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Analysing the Relationship Between Human Resource Agility and Entrepreneurship Using Structural Equation Modeling Approach

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Abstract

Given the profound transformations observed within the technology sector, governmental bodies are endeavouring to establish a conducive framework for digital advancement. This effort involves a concentrated emphasis on cultivating digital competencies, nurturing digital leadership, and streamlining the provision of digital financial services. Human resource agility, characterized by employees' ability to adapt, learn, and respond to dynamic business environments, has emerged as a critical factor in driving entrepreneurship. Hence, this research tried to explore the relationship between human resource agility and entrepreneurship in the directorates of the Jordanian Ministry of Digital Economy and Entrepreneurship. Through an electronic questionnaire distributed to a convenience sample, the research obtained 310 employees which constituted a response rate of 68.8% of what was sent. The analysis procedures were followed using structural equation modeling (SEM) to achieve the research objectives. The findings demonstrated that the dimensions of human resource agility, i.e., adaptability, resilience, and competency, had positive direct impacts on entrepreneurship that were measured through innovativeness, risk-taking, and proactiveness. Therefore, the implication of this research emphasized the necessity of supporting activities associated with adaptability, decision-making velocity, and employee empowerment, such as offering training and development opportunities and fostering an innovative culture. The research findings support the theories of the resource-based view and dynamic capabilities.

Keywords: *Human Resource Agility, Entrepreneurship, Ministry of Digital Economy and Entrepreneurship, Jordan.*

Introduction

Organizational capabilities and sustainable growth are critical to the survival of modern government bodies and their ability to satisfy the requirements of their customers. Organizations encounter continuous vicissitudes in today's dynamic environment, such as technical breakthroughs, evolving market needs, and regulatory revisions (Moustaghfir et al., 2020; AlHamad et al., 2022). Human resource agility assists organizations in anticipating and responding to these changes effectively by using adaptable organizational structures and modifying job roles to acquire the necessary abilities (Khodabandeh et al., 2018; Khalaylah et al., 2023). Furthermore, organizations that value agile work environments are more likely to attract individuals since they exhibit a commitment to employee development and progress, as well as seeking talent retention (Jameel & Mhaibes, 2022).

Organizations are also looking for entrepreneurial opportunities through their ventures toward improving their creative skills and maintaining advanced performance.

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Entrepreneurship enables organizations to remain in the appropriate context to face rapid technological developments, market disruptions, and changing citizens interests by encouraging employee entrepreneurial behaviour and initiatives (Boone et al., 2019) and fostering a culture of creativity and experimentation oriented to continuous improvement (Ziyae & Sadeghi, 2020; Al-Quran et al., 2023). On the other hand, entrepreneurial endeavours frequently result in the formation of new ventures and strategic alliances between government bodies to support novel ideas generation and improved organizations' performance (Funko et al., 2023).

Organizations in dynamic contexts strive to establish a relationship between human resource agility and entrepreneurship to improve strategic performance and promote an atmosphere receptive to innovation. Human resource agility can prove crucial in cultivating an entrepreneurial attitude, which entails developing employees who are willing to take risks and seek out novel opportunities to disrupt the current situation by encouraging innovation and generating new ideas based on employees empowering to think like entrepreneurs (Padi et al., 2022; Mohammad et al., 2020). According to the resource-based view, organizations possess an accumulation of valuable, rare, unique, and irreplaceable resources that could be utilized to gain sustained and distinct performance. Human resource agility is one such valued resource. Organizations may establish an adaptive and competent workforce capable of spearheading entrepreneurial efforts (Dabić et al., 2021; Al-Armeti et al., 2023). Furthermore, human resource agility improves employee engagement and motivation, both of which are key drivers of entrepreneurship in organizations, by providing opportunities for autonomy, empowerment, and personal development that create an entrepreneurial mindset among employees (Al-Lozi et al., 2018; Obaid et al., 2023). The resource-based view provides a lens through which mechanisms and processes that contribute to the development and success of entrepreneurial activities within organizations can be analysed by optimally investing in the capabilities of their employees.

