} = 0.547$) (Appendix 35). Most coefficients are insignificant again, so the model is

gradually adjusted. The removal of the superfluous coefficients slightly increases the adjusted R-squared to 0.568. The final regression includes five independent variables:

$$Agility = 0.002 + 0.253*ER + 0.418*Ret_2 - 0.288*Ret_6 + 0.253*Ret_7 + 0.170*Dev_6,$$

Where $Ret_6$ reflects the degree to which employees are invited to participate in problem solving and decisions, and $Ret_7$ – the degree to which employees have the opportunity to suggest improvements.

Lastly, the regression is run for integrity. The first model describes about 64.1% of the variance and demonstrates the same problems as all previous regressions (Appendix 36). The removal of redundant variables improves the adjusted R-squared to 0.659 and results in the following regression:

$$Integrity = -3.934E-16 + 0.581*ER + 0.430*Ret_2$$

The models therefore confirms that specific TM practices account for a large part of the total effect of TM on organizational resilience. It is also notable that the effects of these variables taken separately explain a larger share of total variance both for total organizational resilience and its three sub-scales measured in this study. The effects are mostly positive, except for employee involvement in problem solving and decision making. The analysis also highlights the important role of job rotation and development- and progress-oriented feedback.

Nevertheless, since previous analysis confirmed the impact of TM on employee resilience, it is also necessary to develop practice-specific recommendations that stem from this connection. The factor-level regression demonstrated that the moderate impact on employee resilience was mainly conditioned by attraction and retention, which differs from the model for organizational resilience. Consequently, different variables should be included into the model, which requires a separate correlation analysis for employee resilience (Appendix 32).

The table demonstrates that overall, the correlation coefficients are lower than for organizational resilience. Some TM variables have almost no significant correlation coefficients with the variables comprising the factor of employee resilience. These includes the care about the company's brand image during recruitment processes, selection on the basis of the overall fit to the organization, and appraisal based on individual behaviors and attitudes. As for the employee resilience scale, the only variable that has very few significant correlation coefficients with TM practices is the ability of workers to successfully manage high workloads for long periods of time. Most employee resilience variables have a moderately low correlation with TM variables, mainly

having coefficients in the interval of 0.200<r<0.400 (Appendix 32). Slightly higher correlations overall were identified for the perception of changes as opportunities for growth and the re-evaluation of performance for continuous improvement.

Overall, there is one TM practice that stands out and has a comparatively high correlation coefficient with most employee resilience variables, namely the orientation of appraisal toward the development and progress of employees at work. It does not correlate with the ability to handle high workloads for longer periods of time, but it has moderately high correlation coefficients with all other elements of the employee resilience scale, ranging from r=0.477 for competent crisis resolution to r=0.630 for re-evaluation of performance. The p-value for all Pearson coefficients mentioned in this analysis is less than 0.01.

As a result, the following variables are incorporated into the initial regression model:

– Attraction: "Our company has a strong employer brand", "Our company spends a great effort in selecting the right person for every position", "Our company offers interesting jobs with possibilities to complete challenging assignments".

– Development: "Our company has a good mentoring system to support new hires", "Our company provides training focused on team building and teamwork skills training."

– Retention: "Employees' performance appraisal is oriented towards their development and progress at work", "Employees receive performance feedback on a routine basis", "Employees are provided the opportunity to suggest improvements in the way things are done", "Employees are invited to participate in problem solving and decisions".

Just like in the case of the regression run for the assessment of the relationship between talent attraction, development, retention, and employee resilience overall, the effect of the variables is very limited, with an adjusted R-squared of only 0.451 (Appendix 37), though the model is significant (p<0.001). The removal of insignificant variables barely improves the size of the effect ($R^2_{adj}$=0.456). However, two of the selected variables have a significant effect:

$$ER = -0.001 + 0.375*Ret_2 + 0.229*Att_6,$$

where $Att_6$ corresponds to the availability of interesting jobs with possibilities to complete challenging assignments.

Consequently, the impact of TM on organizational resilience in the Russian context is mainly attributable to specific practices that vary for different resilience dimensions.

## 3.6. Discussion of results

Based on the quantitative findings, it is possible to build upon existing theory and draw conclusions on the three research questions formulated for this study.

First, the conducted analysis has confirmed the existence of a connection between TM and organizational resilience, which can mainly be observed at the development and retention stages. This connection accounts for less than half of the total variance in organizational resilience, which however is still quite significant given the complexity of the concept and the number of elements that are usually included in its definition (e.g., Gibson & Tarrant, 2010). Furthermore, the significant impact of development and retention – with the exclusion of attraction – signifies that organizational performance benefits from internal stability and the support of existing talents.

Second, employee resilience is an important element within that interaction because it adds on to the effect generated by TM and further increases organizational resilience. Thus, the relationship between the three factors is mostly linear. Nevertheless, existing research also assumed that certain HR practices can also contribute to employee resilience – for instance, Douglas (2020) even proposed specific interventive measures aimed at its enhancement. This notion was also confirmed within the empirical part of this study, which confirmed the positive relationship between attraction, retention, and employee resilience.

Lastly, these findings allow to define TM practices with the highest impact on organizational resilience. Since the analyzed data did not include time series, conclusions on causal relationships are based on theory discussed in the theoretical part of this study.

Overall, the quality of the models improved significantly when TM sub-scales were replaced with specific TM practices. The effect was also the highest when organizational resilience was measured as a single variable, thus their impact is accumulated at the firm-level. Specifically, four practices account for most of the effect, namely the orientation of performance appraisal toward the development and progress of employees (this variable had the highest effect overall), an emphasis on job rotation and flexible work assignments in different work areas, the provision of opportunities to suggest how things are done, and a strong employer brand.

The first three options encourage the information flow between the company and the employee, supporting their growth and benefitting from their experience. This is heavily in line with a significant part of the reviewed literature on organizational resilience and strategic human resources management that emphasizes the role of learnability or knowledge capabilities (Gibson & Tarrant, 2010), adaptation for improved performance (e.g., Sutcliffe & Vogus, 2003; Bardoel et al., 2014), and absorptive capacity (e.g., Latukha, 2018). The strong employer brand, on the other hand, which has a significant impact on robustness specifically, has not been mentioned in

previous works and should probably be considered as an indicator of a company's perceived stability, which supports a stable influx of workers and consequently fosters robustness.

At the same time, it was found that the invitation of employees to problem solving and decision making demonstrates a negative effect on agility. This finding goes against some of the theoretical propositions discussed within the literature review (e.g., Barasa et al., 2018), even though such an effect could be expected because it complicates decision making and makes response times longer. Nevertheless, the negative effect of this variable is practically outweighed by the opportunity to suggest improvements to how things are done. The difference between these two practices lies in initiative: in the first case it comes from above, whereas in the second case employees can share their propositions, which are then filtered by decision-makers. Consequently, it is possible to add on to Barasa et al.'s (2018) notion about inclusive decision making by specifying that it does not necessarily mean the direct inclusion of employees into the process.

For employee resilience specifically, the effect is mainly associated with performance-oriented appraisal and the availability of interesting jobs with possibilities to complete challenging assignments. This finding can be interpreted both ways: on the one hand, it is more likely that people with a higher level of individual resilience would select jobs where they are constantly challenged. On the other hand, as Douglas (2020) has proposed, jobs with high-impact projects promote participation, whereas supportive culture and training (in the form of progress-oriented feedback) propagate positive coping strategies, which together contribute to employee resilience.

Therefore, it is possible to conclude that the theoretical propositions on the impact of HR practices on employee resilience can be expanded to the field of TM. Nevertheless, it is also necessary to conclude that the overall effect of these practices explained a smaller part of the total variance. The definition of employee resilience implies that it is built upon individual resilience that is fostered by a non-work environment. Consequently, ideally, a company would be able to control the level of employee resilience at the attraction stage, yet the regression results indicated no strong relationship in that respect. This means that within the studied companies employee resilience likely occurred independently and that this potential could be leveraged.

All the above-mentioned findings can thus be included into a single framework, the visual interpretation of which is demonstrated in Figure 6.
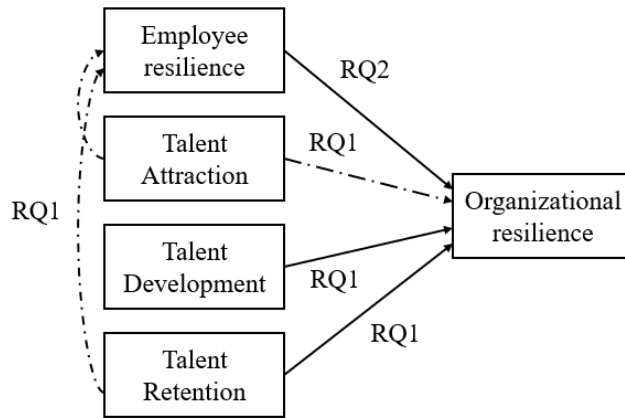
**Figure 6** Visualization of the relationship between talent attraction, development, retention, and employee and organizational resilience.

The dotted lines reflect a weaker effect of the corresponding TM sub-scales with respect to organizational resilience. For instance, talent attraction mainly affects organizational resilience indirectly – through job design – and through the development of a strong employer brand. Talent development only affects organizational resilience directly (and does not contribute to employee resilience), whereas talent retention has both a direct and indirect effect.