Recently, many research efforts have emerged that attempt to associate agile administrative systems with the organization's ability to achieve entrepreneurship and stimulate innovation. However, the effect of human resources agility on entrepreneurship in a governmental context has not been explicitly investigated. In developing economies or emerging industrial sectors, human resource agility represents the main element of success and innovation, since the prevailing operations and activities are based on the service economy and the provision of smart alternatives to citizens through investing in human capital. Hence, this research sought to provide empirical evidence of the impact of human resources agility on entrepreneurship in the Jordanian government sector, represented by employees of the Ministry of Digital Economy and Entrepreneurship. The current research contributes to the literature by empirically investigating the relationship between human resource agility and entrepreneurship in government bodies, providing theoretical insights into the RBV perspective, and providing practical implications for human resource managers to enhance their understanding of organizational behaviour and performance resulting from coping with disruptions in the business environment.

Literature Review

Human resource agility

Human resource agility is defined as an organization's human resource function's capability to rapidly adapt, respond, and prosper in the face of changing business circumstances, market dynamics, and technology breakthroughs (Shahsavari-Pour et al., 2021). It entails creating a flexible and dynamic workforce capable of rapidly adjusting to new challenges, opportunities, and requirements of customers' desires. Khodabandeh et al. (2018) described this notion as the organization's human resources capability to predict the needs of an evolving workplace and react to them dynamically and successfully by

recruiting the right talents, skills, and capabilities at the right time. Whereas Hojati et al. (2023) stated that human resource agility indicates employees' abilities to sense transformations in the external environment and modify the strategic direction of the organization in adaptation to them, as it involves integrating human resource practices with work objectives, strengthening employee empowerment and independence, as well as enabling the development of agile capabilities within the workforce.

The theoretical investigation into the human resource agility notion highlights the significance of implementing workforce management systems with diverse capabilities in order for the business to accomplish its strategic goals and holistic vision. Therefore, it is necessary to create and execute adaptive human resource systems, which involve establishing human resource practices and structures that are tailored to the expectations of volatile circumstances (Karman, 2019; Almaaitah et al., 2023). Additionally, efficient talent management is essential for establishing human resource agility. Organizations should attract, develop, and retain employees with the necessary skills and competencies by utilizing technology and advanced data analytics to recruit talent and employing novel methods for their training and career management (Al-Nawasrah & Alafi, 2021; Almomani et al., 2023). On the other hand, Ajgaonkar et al. (2022) argued that it involves a transformation from rigid hierarchical structures toward more flexible, cross-functional, team-based approaches since agile human resource structures enable organizations to increase cooperation, stimulate creativity, and make decisions at multiple tiers.

Human resource agility has several dimensions on which organizations could focus in order to grow and improve their human resource capabilities (Jameel & Mhaibes, 2022; Athamneh & Jais, 2023; Thani et al., 2022). (a) Adaptability expresses the organization's individuals' and teams' ability to adjust and respond to varying circumstances, new challenges, and unexpected situations, where it entails adjusting behaviours and strategic approaches by empowering human resources and providing an organizational learning climate to apply novel methods to perform routine work (Obaid et al., 2023). (b) Resilience refers to an organization's human resources' ability to recover and adapt in the face of adversity, setbacks, or difficult conditions. It is a critical aspect of human resource agility since it enables organizations to survive and thrive in the turbulent business environment, which includes developing a mentally and emotionally resilient workforce, fostering a supportive work environment, and implementing strategies that improve employees' psychological well-being (Khan et al., 2019). (c) Competency is a critical component that promotes human resource agility by enabling employees to successfully perform their roles and evolve new experiences, as it refers to the unique knowledge, skills, abilities, and behaviours that individuals or teams should possess to cope correctly with developing business requirements and contribute to organizational flexibility (Sedyastuti et al., 2021).

Entrepreneurship

Entrepreneurship is a manner of improving entrepreneurial endeavours and procedures inside established organizations (Chebbi et al., 2020). It is an approach that encourages and supports creativity, experimentation, and the discovery of new possibilities within the dynamic landscape of the organization’s environment (Funko et al., 2023). Ikebujo et al. (2023) stated that entrepreneurship is the process of launching new enterprises or regenerating old ones within the context of a big, well-established organization through the availability of resources and organizational cooperation. Besides, it includes the production of new ideas and possibilities within organizations, such as the development of novel services, processes, or organizational models, as well as the attempt to penetrate new citizen segments (Chen et al., 2022). Entrepreneurship relies on the foundations of transformational management by organizing and reconfiguration the organization's resources, capabilities, and operations to explore and exploit opportunities to develop a work environment that generates value for the organization and citizens alike (Kuratko et al., 2023).

Theories in strategic management provide frameworks to comprehend the underlying mechanisms and motivations of entrepreneurial adoption in organizations. According to numerous works of literature, this notion was formed from the development of the resource-based view (RBV) and the theory of innovation in highly volatile contexts (Wahyudi et al., 2021). According to RBV, which emphasizes the critical role of an organization's resources and capabilities in enhancing sustainable performance and generating value. Entrepreneurship plays an essential part in improving companies' ability to take benefit of their current assets and skills to explore and exploit entrepreneurial opportunities (Ziyae & Sadeghi, 2020). Furthermore, this viewpoint emphasized the significance of an organization’s unique resources, for example, accumulated expertise, contemporary technology, and vast networks, in encouraging continual improvement and the creation of novel initiatives inside existing entities to strengthen their reputation (Kassa & Tsigu, 2022; Alolayyan et al., 2022).

According to Schumpeter's innovation theory, disruptive innovation is the main engine of economic development and organizational success by predicting market changes and successfully adjusting to them (Hampel et al., 2020). On the other hand, Disruptive innovation seeks to undermine and replace current market organizations by providing a simpler, more accessible, and typically more inexpensive alternative (Boone et al., 2019). Urbaniec and Żur (2021) demonstrated that the theory of innovation emphasizes the importance of organizations engaging in entrepreneurial ventures such as creating new services or business models to survive in dynamic environments, together with rapid response to evolving citizens’ needs in order to ensure long-term success.

Because entrepreneurship is a multidimensional variable, measuring and assessing it may be complex. However, academics and experts have discovered various measurements and dimensions that may be used to analyze the extent of entrepreneurship inside organizations, especially the triple model, which incorporates innovativeness, risk-taking, and proactiveness (Ziyae & Sadeghi, 2020; Padi et al., 2022; Ikebujo et al., 2023). Innovativeness refers to an organization’s ability to produce new ideas and solutions and implement them to fulfil the needs of its citizens, including creating novel services and acquiring patents. Risk-taking involves the level of organization investment in high-risk ventures, the proportion of resources devoted to pilot initiatives, or the willingness to pursue opportunities with uncertain results. Proactiveness is the organization’s ability to explore and seize developing opportunities in dynamic markets, since it underpins the company's efforts in scanning the external and internal environment, monitoring emerging trends and technologies, and actively seeking new business opportunities.

Human resource agility and corporate entrepreneurship

Human resource agility and its influence on entrepreneurship have been a topic of interest in academic study, with researchers delving into several aspects of the relationship between these two notions. Franco and Landini (2022) discovered through an observational study of 20,000 privet business workplaces in 32 countries that organizations with a high level of human resource agility were more likely to innovate. Moreover, this study confirmed that managers' assessments of the internal work atmosphere and information-sharing activities that are probably driven by human resource agility improve workplace motivation and information transfer in favour of innovation. Moustaghfir et al. (2020) performed a comprehensive literature review followed by a case study in the context of SMEs using a triangulation data-gathering procedure that includes questionnaires, interviews, and archive material. The study concluded that it is possible to benefit from unique individual and collective qualifications, especially human resource management methods and investments that are strategically compatible with the dynamic work environment, to enhance learning and generate cultural values focused on entrepreneurship, as well as encourage a manner of leadership which conducive to innovation and distinct competitiveness.

Besides, Xing et al. (2020) argued that the ability of an organization to leverage team-level entrepreneurial behaviours, abilities, and activities as drivers of continuing strategic agility and innovation is critical to strategic agility and innovation. It was suggested that the ability to harness team-level entrepreneurial behaviours, talents, and activities as drivers of continuous strategic agility and innovation through agile-managed human resource activities is a requirement for any organization operating in an increasingly volatile, uncertain, complex, and ambiguous world. In an efficiency-driven economy, Dabić et al. (2021) investigated the relationship between intellectual agility, entrepreneurial leadership, and the innovativeness of micro and small firms. A theoretical model was built and practically tested on a sample of 110 Serbian micro and small firms. The key contribution was the highlighted importance of workers' intellectual agility in the innovativeness of micro and small firms, in the context of the rising idea of entrepreneurial leadership. Accordingly, the assumptions of the current research could be formulated as follows:

H1: Adaptability has a positive impact on entrepreneurship.