## 3.7. Theoretical contributions

The findings of the empirical part of this study therefore build upon existing research on strategic HRM, employee and organizational resilience and can serve as a basis for future studies.

This work primarily aimed at the definition of resilience-oriented TM practices, which were successfully identified and could thus be used in subsequent elaborations of resilience-oriented strategies and studies on crisis responses. For example, the identification of the negative impact of employee invitation in decision making can be used for the assessment of inclusive and exclusive TM practices in uncertain conditions. Furthermore, the decisive role of employee resilience poses opportunities for the definition of talent.

Secondly, the current study provides a more detailed analysis of the expected indirect impact of human resources practices on organizational resilience through employee resilience (McManus et al., 2008; Luthans et al., 2010; Bardoel et al., 2014, Hall et al., 2018; Douglas, 2020). In the case of the studied sample, it seems like only one practice directly contributes to both types of resilience – the orientation of employee appraisal toward development and progress. The overall effect of TM on employee resilience, however, is relatively low, which demonstrates that such practices rather affect organizational resilience directly, thus supporting the findings of Riolli and

Savicki (2003) who suggested that organizational factors mainly include organizational structures and processes.

Furthermore, the results significantly contribute to the understanding of organizational resilience: the fact that the best model within this study explained more than 70% of the total variance, even though no financial, infrastructural, or tangible resources indicators were included into the calculations, signifies that employee-related processes and capabilities account for a significant share of total organizational resilience. This finding supports the trend that can be observed within Gibson and Tarrant's (2010) overview of resilience models that increasingly focus on people and knowledge capabilities, behaviors, governance, and less on physical resources. Moreover, the identified aggregational relationship between TM and employee resilience can be included into future models that describe the interaction between a firm's resources and capabilities.

Lastly, the quantitative findings of this study can be used as a basis for qualitative studies that focus on a more detailed description of firms' responses to crises as well as quantitative studies that aim at a generalization of the identified findings to other markets.

## 3.8. Managerial implications

By focusing on resilience-oriented talent management practices, the study has taken upon a very practical approach, which initially implied the incorporation of the findings into corporate HR strategies. Consequently, the results of the study are expected to be useful for the heads of HR departments and top managers that are involved in the strategic planning of firms that are operating in environments, which are similar to the Russian context. Similarity can be assessed both in terms of culture (e.g., learning, decision-making, and leadership styles) and the political and economic environment that shapes the conditions for the required outcome of resilience-oriented strategies (e.g., need for agility).

The main recommendations resulting from this study are the focus on the orientation of performance appraisal toward the development and progress of employees, an emphasis on job rotation and flexible work assignments, the provision of opportunities to suggest how things are done, and a strong employer brand. These measures are proven to be positively associated with organizational performance. It is also confirmed that the direct involvement of a wide range of employees into problem solving and decision making can negatively affect the agility of the firm, which can become an obstacle in case the organization needs to produce quick responses. All these findings can be directly adapted as separate interventive measures, which is supported by the increased quality of the models when such practices are included separately. The general idea

behind these recommendations is the support of the internal information flow, which contributes to the flexibility in expertise rearrangement and transferring (Sutcliffe & Vogus, 2003).

Furthermore, it is suggested to include individual resilience in the assessment of potential candidates for strategic positions if the aim of the firm is to improve its resilience. The lack of strong predictive variables in that respect has demonstrated that most Russian companies have not yet incorporated that trait into their HR strategies – at the moment, the development of employee resilience capability occurs independently. A potential tool for the attraction and retention of such candidates would be the availability of interesting jobs with possibilities to complete challenging assignments. However, if a company decides to incorporate this approach, it has to weigh its benefits to possible drawbacks resulting from the mediating effect of employee resilience on learning organizations (e.g. Malik & Garg, 2020).

Generally, however, this study provides a practical confirmation of the theoretical propositions made in previous research and thus offers a set of reality-checked interventive measures that can be implemented by practitioners specifically in the areas of resilience-oriented TM practices.

# CONCLUSION

The concept of organizational resilience appeared in response to external challenges that companies were exposed to and thus has been widely discussed both among practitioners and academics. Despite the large interest in the topic, it was only recently that a relatively unified definition was agreed upon that implied the ability to anticipate, avoid, and adjust to disruptions and changes. Due to the differences in approaches, there are various interpretations of the processes and structures of organizational resilience. Yet, most researchers agree on the role of employee-related factors, be it in the form of the development of specific capabilities, human capital, or communication systems.

In response, HRM studies have focused on the impact of HR on organizational resilience and highlighted the importance of pivotal job positions. In connection to that, they have often emphasized the concept of employee resilience, which reflects the ability of individual employees to respond to challenges in the workplace. Its impact on organizational resilience and the role of HR practices in its development have been confirmed in previous studies, yet no link has been established between the three concepts. The aim of this research thus was to identify TM practices that specifically contributed to organizational and employee resilience. TM was chosen over general HR practices because of the focus on pivotal positions within crisis response strategies and the fact that employee resilience resembled a trait that distinguished employees from one another.

For that purpose, it was first necessary to confirm the relationship between talent attraction, development, retention, and organizational resilience and assess the role of employee resilience within that interaction. The exploratory analysis was conducted on a sample of 75 Russian companies with the application of scales developed and tested in previous studies on TM, employee, and organizational resilience. The Russian market was selected because of its exposure to major disruptive events, such as the pandemic and sanctions.

Correlation and regression analysis has confirmed the existence of a positive relationship between TM and organizational resilience, the linear relationship between TM, employee and organizational resilience, and the fact that TM could affect organizational resilience indirectly through employee resilience. For instance, talent retention practices proved to be positively associated with organizational resilience overall, whereas talent development was specifically connected with increased robustness. Employee resilience, on the other hand, is connected to TM at the stages of attraction and retention.

An overview of the relationship of organizational resilience with specific talent management practices also allowed to identify processes that accounted for most of the variance in the dimensions of organizational resilience: the orientation of feedback toward the development

of employees, the availability of job rotation and flexible work assignments, and the provision of opportunities to suggest how things are done. Positive effects were also associated with a stronger employer brand, which however is more likely to be an outcome rather than a source of organizational resilience. For employee resilience, a moderate effect resulted from performance-oriented feedback and the availability of interesting jobs.

Consequently, the results of the study contribute to the extensive literature on organizational resilience by defining and describing the role of TM and employee resilience within that concept. The findings can be used for future research by serving as a basis for qualitative and quantitative studies that would either aim at a more detailed description of the underlying mechanisms or at further generalization of the results. In the practical sphere, the identification of significant TM practices can be applied to strategic planning and specifically for the elaboration of resilience-oriented TM programs that would contribute to the successful response of firms to potential threats.

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# APPENDIX

**Appendix 1.** Comparison of (a) the more traditional static model of resilience with (b) the principles model of resilience. Adapted from Gibson and Tarrant (2010).



**Appendix 2.** Integrated functions model (Gibson & Tarrant, 2010).



**Appendix 3.** Attributional resilience model (Gibson & Tarrant, 2010, adapted from Resilience COI, 2009).
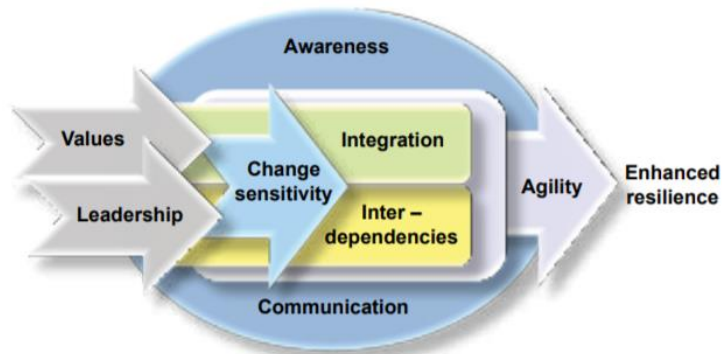
**Appendix 4.** Composite resilience model (Gibson & Tarrant, 2010).
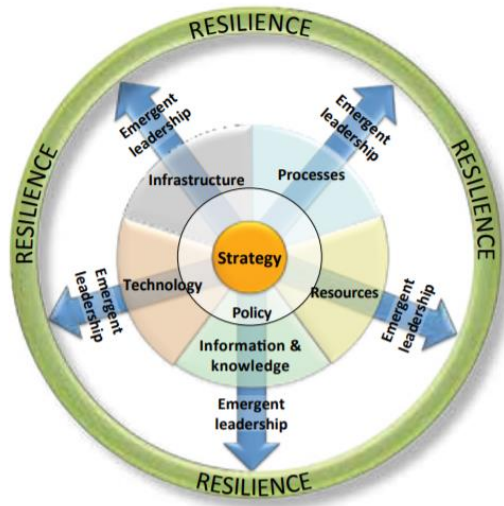


**Appendix 5.** Herringbone resilience model (Gibson & Tarrant, 2010).



**Appendix 6.** Resilience triangle model (Gibson & Tarrant, 2010).
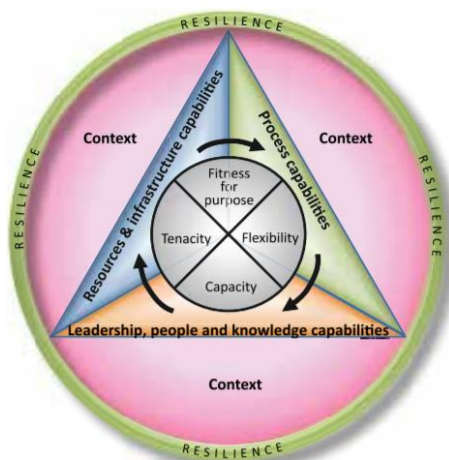
**Appendix 7.** Model for integration of individual and organizational factors leading to organizational resilience in the information system context caption (Abdullah et al., 2013; adapted from Riolli & Savicki, 2003).
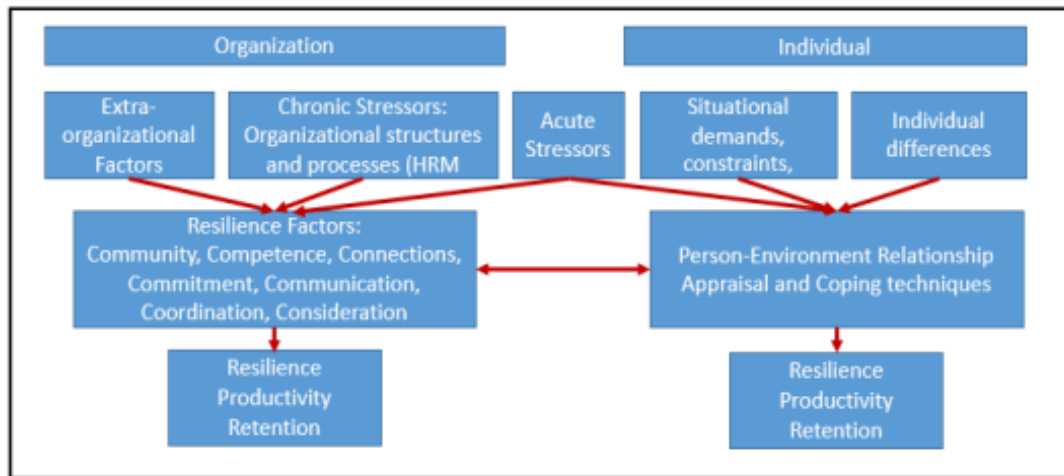


**Appendix 8.** Organization Resilience Model (Abdullah et al., 2013; modified from Kumpfer, 1999).
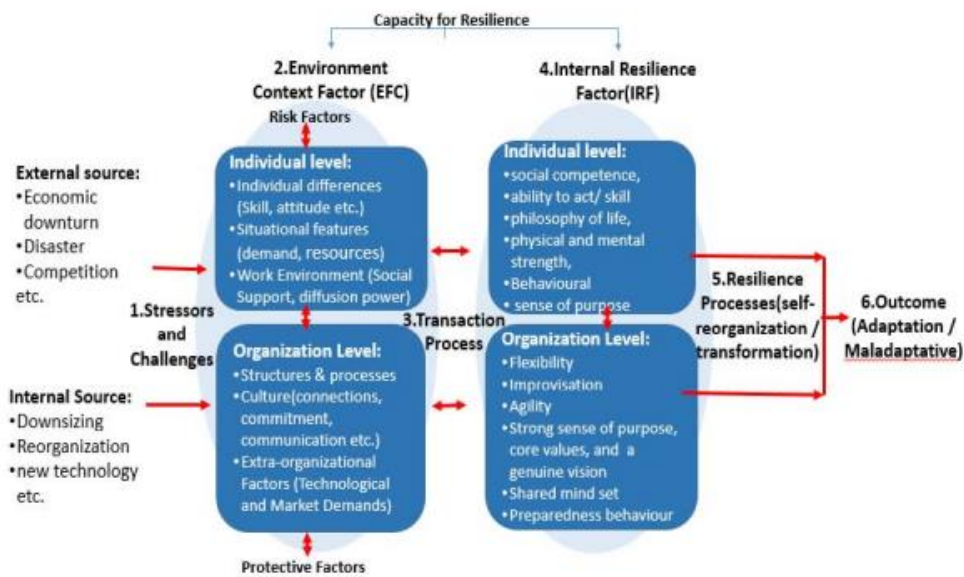


**Appendix 9.** Indicators of Relative Overall Resilience (McManus et al., 2008; Lee et al., 2013).

| Situation awareness | Management of keystone vulnerabilities | Adaptive capacity |
|---|---|---|
| <ul><li>Roles and responsibilities</li><li>Understanding and analysis of hazards and consequences</li><li>Connectivity awareness</li></ul> | <ul><li>Planning strategies</li><li>Participation in exercises</li><li>Capability and capacity of internal resources</li></ul> | <ul><li>Silo mentality</li><li>Communications and relationships</li><li>Strategic vision and outcome expectancy</li><li>Information and knowledge</li></ul> |

| | Insurance awareness<br>• Recovery priorities | • Capability and capacity of external resources<br>• Organizational connectivity | • Leadership, management, and governance structures |
|---|---|---|---|

**Appendix 10.** Lee's Model of Organizational Resilience (Lee et al., 2013).

| Factors | Indicator | Definition |
|---|---|---|
| Adaptive capacity | Minimization of silos | Minimization of divisive social, cultural, and behavioral barriers (often manifested as communication barriers that result in disjointed ways of working). |
| | Internal resources | The management and mobilization of resources to ensure the organization's ability to operate during business-as-usual and provide extra capacity during a crisis. |
| | Staff engagement and involvement | Staff understand the link between their work, organizational resilience, and the organization's long-term success. Staff are empowered to use their skills for problem solving. |
| | Information and knowledge | Critical information is stored in different formats and locations. Employees have access to expert opinions on demand. Roles are shared and employees are trained so that key roles are always filled. |
| | Leadership | Strong crisis leadership to guarantee good management and decision making during crises. Continuous strategy evaluation and and assessment of work programs against organizational goals. |
| | Innovation and creativity | Staff are encouraged and rewarded for using their knowledge in innovative ways to solve problems and for utilizing novel approaches. |
| | Decision making | Employees have the authority to make decisions related to their work and authority is delegated to enable crisis responses. Highly skilled staff are involved in decision making where their knowledge adds significant value or aids implementation. |
| | Situation monitoring and reporting | Staff are encouraged to be vigilant the organization's performance and potential problems. |
| Planning | Planning strategies | The development and assessment of plans and strategies to manage vulnerabilities related to the business environment and stakeholders. |
| | Participation in exercises | Employees participate in simulations or scenarios to practice responses and validate plans. |
| | Proactive posture | Strategic and behavioral readiness to respond to early warning signals in the internal and external environment of an organization before they escalate into crisis. |
| | External resources | An understanding of the relationships and resources the organization might need from other organizations during crises. Related planning and management. |
| | Recovery priorities | The wide awareness of an organization of its priorities following a crisis. Their clear definition at the organization |

| | | level and the understanding of the minimum operating requirements. |
|---|---|---|

**Appendix 11.** Distributed questionnaire (modified from Kantur & Iseri-Say, 2015; Näswall & Kuntz, 2015; Latukha, 2015)

| Talent Management and Organizational Resilience | |
|---|---|
| **Respondent's profile:** | Please fill in or select appropriate response |
| 1. Your position | |
| 2. Name of the company | |
| 3. Main industry | o Hotels, restaurants, cafés, catering<br>o Information technologies<br>o Arts and culture<br>o Medicine and pharmaceutics<br>o Science and education<br>o Resource extraction and processing<br>o Public organizations and charities<br>o Transportation, logistics, and warehouses<br>o Food products<br>o Productions of machines and equipment<br>o Retail<br>o Media, marketing, PR, and production<br>o Construction, real estate, and planning<br>o Telecommunications<br>o Financial services<br>o Other: _____ |
| 4. Number of employees | o Less than 50<br>o 50-100<br>o 100-500<br>o More than 500 |
| 5. Age of the company | |
| 6. Scale of activity | o Local (within Russia)<br>o Regional (within a region, e.g. CIS)<br>o Global |

| Talent Management | | |
|---|---|---|
| **Talent Attraction:** Please rate your agreement with each of the following statements | 1=Strongly disagree | 7= Strongly agree |
| 1 Our company spends a great effort in selecting the right person for every position. | 1  2  3  4  5  6  7 | |