H2: Resilience has a positive impact on entrepreneurship.

H3: Competency has a positive impact on entrepreneurship.

Figure 1 summarizes the theoretical model linking the research variables, as well as clarifying the research hypotheses that the research discusses.

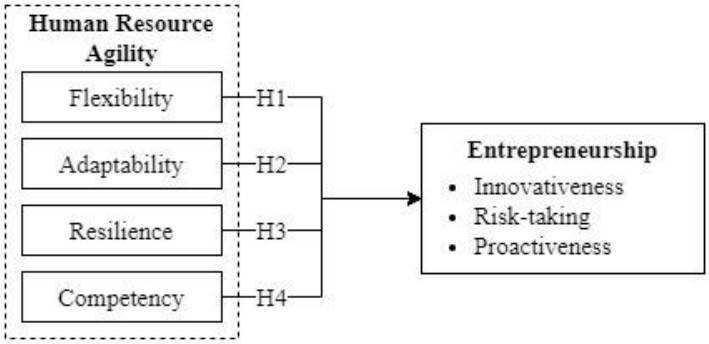

Figure 1. Proposed model

Methodology

Sample and Data collection

The Ministry of Digital Economy and Entrepreneurship in Jordan focuses on developing strategies and legislation that regulate the communications and information technology sector to enhance the sustainability of e-government. Through the projects and initiatives launched by the Ministry, it contributed to designing a roadmap to support the adoption and investment of artificial intelligence technology in vital sectors of the Jordanian economy. In addition, it has completed a guide to organize the work of government institutions within social media and has also contributed to promoting e-government platforms. On the other hand, it provided many job opportunities for Jordanian youth in order to enhance their involvement in the dynamic environment and motivate them to think entrepreneurial.

Accordingly, the research population was composed of employees at the Jordanian Ministry of Digital Economy and Entrepreneurship since they have extensive experience and appropriate comprehension of the concepts being studied in this research. The comprehensive survey strategy was difficult to implement in the research due to a range of funding and time constraints. Therefore, the sampling method was used to collect primary data related to the research. The convenience sample was conducted by sending

the research tool via e-mail to 450 employees at different managerial levels in the Ministry of Digital Economy and Entrepreneurship based on Bougie and Sekaran (2019). The responses received were 361, which included 51 responses with a repeating pattern of responses or included questions with missed answers. Unfavourable responses were removed from the final sample of the research. Therefore, the final sample of the research contained 310 responses that constituting a response rate of 68.8% of what was sent

The research sample consisted of 189 males with a percentage of 60.9% and 121 females with a percentage of 39.1%. The majority of respondents were 41.9% from the age group "30-40", followed by 30.6% from the age group "41-50", then 21.3% from the age group "less than 30", and 6.2% from the age group "over 50". On the other hand, the results showed that 54.2% of master's degree holders, followed by 40.0% of bachelor's degree holders, then 5.8% of PhD degree holders. Moreover, 37.8% were information technology professionals, followed by 33.2% financial specialists, and then 29.0% were business administration majors. The majority of respondents, 45.1% had experience in the category “5-10”, followed by 38.7% in the category “less than 5”, 11.3% in the category “10-15”, and 4.9% in the category “higher than 15”.

Measures

A questionnaire was designed to measure relevant constructs and collect data from respondents by asking a series of standardized questions to measure the impact of human resources agility on entrepreneurship. The final version of the questionnaire was distributed electronically through Google Forms. The questionnaire included a cover letter explaining the purpose of the research and the procedures for handling data. Moreover, it contained three sections, the first was to collect demographic and functional data for the research sample, i.e., gender, age group, qualification, specialization, and experience. The remaining sections were for the items of the research variables whose responses were determined using a five-point Likert scale, with a minimum (1) strongly disagree, and a maximum (5) strongly agree.