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 2 | Our company uses extensive procedures in recruitment and selection, including a variety of tests and interviews. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3 | In recruiting, our company emphasizes the potential of new hires to learn and grow with the company. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 | Our company takes care of its image when recruiting and selecting employees. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 | Employees are selected based on their overall fit with the organization. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 | Our company offers interesting job with possibilities to complete challenging assignments. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | Our company transfers extensively different tasks and responsibilities to employees. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | Employees in this organization have broadly designed jobs requiring a variety of skills. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9 | Our company has a strong employer brand | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **Talent Development:** Please rate your agreement with each of the following statements | | 1=Strongly disagree | | | | 7= Strongly agree | | |
| 1 | Our employees will normally go through ongoing training programs. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | Our company provides training focused on team building and teamwork skills training. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3 | Our managers provide specialized training and development of their employees. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 | Our managers initiate and provide various kinds of training and development for their employees. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 | Our company has a good mentoring system to support new hires. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 | Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | Our company provides employees with engagement in R&D activities | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| **Talent Retention:** Please rate your agreement with each of the following statements | | 1=Strongly disagree | | | | 7= Strongly agree | | |
| 1 | Employees' performance appraisal is based on individual behaviors and attitudes at work. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| 2 | Employees' performance appraisal is oriented toward their development and progress at work. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|
| 3 | Employees' performance appraisal emphasizes collective and long-term-based results. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 | Employees receive performance feedback on a routine basis. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 | Performance appraisals are based in objective quantifiable results. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 | Employees are invited to participate in problem solving and decisions. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | Employees are provided the opportunity to suggest improvements in the way things are done. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| **Employee resilience** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Employee resilience:** Please rate your agreement with each of the following statements | | 1=Strongly disagree | | | | 7= Strongly agree | | |
| 1 | Our workers effectively collaborate with others to handle unexpected challenges at work | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | Our workers successfully manage a high workload for long periods of time | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3 | Our workers resolve crises competently at work | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4 | Our workers learn from mistakes at work and improve the way I do my job | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5 | Our workers re-evaluate their performance and continually improve the way they do their work | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6 | Our workers effectively respond to feedback at work, even criticism | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | Our workers seek assistance to work when they need specific resources | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | Our workers approach managers when they need their support | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 9 | Our workers use change at work as an opportunity for growth | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| **Organizational resilience** | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Organizational resilience:** Please rate your agreement with each of the following statements | | 1=Strongly disagree | | | | 7= Strongly agree | | |
| 1 | Our company stands straight and preserves its position | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2 | Our company is successful in generating diverse solutions | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| 3 | Our company rapidly takes action | 1 2 3 4 5 6 7 |
|---|---|---|
| 4 | Our company develops alternatives in order to benefit from negative circumstances | 1 2 3 4 5 6 7 |
| 5 | Our company is agile in taking required action when needed | 1 2 3 4 5 6 7 |
| 6 | Our company is a place where all the employees engaged to do what is required from them | 1 2 3 4 5 6 7 |
| 7 | Our company is successful in acting as a whole with all of its employees | 1 2 3 4 5 6 7 |
| 8 | Our company shows resistance to the end in order not to lose | 1 2 3 4 5 6 7 |
| 9 | Our company does not give up and continues its path | 1 2 3 4 5 6 7 |

**Appendix 12.** Descriptive statistics for the variables characterizing talent attraction policies.

| Descriptive statistics for Talent Attraction | | | | |
|---|---|---|---|---|
| | Mean | Standard deviation | Skewness | Kurtosis |
| Our company spends a great effort in selecting the right person for every position. | 5,79 | 1,349 | -0,889 | -0,188 |
| Our company uses extensive procedures in recruitment and selection, including a variety of tests and interviews. | 5,11 | 1,767 | -0,528 | -1,044 |
| In recruiting, our company emphasizes the potential of new hires to learn and grow with the company. | 5,64 | 1,657 | -1,104 | 0,185 |
| Our company takes care of its image when recruiting and selecting employees. | 5,69 | 1,594 | -1,166 | 0,653 |
| Employees are selected based on their overall fit with the organization. | 6,15 | 0,996 | -1,484 | 3,064 |
| Our company offers interesting job with possibilities to complete challenging assignments. | 5,81 | 1,291 | -1,228 | 1,650 |
| Our company transfers extensively different tasks and responsibilities to employees. | 5,67 | 1,329 | -0,672 | -0,496 |
| Employees in this organization have broadly designed jobs requiring a variety of skills. | 6,11 | 1,311 | -1,423 | 0,994 |
| Our company has a strong employer brand | 4,84 | 1,794 | -0,388 | -0,877 |

**Appendix 13.** Descriptive statistics for the variables characterizing talent development policies.

| Descriptive statistics for Talent Development | | | | |
|---|---|---|---|---|
| | Mean | Standard deviation | Skewness | Kurtosis |
| Our employees will normally go through ongoing training programs. | 4,83 | 1,826 | -0,270 | -1,145 |
| Our company provides training focused on team building and teamwork skills training. | 4,23 | 2,051 | 0,023 | -1,334 |
| Our managers provide specialized training and development of their employees. | 3,87 | 2,208 | 0,173 | -1,416 |
| Our managers initiate and provide various kinds of training and development for their employees. | 4,01 | 2,257 | -0,024 | -1,510 |
| Our company has a good mentoring system to support new hires. | 4,53 | 1,905 | -0,324 | -1,043 |
| Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | 4,52 | 1,877 | -0,139 | -1,069 |
| Our company provides employees with engagement in R&D activities | 3,89 | 2,090 | 0,036 | -1,281 |

**Appendix 14.** Descriptive statistics for variables characterizing talent retention practices.

| Descriptive statistics for Talent Retention | | | | |
|---|---|---|---|---|
| | Mean | Standard deviation | Skewness | Kurtosis |
| Employees' performance appraisal is based on individual behaviors and attitudes at work. | 4,71 | 1,873 | -0,409 | -0,967 |
| Employees' performance appraisal is oriented toward their development and progress at work. | 5,80 | 1,424 | -1,310 | 1,393 |
| Employees' performance appraisal emphasizes collective and long-term-based results. | 5,36 | 1,714 | -0,881 | -0,167 |
| Employees receive performance feedback on a routine basis. | 5,71 | 1,459 | -0,999 | 0,211 |
| Performance appraisals are based in objective quantifiable results. | 5,68 | 1,490 | -1,115 | 0,744 |
| Employees are invited to participate in problem solving and decisions. | 5,61 | 1,374 | -0,901 | 0,387 |
| Employees are provided the opportunity to suggest | 5,95 | 1,304 | -1,440 | 2,062 |

| | | | | |
|---|---|---|---|---|
| improvements in the way things are done. | | | | |
| Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc. | 4,49 | 1,941 | -0,206 | -1,139 |

**Appendix 15.** Descriptive statistics for variables characterizing employee resilience.

| Descriptive statistics for Employee Resilience | | | | |
|---|---|---|---|---|
| | Mean | Standard deviation | Skewness | Kurtosis |
| Our workers effectively collaborate with others to handle unexpected challenges at work. | 5,64 | 1,291 | -0,454 | -1,063 |
| Our workers successfully manage a high workload for long periods of time. | 5,76 | 1,334 | -1,159 | 1,410 |
| Our workers resolve crises competently at work. | 5,64 | 1,226 | -0,898 | 0,642 |
| Our workers learn from mistakes at work and improve the way they do their job. | 5,81 | 1,259 | -1,263 | 1,601 |
| Our workers re-evaluate their performance and continually improve the way they do their work. | 5,27 | 1,446 | -0,593 | -0,417 |
| Our workers effectively respond to feedback at work, even criticism. | 5,28 | 1,311 | -0,465 | -0,438 |
| Our workers seek assistance to work when they need specific resources. | 5,77 | 1,258 | -0,770 | -0,479 |
| Our workers approach managers when they need their support. | 5,91 | 1,544 | -1,538 | 1,715 |
| Our workers use change at work as an opportunity for growth. | 4,96 | 1,648 | -0,642 | -0,266 |

**Appendix 16.** Descriptive statistics for variables characterizing organizational resilience.

| Descriptive statistics for Organizational Resilience | | | | |
|---|---|---|---|---|
| | Mean | Standard deviation | Skewness | Kurtosis |
| Our company stands straight and preserves its position. | 5,65 | 1,214 | -0,602 | -0,512 |
| Our company is successful in generating diverse solutions. | 5,65 | 1,390 | -1,148 | 1,034 |
| Our company rapidly takes action. | 5,63 | 1,505 | -1,094 | 0,567 |
| Our company develops alternatives in order to benefit from negative circumstances. | 5,85 | 1,332 | -1,168 | 0,497 |
| Our company is agile in taking required action when needed. | 5,83 | 1,389 | -1,453 | 1,541 |

| | | | | |
|---|---|---|---|---|
| Our company is a place where all the employees engaged to do what is required from them. | 5,84 | 1,326 | -1,127 | 0,701 |
| Our company is successful in acting as a whole with all of its employees. | 5,32 | 1,526 | -0,750 | -0,447 |
| Our company shows resistance to the end in order not to lose. | 5,93 | 1,166 | -1,075 | 0,720 |
| Our company does not give up and continues its path. | 6,33 | 0,963 | -1,281 | 0,486 |

**Appendix 17.** Results of confirmatory factor analysis for talent management.
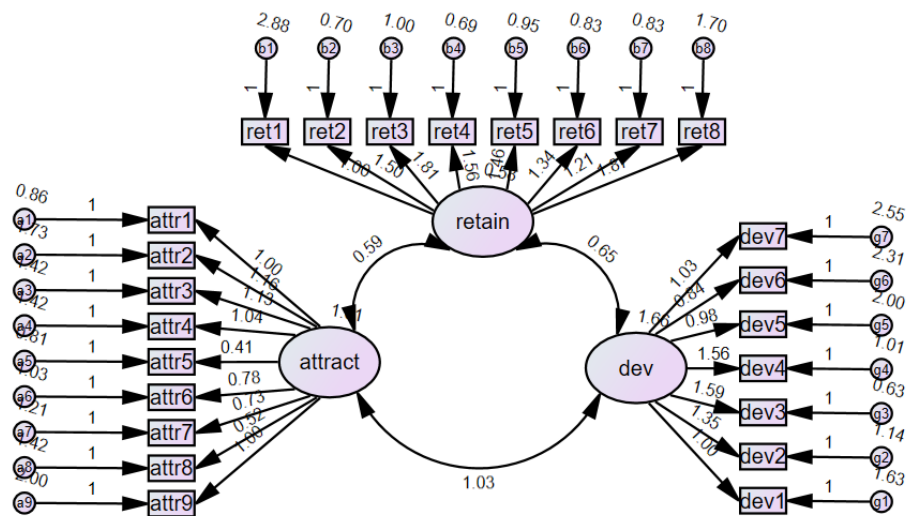


| Measure | Value |
|---|---|
| CMIN | 562.013 |
| DF | 250 |
| CMIN/DF | 2.248 |
| P-value | .000 |
| CFI | .736 |
| GFI | .620 |
| TLI | .708 |
| RMSEA | .130 |
| PCLOSE | .000 |

**Appendix 18.** Results of reliability analysis for the sub-scales of talent management.

| Reliability test for talent attraction | |
|---|---|
| Observations | 75 |
| Number of elements | 9 |
| Cronbach's Alpha | 0.831 |

| Reliability test for talent development | |
|---|---|
| Observations | 75 |
| Number of elements | 7 |
| Cronbach's Alpha | 0.901 |

| Reliability test for talent retention | |
|---|---|
| Observations | 75 |
| Number of elements | 8 |
| Cronbach's Alpha | 0.889 |

**Appendix 19.** Results of confirmatory factor analysis for organizational resilience.
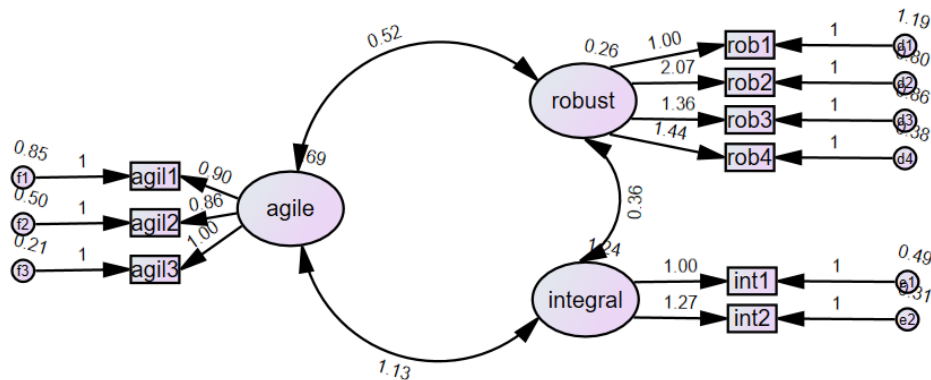


| Measure | Value |
|---|---|
| CMIN | 54.856 |
| DF | 24 |
| CMIN/DF | 2.286 |
| P-value | .000 |
| CFI | .920 |
| GFI | .882 |
| TLI | .880 |
| RMSEA | .132 |
| PCLOSE | .004 |

**Appendix 20.** Results of reliability analysis for the sub-scales of organizational resilience.

| Reliability test for robustness | |
|---|---|
| Observations | 75 |
| Number of elements | 2 |
| Cronbach's Alpha | 0.630 |

| Reliability test for agility | |
|---|---|
| Observations | 75 |
| Number of elements | 3 |
| Cronbach's Alpha | 0.884 |

| Reliability test for integrity | |
|---|---|
| Observations | 75 |
| Number of elements | 2 |
| Cronbach's Alpha | 0.876 |

**Appendix 21.** Results of employee resilience scale testing.
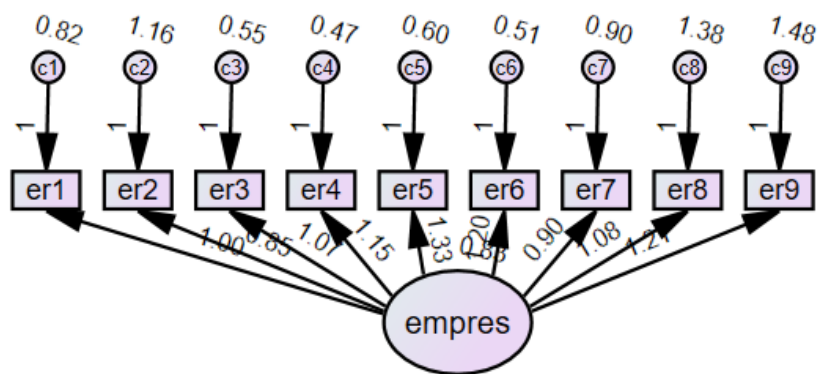


| Measure | Value |
|---|---|
| CMIN | 66.872 |
| DF | 27 |
| CMIN/DF | 2.477 |
| P-value | .000 |
| CFI | .897 |
| GFI | .835 |
| TLI | .863 |
| RMSEA | .141 |
| PCLOSE | .001 |

| Reliability test for employee resilience | |
|---|---|
| Observations | 75 |
| Number of elements | 9 |
| Cronbach's Alpha | 0.908 |

**Appendix 22.** Regression analysis for the relationship between talent management and organizational resilience

| Regression results with all variables included. | | |
|---|---|---|
| R-squared | .504 | |
| Adjusted R-squared | .483 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -2.608E-6 | 1.000 |
| Attraction | .022 | .875 |
| Development | **.169** | **.045** |
| Retention | **.416** | **<.001** |
| **Grand mean centering was applied to all variables | | |

| Final regression results. | | |
|---|---|---|
| R-squared | .504 | |
| Adjusted R-squared | .490 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -1.601E-6 | 1.000 |
| Development | **.177** | **.013** |
| Retention | **.422** | **<.001** |
| **Grand mean centering was applied to all variables | | |

**Appendix 23.** Regression results for the impact of talent management on robustness, agility, and integrity.

| Final regression results for robustness. | | |
|---|---|---|
| R-squared | .391 | |
| Adjusted R-squared | .383 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | 4.135E-5 | 1.000 |

| | | |
|---|---|---|
| Development | **.343** | **<.001** |
| **Grand mean centering was applied to all variables | | |

| **Final regression results for agility.** | | |
|---|---|---|
| R-squared | .406 | |
| Adjusted R-squared | .389 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -2.111E-5 | 1.000 |
| Development | **.200** | **.038** |
| Retention | **.471** | **<.001** |
| **Grand mean centering was applied to all variables | | |

| **Final regression results for integrity.** | | |
|---|---|---|
| R-squared | .372 | |
| Adjusted R-squared | .364 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -2.300E-5 | 1.000 |
| Retention | **.690** | **<.001** |
| **Grand mean centering was applied to all variables | | |

**Appendix 24.** Regression analysis for the relationship between talent management, employee resilience, and organizational resilience

| **Regression results with all variables included.** | | |
|---|---|---|
| R-squared | .692 | |
| Adjusted R-squared | .660 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | .060 | .494 |
| Attraction | -.083 | .495 |

| Development | .169 | .024 |
|---|---|---|
| Retention | .164 | .097 |
| Employee Resilience (ER) | .483 | <.001 |
| ER*Attraction | .243 | .080 |
| ER*Development | .013 | .870 |
| ER*Retention | -.293 | .007 |

**Grand mean centering was applied to all variables

| Regression results without the interaction of employee resilience with attraction and development. | | |
|---|---|---|
| R-squared | .666 | |
| Adjusted R-squared | .642 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | .090 | .310 |
| Attraction | -.123 | .309 |
| Development | .167 | .024 |
| Retention | .217 | .025 |
| Employee Resilience (ER) | .477 | <.001 |
| ER*Retention | -.293 | .096 |

**Grand mean centering was applied to all variables

| Regression results without all interactions. | | |
|---|---|---|
| R-squared | .652 | |
| Adjusted R-squared | .632 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | 7.144E-6 | 1.000 |
| Attraction | -.117 | .341 |
| Development | .133 | .063 |
| Retention | .277 | .003 |
| Employee Resilience (ER) | .485 | <.001 |

**Grand mean centering was applied to all variables

| Final regression results for organizational resilience. | | |
|---|---|---|
| R-squared | .634 | |
| Adjusted R-squared | .624 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -3.384E-6 | 1.000 |
| Retention | **.324** | **<.001** |
| Employee Resilience (ER) | **.501** | **<.001** |
| **Grand mean centering was applied to all variables | | |