Human resource agility: it was the independent variable of the research that was measured by 14 items borrowed from Athamneh and Jais (2023). Human resource agility is a second-order variable from which three first-order variables are derived. Adaptability was measured using four items, e.g., we are encouraged to propose and implement new ideas or processes to improve the company's effectiveness. Resilience was measured through five items, e.g., we are able to maintain productivity levels during times of change or adversity. Competency was measured using five items, e.g., we consistently demonstrate proficiency in the tasks and responsibilities associated with our role.

Entrepreneurship: it was the dependent variable of the research that was measured by 12 items quoted from Ikebujo et al. (2023). Entrepreneurship is a second-order variable from which three first-order variables are derived. Innovativeness was measured using four items, e.g., we are encouraged and supported to think creatively and pursue innovative ideas. Risk-taking was measured through four items, e.g., we are encouraged to learn from failures and mistakes rather than being punished for our venturing behaviours. Proactiveness was measured using four items, e.g., we are rewarded and recognized for our proactive efforts in identifying and seizing new developing opportunities.

Analytical strategy

To analyse the impact of human resource agility on the entrepreneurship of employees in the Jordanian Ministry of Digital Economy and Entrepreneurship, several analytical strategies based on the cross-sectional approach were used. At first, the validity and reliability of the measurement model were confirmed. Descriptive statistics were extracted to clarify the relative importance level of the sub-variables according to the respondents' points of view. Furthermore, the hypotheses were tested by structural equation modeling (SEM) in line with the recommendations of Collier (2020).

Results

Measurement model assessment

The confirmatory factor analysis (CFA) evaluation of the measurement model is a vital step in verifying the measurement instrument and determining the accuracy of the measurement model. CFA enables researchers to assess how well observable variables represent latent constructs (Fu et al., 2022; AlBrakat et al., 2023). Researchers can verify the measurement model's reliability, convergent validity, and discriminative validity by examining model fit and factor loading indices. The findings of the measurement model evaluation to examine the impact of human resource agility on entrepreneurship are listed in Table 2.

Table 1. Summary of reliability and validity measures

Variables	Items	Loadings	AVE	MSV	√AVE	C.R
Adaptability	AD1	0.701	0.556	0.416	0.746	0.834
	AD2	0.755				
	AD3	0.792				
	AD4	0.733				
Resilience	RE1	0.675	0.570	0.491	0.755	0.869
	RE2	0.802				
	RE3	0.786				
	RE4	0.749				
	RE5	0.757				
Competency	CO1	0.741	0.609	0.489	0.780	0.886
	CO2	0.792				
	CO3	0.777				
	CO4	0.824				
	CO5	0.764				
Innovativeness	IN1	0.733	0.583	0.506	0.764	0.848
	IN2	0.767				
	IN3	0.795				
	IN4	0.758				
Risk-taking	RT1	0.816	0.566	0.508	0.752	0.839
	RT2	0.744				
	RT3	0.706				
	RT4	0.738				
Proactiveness	PR1	0.782	0.561	0.501	0.749	0.836
	PR2	0.716				
	PR3	0.739				
	PR4	0.757				

Table 2 provides a summary of reliability and validity indices for the research measurement model. The factor loadings represent the correlations between each item

and its associated latent variable, where they ranged between 0.675 and 0.824. This result indicated that all items were retained in the measurement model since they exceeded 0.50 (Bollen, 2020; Al-Rwaidan et al., 2023). Convergent validity was assessed by the average variance extracted (AVE) with a minimum value of 0.50. The results confirmed that the AVE values for all latent variables were in the range of (0.556-0.609), thus the convergent validity of the measurement model was supported (Sujati & Akhyar, 2020; Saraireh et al., 2022). Discriminant validity is usually evaluated through the comparative process between maximum shared variance (MSV) and the AVE for the same variable, along with the comparison between the square root of AVE with correlation coefficients. Hence, the research results proved that the MSV values were less than the AVE values and the square root of AVE values were higher than correlation coefficients. Accordingly, the measurement model was deemed to have discriminant validity (Rönkkö & Cho, 2022). Moreover, the reliability of the measurement model was examined by composite reliability (CR) using McDonald's Omega coefficients. All McDonald's Omega coefficients for this research gained values in the range of (0.834-0.886). Therefore, the reliability of the measurement model was appropriate as these values exceeded the lower threshold of 0.70 (Fu et al., 2022; Tariq et al., 2022). Beyond that, the confirmatory factor analysis was conducted to obtain the indicators' values of the goodness of fit, which are illustrated in Figure 2.