**Appendix 25.** Regression analysis for the relationship between talent management, employee resilience, and robustness

| Regression results with all variables included. | | |
|---|---|---|
| R-squared | .512 | |
| Adjusted R-squared | .461 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -.015 | .878 |
| Attraction | .143 | .287 |
| Development | **.184** | **.025** |
| Retention | .004 | .970 |
| Employee Resilience (ER) | **.269** | **.006** |
| ER*Attraction | .208 | .170 |
| ER*Development | -.022 | .806 |
| ER*Retention | -.117 | .314 |
| **Grand mean centering was applied to all variables | | |

| Regression results without the interaction of employee resilience with development and retention. | |
|---|---|
| R-squared | .501 |
| Adjusted R-squared | .465 |
| p-value | <.001 |

| Coefficients** | | |
|---|---|---|
| | B | Significance |
| Constant | -.052 | .560 |
| Attraction | .123 | .342 |
| Development | **.172** | **.026** |
| Retention | .047 | .616 |
| Employee Resilience (ER) | **.274** | **.004** |
| ER*Attraction | .093 | .288 |
| **Grand mean centering was applied to all variables | | |

| Regression results without all interactions. | | |
|---|---|---|
| R-squared | .493 | |
| Adjusted R-squared | .464 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | 3.282E-5 | 1.000 |
| Attraction | .104 | .416 |
| Development | **.188** | **.013** |
| Retention | .037 | .692 |
| Employee Resilience (ER) | **.269** | **.005** |
| **Grand mean centering was applied to all variables | | |

| Final regression results for robustness. | | |
|---|---|---|
| R-squared | .485 | |
| Adjusted R-squared | .471 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | 4.016E-5 | 1.000 |
| Development | **.239** | **<.001** |
| Employee Resilience (ER) | **.306** | **<.001** |
| **Grand mean centering was applied to all variables | | |

**Appendix 26.** Regression analysis for the relationship between talent management, employee resilience, and agility.

| Table 14a. Regression results with all variables included. | | |
|---|---|---|
| R-squared | .528 | |
| Adjusted R-squared | .479 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | .156 | .250 |
| Attraction | -.226 | .232 |
| Development | **.284** | **.015** |
| Retention | .235 | .125 |
| Employee Resilience (ER) | **.370** | **.007** |
| ER*Attraction | .299 | .161 |
| ER*Development | -.031 | .800 |
| ER*Retention | **-.419** | **.012** |
| **Grand mean centering was applied to all variables | | |

| Regression results without the interaction between employee resilience and attraction and development. | | |
|---|---|---|
| R-squared | .510 | |
| Adjusted R-squared | .474 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | .189 | .162 |
| Attraction | -.282 | .125 |
| Development | **.293** | **.009** |
| Retention | .275 | .059 |
| Employee Resilience (ER) | **.368** | **.007** |
| ER*Retention | **-.266** | **.023** |
| **Grand mean centering was applied to all variables | | |

| Final regression results for agility. | | |
|---|---|---|
| R-squared | .438 | |
| Adjusted R-squared | .423 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -2.606E-5 | 1.000 |
| Retention | **.448** | **<.001** |
| Employee Resilience (ER) | **.393** | **.004** |
| **Grand mean centering was applied to all variables | | |

**Appendix 27.** Regression analysis for the relationship between talent management, employee resilience, and integrity.

| Regression results with all variables included. | | |
|---|---|---|
| R-squared | .638 | |
| Adjusted R-squared | .600 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | .038 | .763 |
| Attraction | -.166 | .345 |
| Development | .039 | .712 |
| Retention | .254 | .075 |
| Employee Resilience (ER) | **.811** | **<.001** |
| ER*Attraction | .221 | .263 |
| ER*Development | .092 | .424 |
| ER*Retention | **-.342** | **.027** |
| **Grand mean centering was applied to all variables | | |

| Regression results without development and the interaction of employee resilience and development. | |
|---|---|
| R-squared | .634 |
| Adjusted R-squared | .608 |
| p-value | <.001 |

| Coefficients** | | |
|---|---|---|
| | B | Significance |
| Constant | .032 | .794 |
| Attraction | -.123 | .406 |
| Retention | **.292** | **.024** |
| Employee Resilience (ER) | **.802** | **<.001** |
| ER*Attraction | **.319** | **.041** |
| ER*Retention | **-.298** | **.035** |
| **Grand mean centering was applied to all variables | | |

| **Final regression results for integrity.** | | |
|---|---|---|
| R-squared | .596 | |
| Adjusted R-squared | .585 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -1.033E-5 | 1.000 |
| Retention | **.310** | **.004** |
| Employee Resilience (ER) | **.750** | **<.001** |
| **Grand mean centering was applied to all variables | | |

**Appendix 28.** Regression analysis for the relationship between talent management and employee resilience.

| **Regression results with all variables included.** | | |
|---|---|---|
| R-squared | .401 | |
| Adjusted R-squared | .376 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -2.012E-5 | 1.000 |
| Attraction | .286 | .076 |
| Development | .076 | .422 |
| Retention | **.286** | **.014** |
| **Grand mean centering was applied to all variables | | |

**Final regression results.**

| R-squared | .396 | |
|---|---|---|
| Adjusted R-squared | .379 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -2.635E-5 | 1.000 |
| Attraction | **.356** | **.009** |
| Retention | **.316** | **.004** |
| **Grand mean centering was applied to all variables | | |

**Appendix 29.** Correlation between variables of organizational resilience and talent attraction

| | Number of employees | Age | Scale of operations | Our company spends a great effort in selecting the right person for every position. | Our company uses extensive procedures in recruitment and selection, including a variety of tests and interviews. | In recruiting, our company emphasizes the potential of new hires to learn and grow with the company. | Our company takes care of its image when recruiting and selecting employees. | Employees are selected based on their overall fit with the organization. | Our company offers interesting job with possibilities to complete challenging assignments. | Our company transfers extensively different tasks and responsibilities to employees. | Employees in this organization have broadly designed jobs requiring a variety of skills. | Our company has a strong employer brand. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Our company stands straight and preserves its position. | .322** | .234* | .280* | .260* | .295* | 0,206 | .384** | .333** | .277* | .271* | 0,134 | .545** |
| Our company is successful in generating diverse solutions. | .319** | 0,126 | .301** | .320** | .252* | .350** | .415** | .232* | .438** | .288* | .354** | .568** |
| Our company rapidly takes action. | 0,087 | 0,092 | 0,209 | .333** | 0,178 | .449** | .233* | .299** | .256* | 0,140 | 0,144 | .368** |

| | Our company develops alternatives in order to benefit from negative circumstances. | Our company is agile in taking required action when needed. | Our company is a place where all the employees engaged to do what is required from them. | Our company is successful in acting as a whole with all of its employees. | Our company shows resistance to the end in order not to lose. |
|---|---|---|---|---|---|
| Number of employees | -0,073 | -0,105 | -0,040 | -0,109 | -0,020 |
| Age | 0,030 | -0,070 | 0,021 | 0,048 | -0,055 |
| Scale of operations | 0,164 | 0,128 | 0,090 | 0,105 | 0,143 |
| Our company spends a great effort in selecting the right person for every position. | .501** | .406** | .374** | .414** | 0,154 |
| Our company uses extensive procedures in recruitment and selection, including a variety of tests and interviews. | .271* | 0,211 | 0,215 | 0,198 | 0,023 |
| In recruiting, our company emphasizes the potential of new hires to learn and grow with the company. | .386** | .372** | .349** | .361** | .288* |
| Our company takes care of its image when recruiting and selecting employees. | .265* | .250* | .232* | .246* | .287* |
| Employees are selected based on their overall fit with the organization. | .454** | .322** | .305** | .422** | 0,195 |
| Our company offers interesting job with possibilities to complete challenging assignments. | .306** | 0,163 | .322** | .243* | .306** |
| Our company transfers extensively different tasks and responsibilities to employees. | 0,064 | 0,012 | .353** | 0,227 | .273* |
| Employees in this organization have broadly designed jobs requiring a variety of skills. | 0,117 | 0,025 | 0,111 | 0,111 | 0,199 |
| Our company has a strong employer brand. | 0,216 | .249* | .319** | .241* | .357** |

| | Number of employees | Age | Scale of operations | Our company spends a great effort in selecting the right person for every position. | Our company uses extensive procedures in recruitment and selection, including a variety of tests and interviews. | In recruiting, our company emphasizes the potential of new hires to learn and grow with the company. | Our company takes care of its image when recruiting and selecting employees. | Employees are selected based on their overall fit with the organization. | Our company offers interesting job with possibilities to complete challenging assignments. | Our company transfers extensively different tasks and responsibilities to employees. | Employees in this organization have broadly designed jobs requiring a variety of skills. | Our company has a strong employer brand. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Our company does not give up and continues its path. | 0,044 | -0,155 | 0,170 | .264* | 0,066 | .372** | 0,182 | 0,174 | .257* | 0,162 | 0,100 | .336** |