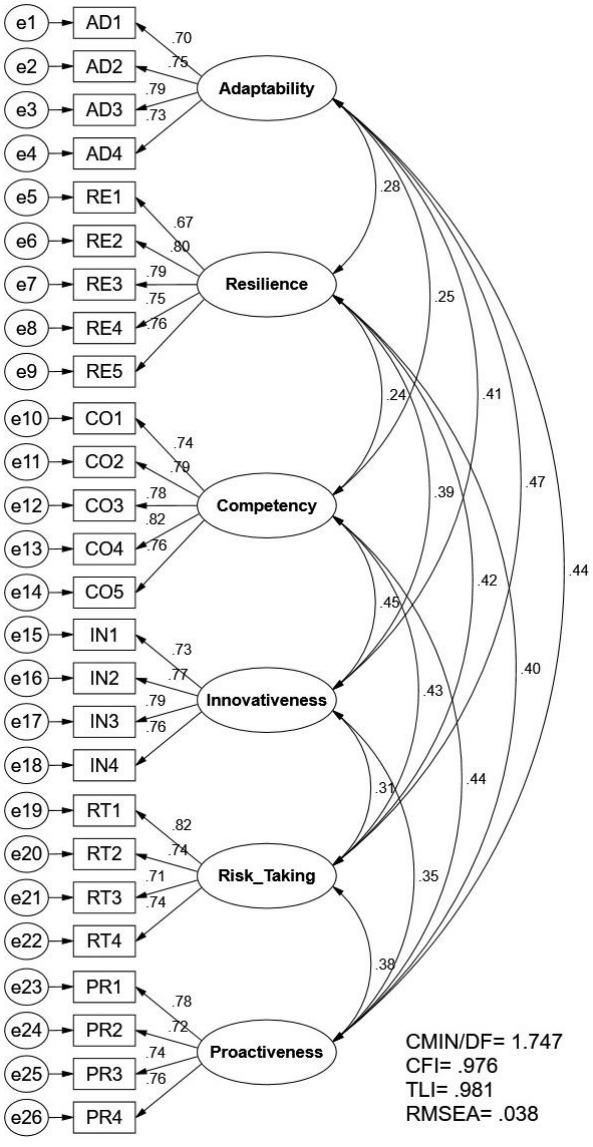

Figure 2. Summary of confirmatory factor analysis and fit indices

The results of Figure 2 demonstrated that the ratio of chi-squared to degrees of freedom was 1.747, indicating that it was less than the approved upper limit of 3 (Shi et al., 2022; Qurah et al., 2023). The values of the comparative fit index (CFI) and Tucker-Lewis Index (TLI) were 0.976 and 0.981, respectively. These values are considered appropriate as they were above the lower threshold of 0.90 (Ximénez et al., 2022; Kurdi et al., 2023). Moreover, the value of the root-mean-square error of approximation acquired an appropriate level since it had a value of 0.038, which was less than the largest allowed value of 0.08 (Steenkamp & Maydeu-Olivares, 2023). Accordingly, the measurement model was structurally appropriate since all indices' values of the goodness of fit were acceptable.

Descriptive analysis

Descriptive analysis enables researchers to gain insights into the prevalence and centrality of variables, providing a clear understanding of the underlying properties of the data. By examining these descriptive statistics, researchers could identify potential patterns, trends, and outliers within the dataset. The results of the descriptive statistics are listed in Table 3.

Table 2. Results of descriptive and relational statistics

Variables	Mean	SD	AD	RE	CO	IN	RT	PR
Adaptability	3.77	0.874	1					
Resilience	3.71	0.954	0.373*	1				
Competency	3.60	0.967	0.288*	0.511**	1			
Innovativeness	3.74	0.825	0.625**	0.598**	0.608**	1		
Risk-taking	3.76	0.883	0.681**	0.628**	0.597**	0.620**	1	
Proactiveness	3.65	0.817	0.666**	0.671**	0.684**	0.658**	0.634**	1

Note: * correlation is significant at 0.05 level, ** correlation is significant at 0.01 level.

The means and standard deviations reported in Table 3 reveal that the variables of human resource agility were within the high and moderate levels, where adaptability (M= 3.77, SD= 0.874) ranked first and resilience (M= 3.71, SD= 0.954) ranked second, both with a high level. Competency (M= 3.60, SD= 0.967) placed third among the dimensions of human resource agility with a moderate level. Likewise, the variables of entrepreneurship were also within the high and moderate levels, where risk-taking (M= 3.76, SD= 0.883) ranked first and innovativeness (M= 3.74, SD= 0.825) ranked second, both with a high level. Proactiveness (M= 3.65, SD= 0.817) placed third among the dimensions of entrepreneurship with a moderate level. The standard deviation values that ranged between 0.817 and 0.967 provided evidence of an acceptable level of agreement for the respondents' opinions and ratings of the research variables being less than 1 (Mishra et al., 2019). Moreover, the correlation level between the dimensions of human resource agility and entrepreneurship was moderate, as they ranged within the domain (0.597-0.684). On the other hand, the correlation coefficients between the dimensions of human resource agility were less than 0.80, which confirms that they are self-autonomous and are free from multicollinearity (Taavoni et al., 2023; Mukhlis et al., 2022).

Structural model assessment

The use of Structural equation modeling (SEM) for hypothesis testing is an advanced statistical tool that enables researchers to assess relationships between variables and test particular hypotheses within a complicated theoretical framework. Researchers may investigate the direct and indirect impacts of variables, evaluate model fit, and identify the relevance and strength of postulated relationships using SEM. In this research, SEM

was used to investigate the hypothesized relationships between human resource agility dimensions and entrepreneurship, as illustrated in Figure 3.

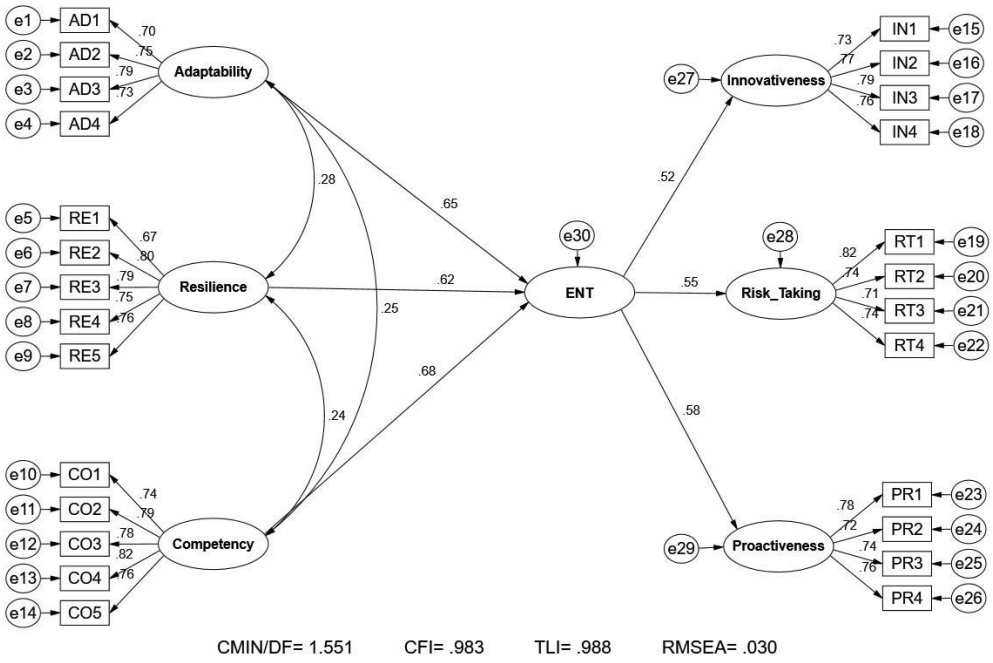

Figure 3. Structural equation model for testing the research hypotheses

The results of Figure 3 demonstrated that the ratio of chi-squared to degrees of freedom was 1.551, indicating that it was less than the approved upper limit of 3 (Shi et al., 2022; Qurah et al., 2023). The values of the comparative fit index (CFI) and Tucker-Lewis Index (TLI) were 0.983 and 0.988, respectively. These values are considered appropriate as they were above the lower threshold of 0.90 (Ximénez et al., 2022; Kurdi et al., 2023). Moreover, the value of the root-mean-square error of approximation acquired an appropriate level since it had a value of 0.030, which was less than the largest allowed value of 0.08 (Steenkamp & Maydeu-Olivares, 2023). Accordingly, the structural model for testing the impact of human resource agility on entrepreneurship was appropriate since all indices' values of the goodness of fit were acceptable. Table 4 provides the values of impact parameters related to the research hypothesis testing.