**Appendix 30.** Correlation between variables of organizational resilience and talent development.

| | Our employees will normally go through ongoing training programs. | Our company provides training focused on team building and teamwork skills training. | Our managers provide specialized training and development of their employees. | Our managers initiate and provide various kinds of training and development for their employees. | Our company has a good mentoring system to support new hires. | Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | Our company provides employees with engagement in R&D activities |
|---|---|---|---|---|---|---|---|
| Our company stands straight and preserves its position. | .375** | .407** | .421** | .485** | .473** | .323** | .278* |
| Our company is successful in generating diverse solutions. | .386** | .417** | .381** | .488** | .474** | .557** | .480** |
| Our company rapidly takes action. | .429** | .418** | .404** | .379** | .518** | .495** | .322** |

| | Our company develops alternatives in order to benefit from negative circumstances. | Our company is agile in taking required action when needed. | Our company is a place where all the employees engaged to do what is required from them. | Our company is successful in acting as a whole with all of its employees. | Our company shows resistance to the end in order not to lose. | Our company does not give up and continues its path. |
|---|---|---|---|---|---|---|
| Our employees will normally go through ongoing training programs. | .273* | .356** | .290* | .297** | 0,204 | 0,210 |
| Our company provides training focused on team building and teamwork skills training. | .393** | .370** | .292* | .313** | .300** | .331** |
| Our managers provide specialized training and development of their employees. | .352** | .354** | .265* | .290* | .243* | .358** |
| Our managers initiate and provide various kinds of training and development for their employees. | .248* | .337** | .312** | .301** | 0,201 | .284* |
| Our company has a good mentoring system to support new hires. | .409** | .556** | .430** | .484** | .259* | .373** |
| Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | .469** | .450** | .381** | .389** | .491** | .508** |
| Our company provides employees with engagement in R&D activities | .310** | .347** | .340** | .299** | 0,224 | .340** |

**Appendix 31.** Correlation between variables of organizational resilience and talent development.

| | Employees' performance appraisal is based on individual behaviors and attitudes at work. | Employees' performance appraisal is oriented toward their development and progress at work. | Employees' performance appraisal emphasizes collective and long-term-based results. | Employees receive performance feedback on a routine basis. | Performance appraisals are based in objective quantifiable results. | Employees are invited to participate in problem solving and decisions. | Employees are provided the opportunity to suggest improvements in the way things are done. | Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc. |
|---|---|---|---|---|---|---|---|---|
| Our company stands straight and preserves its position. | 0,139 | .397** | .301** | .262* | 0,177 | .275* | .236* | .286* |
| Our company is successful in generating diverse solutions. | 0,210 | .531** | .496** | .302** | .311** | .474** | .489** | .500** |
| Our company rapidly takes action. | 0,167 | .614** | .483** | .473** | .392** | .308** | .424** | .360** |
| Our company develops alternatives in order to benefit from negative circumstances. | .372** | .597** | .384** | .374** | .337** | .382** | .532** | .368** |
| Our company is agile in taking required action when needed. | .261* | .679** | .464** | .535** | .463** | .375** | .540** | .318** |
| Our company is a place where all the employees engaged to do what is required from them. | 0,188 | .699** | .460** | .555** | .336** | .514** | .550** | .367** |

| | Our company is successful in acting as a whole with all of its employees. | Our company shows resistance to the end in order not to lose. | Our company does not give up and continues its path. |
|---|---|---|---|
| Employees' performance appraisal is based on individual behaviors and attitudes at work. | .279* | 0,164 | 0,092 |
| Employees' performance appraisal is oriented toward their development and progress at work. | .702** | .382** | .414** |
| Employees' performance appraisal emphasizes collective and long-term-based results. | .451** | .316** | .377** |
| Employees receive performance feedback on a routine basis. | .559** | 0,219 | .234* |
| Performance appraisals are based in objective quantifiable results. | .343** | 0,120 | 0,141 |
| Employees are invited to participate in problem solving and decisions. | .427** | .439** | .354** |
| Employees are provided the opportunity to suggest improvements in the way things are done. | .457** | .273* | .359** |
| Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc. | .325** | 0,146 | .229* |

**Appendix 32.** Correlation between variables of employee resilience and talent management.

| | Number of employees | Age |
|---|---|---|
| Our workers effectively collaborate with others to handle unexpected challenges at work. | -0,046 | 0,052 |
| Our workers successfully manage a high workload for long periods of time. | 0,007 | -0,087 |
| Our workers resolve crises competently at work. | 0,028 | -0,041 |
| Our workers learn from mistakes at work and improve the way they do their job. | 0,002 | 0,007 |
| Our workers re-evaluate their performance and continually improve the way they do their work. | 0,173 | 0,024 |
| Our workers effectively respond to feedback at work, even criticism. | 0,053 | -0,037 |
| Our workers seek assistance to work when they need specific resources. | -0,019 | -0,014 |
| Our workers approach managers when they need their support. | 0,021 | 0,044 |
| Our workers use change at work as an opportunity for growth. | 0,201 | 0,012 |

| | Scale of operations | Our company spends a great effort in selecting the right person for every position. | Our company uses extensive procedures in recruitment and selection, including a variety of tests and interviews. | In recruiting, our company emphasizes the potential of new hires to learn and grow with the company. | Our company takes care of its image when recruiting and selecting employees. | Employees are selected based on their overall fit with the organization. |
|---|---|---|---|---|---|---|
| Our workers effectively collaborate with others to handle unexpected challenges at work. | 0,087 | .258* | 0,224 | 0,210 | 0,176 | .283* |
| Our workers successfully manage a high workload for long periods of time. | 0,032 | 0,061 | 0,177 | 0,064 | -0,061 | 0,179 |
| Our workers resolve crises competently at work. | 0,053 | .231* | .330** | .381** | 0,060 | 0,221 |
| Our workers learn from mistakes at work and improve the way they do their job. | 0,163 | .279* | .361** | .395** | 0,180 | 0,151 |
| Our workers re-evaluate their performance and continually improve the way they do their work. | .251* | .307** | .322** | .379** | 0,159 | 0,188 |
| Our workers effectively respond to feedback at work, even criticism. | 0,184 | .386** | .372** | .476** | 0,145 | 0,217 |
| Our workers seek assistance to work when they need specific resources. | 0,152 | .409** | 0,151 | .349** | 0,147 | .232* |
| Our workers approach managers when they need their support. | .267* | .529** | .445** | .378** | .362** | 0,176 |
| Our workers use change at work as an opportunity for growth. | .252* | .318** | .257* | .351** | 0,191 | .242* |

| | Our managers provide specialized training and development of their employees. | Our company provides training focused on team building and teamwork skills training. | Our employees will normally go through ongoing training programs. | Our company has a strong employer brand. | Employees in this organization have broadly designed jobs requiring a variety of skills. | Our company transfers extensively different tasks and responsibilities to employees. | Our company offers interesting job with possibilities to complete challenging assignments. |
|---|---|---|---|---|---|---|---|
| Our workers effectively collaborate with others to handle unexpected challenges at work. | .334** | .338** | 0,185 | 0,208 | 0,191 | .307** | .470** |
| Our workers successfully manage a high workload for long periods of time. | 0,095 | .238* | 0,127 | .277* | .278* | .381** | .366** |
| Our workers resolve crises competently at work. | 0,222 | .248* | 0,189 | .287* | 0,150 | .373** | .332** |
| Our workers learn from mistakes at work and improve the way they do their job. | .331** | .409** | .303** | .322** | 0,160 | .374** | .336** |
| Our workers re-evaluate their performance and continually improve the way they do their work. | .418** | .431** | .366** | .522** | .227* | .385** | .490** |
| Our workers effectively respond to feedback at work, even criticism. | .396** | .429** | .297** | .410** | 0,187 | .357** | .407** |
| Our workers seek assistance to work when they need specific resources. | .247* | .235* | .253* | .253* | 0,039 | .261* | 0,206 |
| Our workers approach managers when they need their support. | .432** | .446** | .325** | .248* | 0,052 | .354** | .357** |
| Our workers use change at work as an opportunity for growth. | .400** | .347** | .254* | .432** | .284* | .389** | .492** |

| | Employees' performance appraisal is based on individual behaviors and attitudes at work. | Our company provides employees with engagement in R&D activities. | Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | Our company has a good mentoring system to support new hires. | Our managers initiate and provide various kinds of training and development for their employees. |
|---|---|---|---|---|---|
| Our workers effectively collaborate with others to handle unexpected challenges at work. | .246* | 0,201 | .346** | .387** | .261* |
| Our workers successfully manage a high workload for long periods of time. | 0,209 | 0,083 | 0,164 | 0,168 | 0,046 |
| Our workers resolve crises competently at work. | 0,024 | 0,212 | .241* | .344** | 0,187 |
| Our workers learn from mistakes at work and improve the way they do their job. | 0,091 | 0,146 | .293* | .369** | .291* |
| Our workers re-evaluate their performance and continually improve the way they do their work. | 0,224 | .439** | .481** | .507** | .450** |
| Our workers effectively respond to feedback at work, even criticism. | 0,205 | .371** | .368** | .361** | .364** |
| Our workers seek assistance to work when they need specific resources. | 0,161 | .289* | .314** | .333** | 0,206 |
| Our workers approach managers when they need their support. | 0,196 | .357** | .311** | .472** | .369** |
| Our workers use change at work as an opportunity for growth. | 0,215 | .376** | .466** | .472** | .436** |

| | Employees are provided the opportunity to suggest improvements in the way things are done. | Employees are invited to participate in problem solving and decisions. | Performance appraisals are based in objective quantifiable results. | Employees receive performance feedback on a routine basis. | Employees' performance appraisal emphasizes collective and long-term-based results. | Employees' performance appraisal is oriented toward their development and progress at work. |
|---|---|---|---|---|---|---|
| Our workers effectively collaborate with others to handle unexpected challenges at work. | .374** | .477** | 0,199 | .417** | .304** | .446** |
| Our workers successfully manage a high workload for long periods of time. | 0,210 | .288* | 0,090 | .241* | 0,026 | 0,145 |
| Our workers resolve crises competently at work. | .360** | .429** | .239* | .378** | .236* | .477** |
| Our workers learn from mistakes at work and improve the way they do their job. | .446** | .473** | .371** | .499** | .276* | .514** |
| Our workers re-evaluate their performance and continually improve the way they do their work. | .524** | .583** | .423** | .467** | .435** | .630** |
| Our workers effectively respond to feedback at work, even criticism. | .349** | .376** | .254* | .397** | .303** | .559** |
| Our workers seek assistance to work when they need specific resources. | 0,198 | .285* | 0,163 | .368** | .383** | .548** |
| Our workers approach managers when they need their support. | .313** | .390** | .463** | .546** | .447** | .520** |
| Our workers use change at work as an opportunity for growth. | .364** | .429** | .242* | .377** | .412** | .515** |

| Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc. | Our workers effectively collaborate with others to handle unexpected challenges at work. | Our workers successfully manage a high workload for long periods of time. | Our workers resolve crises competently at work. | Our workers learn from mistakes at work and improve the way they do their job. | Our workers re-evaluate their performance and continually improve the way they do their work. | Our workers effectively respond to feedback at work, even criticism. | Our workers seek assistance to work when they need specific resources. | Our workers approach managers when they need their support. | Our workers use change at work as an opportunity for growth. |
|---|---|---|---|---|---|---|---|---|---|
| | .234* | 0,130 | .308** | .320** | .492** | .280* | 0,190 | .381** | .387** |

**Appendix 33.** Regression analysis for the relationship between specific talent management practices and organizational resilience.

| Regression results with all variables included. | | |
|---|---|---|
| R-squared | .608 | |
| Adjusted R-squared | .547 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | .001 | .988 |
| Employee Resilience | **.327** | **<.001** |
| Employees' performance appraisal is oriented toward their development and progress at work. | **.286** | **<.001** |
| Employees receive performance feedback on a routine basis. | .028 | .675 |
| Employees are provided the opportunity to suggest improvements in the way things are done. | .146 | .061 |
| Our company has a strong employer brand. | .042 | .342 |
| Our company spends a great effort in selecting the right person for every position. | .000 | .997 |

| | .099 | .037 |
|---|---|---|
| Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | **.099** | **.037** |
| Our company has a good mentoring system to support new hires. | .031 | .494 |
| Employees are invited to participate in problem solving and decisions. | -.104 | .176 |
| Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc. | -.040 | .441 |
| **Grand mean centering was applied to all variables | | |

| **Final regression results.** | | |
|---|---|---|
| R-squared | .736 | |
| Adjusted R-squared | .725 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constanta | 7.407E-6 | 1.000 |
| Employee Resilience | **.345** | **<.001** |
| Employees' performance appraisal is oriented toward their development and progress at work. | **.334** | **<.001** |
| Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | **.101** | **.012** |
| **Grand mean centering was applied to all variables | | |

**Appendix 34.** Regression analysis for the relationship between specific talent management practices and robustness.

| **Regression results with all variables included.** | |
|---|---|
| R-squared | .671 |
| Adjusted R-squared | .619 |
| p-value | <.001 |

| Coefficients** | | |
|---|---|---|
| | B | Significance |
| Constant | .001 | .992 |
| Employee Resilience | .151 | .087 |
| Employees' performance appraisal is oriented toward their development and progress at work. | .132 | .112 |
| Employees receive performance feedback on a routine basis. | **-.145** | **.036** |
| Employees are provided the opportunity to suggest improvements in the way things are done. | .091 | .248 |
| Our company has a strong employer brand. | **.196** | **<.001** |
| Our company spends a great effort in selecting the right person for every position. | -.044 | .523 |
| Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | **.100** | **.040** |
| Our company has a good mentoring system to support new hires. | .071 | .131 |
| Employees are invited to participate in problem solving and decisions. | .088 | .263 |
| Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc. | -.053 | .323 |
| **Grand mean centering was applied to all variables | | |

| Final regression results. | | |
|---|---|---|
| R-squared | .603 | |
| Adjusted R-squared | .586 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | 3.333E-5 | 1.000 |
| Employee Resilience | **.240** | **.002** |

| | | |
|---|---|---|
| Our company has a strong employer brand. | **.168** | **<.001** |
| Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | **.169** | **<.001** |
| **Grand mean centering was applied to all variables | | |

**Appendix 35.** Regression analysis for the relationship between specific talent management practices and agility.

| Regression results with all variables included. | | |
|---|---|---|
| R-squared | .608 | |
| Adjusted R-squared | .547 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | .002 | .982 |
| Employee Resilience | .224 | .105 |
| Employees' performance appraisal is oriented toward their development and progress at work. | **.339** | **.010** |
| Employees receive performance feedback on a routine basis. | .106 | .321 |
| Employees are provided the opportunity to suggest improvements in the way things are done. | .235 | .060 |
| Our company has a strong employer brand. | -.019 | .788 |
| Our company spends a great effort in selecting the right person for every position. | .044 | .683 |
| Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | **.177** | **.021** |
| Our company has a good mentoring system to support new hires. | .044 | .551 |
| Employees are invited to participate in problem solving and decisions. | **-.300** | **.016** |

| Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc. | -.024 | .776 |
|---|---|---|
| **Grand mean centering was applied to all variables | | |

| **Final regression results.** | | |
|---|---|---|
| R-squared | .597 | |
| Adjusted R-squared | .568 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | .002 | .985 |
| Employee Resilience | **.253** | **.048** |
| Employees' performance appraisal is oriented toward their development and progress at work. | **.418** | **<.001** |
| Employees are provided the opportunity to suggest improvements in the way things are done. | **.253** | **.018** |
| Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | **.170** | **.011** |
| Employees are invited to participate in problem solving and decisions. | **-.288** | **.009** |
| **Grand mean centering was applied to all variables | | |

**Appendix 36.** Regression analysis for the relationship between specific talent management practices and integrity.

| **Regression results with all variables included.** | | |
|---|---|---|
| R-squared | .690 | |
| Adjusted R-squared | .641 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | .001 | .989 |

| | | |
|---|---|---|
| Employee Resilience | **.607** | **<.001** |
| Employees' performance appraisal is oriented toward their development and progress at work. | **.388** | **.002** |
| Employees receive performance feedback on a routine basis. | .122 | .226 |
| Employees are provided the opportunity to suggest improvements in the way things are done. | .111 | .343 |
| Our company has a strong employer brand. | -.051 | .449 |
| Our company spends a great effort in selecting the right person for every position. | -.001 | .995 |
| Our company emphasizes employees' job rotation and flexible work assignments in different work areas. | .021 | .765 |
| Our company has a good mentoring system to support new hires. | -.021 | .761 |
| Employees are invited to participate in problem solving and decisions. | -.099 | .392 |
| Employees are invited to participate in a wide range of issues, including performance standards, quality improvement, benefits, etc. | -.044 | .577 |
| **Grand mean centering was applied to all variables | | |

| Final regression results. | | |
|---|---|---|
| R-squared | .669 | |
| Adjusted R-squared | .659 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -3.934E-16 | 1.000 |
| Employee Resilience | **.581** | **<.001** |
| Employees' performance appraisal is oriented toward | **.430** | **<.001** |

| | | |
|---|---|---|
| their development and progress at work. | | |
| **Grand mean centering was applied to all variables | | |

**Appendix 37.** Regression analysis for the relationship between specific talent management practices and employee resilience.

| Regression results with all variables included. | | |
|---|---|---|
| R-squared | .517 | |
| Adjusted R-squared | .451 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -.001 | .993 |
| Employees' performance appraisal is oriented toward their development and progress at work. | **.243** | **.029** |
| Employees receive performance feedback on a routine basis. | .070 | .464 |
| Employees are provided the opportunity to suggest improvements in the way things are done. | -.025 | .810 |
| Our company has a strong employer brand. | .048 | .494 |
| Our company spends a great effort in selecting the right person for every position. | -.037 | .714 |
| Our company has a good mentoring system to support new hires. | .062 | .333 |
| Employees are invited to participate in problem solving and decisions. | .101 | .330 |
| Our company offers interesting job with possibilities to complete challenging assignments. | .136 | .177 |
| Our company provides training focused on team building and teamwork skills training. | .040 | .537 |
| **Grand mean centering was applied to all variables | | |

| Final regression results. | | |
|---|---|---|
| R-squared | .470 | |
| Adjusted R-squared | .456 | |
| p-value | <.001 | |
| Coefficients** | | |
| | B | Significance |
| Constant | -.001 | .993 |
| Employees' performance appraisal is oriented toward their development and progress at work. | **.375** | **<.001** |
| Our company offers interesting job with possibilities to complete challenging assignments. | **.229** | **.004** |
| **Grand mean centering was applied to all variables | | |