Table 3. Estimating the impact testing coefficients

Hypotheses			B	S.E.	β	T	P*
Adaptability	→	Entrepreneurship	0.746	0.064	0.650	11.66	0.002
Resilience	→	Entrepreneurship	0.711	0.063	0.622	11.28	0.008
Competency	→	Entrepreneurship	0.802	0.065	0.688	12.34	0.000

Note: * Impact is significant at p<0.05 level.

The results of Table 4 indicated that the standardized regression weights (β) for the strength of the relationships between competency and entrepreneurship were 0.688, which was in the first rank, followed by adaptability (0.650) in the second rank, and then resilience (0.622) in the last rank. Moreover, the unstandardized regression weights (B) of the impact of adaptability, resilience, and competency were 0.802, 0.746, and 0.711, respectively. This result indicates that there is a positive impact of human resource agility dimensions on entrepreneurship. The results also confirmed that the values of calculated

(t) were greater than the tabular (t) of 2.26, and all of them have probability values (p) less than 0.05, which confirmed that all dimensions of human resource agility were statistically significant.

Discussion and conclusions

The key objective of the study was to establish the impact of human resource agility on entrepreneurship among the employees of the Jordanian Ministry of Digital Economy and Entrepreneurship. The descriptive findings demonstrated a high level of human resource agility. Therefore, the Ministry of Digital Economy and Entrepreneurship focus on human resource agility to attract and develop employees who can accept change, acquire new technology, and use their talents successfully in an ever-changing context. This Ministry appreciate workforce flexibility because it allows them to adapt rapidly to market fluctuations, industry trends, and regulatory needs, which is consistent with the findings of Athamneh and Jais (2023). Also, they invest substantially in training programs, professional development initiatives, and mentorship opportunities to increase employees' adaptability and guarantee they have the abilities and knowledge required to flourish in their professions.

The high level of entrepreneurship, identified in the research findings, in the Jordanian Ministry of Digital Economy and Entrepreneurship highlights the dynamic and inventive nature, as well as its potential for expansion through disruptive creativity. Accordingly, by encouraging their workers to think creatively, explore new ideas, and pursue entrepreneurial projects, this Ministry has demonstrated a willingness to defy old norms and create innovative services solutions. Furthermore, this Ministry aimed to foster a culture of innovation and continuous improvement by giving employees with chances for experience, learning from failure, and always seeking developing opportunities for expansion and growth. This entrepreneurial culture fosters innovation and responsiveness, allowing employees to react rapidly to a dynamic environment and feedback from citizens, which accordance with the findings of Padi et al. (2022).

Besides, human resource agility played an essential role in entrepreneurship. Human resource agility supports a culture of innovation and idea development inside the Ministry of Digital Economy and Entrepreneurship. Employees that are agile are more inclined to think creatively, develop new organization concepts, and participate in entrepreneurial projects. As a result of employees' capacity to adapt to changing technology and market trends, they can spot creative possibilities and build disruptive solutions that promote entrepreneurship. Additionally, they empower the Ministry to embrace change, take prudent risks, and capture developing opportunities, since agile individuals are more at ease with uncertainty and are eager to go into unknown territory. This agility enables organizations to test new services or creative organizational models, providing an entrepreneurial climate that fosters risk-taking and creativity.

In conclusion, Ministries with higher levels of human resource agility are more likely to demonstrate higher levels of entrepreneurship, demonstrating the importance of agility in a governmental context. Human resource agility has become a vital driver of success in various sectors, especially those defined by technical developments and changing citizens' expectations. Ministries that adopt agility in their human resource processes could appropriately manage the dynamic market, react to regulatory changes, and capitalize on emerging possibilities.

Implications

The influence of human resource agility on entrepreneurship in the Jordanian Ministry of Digital Economy and Entrepreneurship has various theoretical and empirical

implications. Theoretically, the research supports the resource-based view in the governmental sectors by highlighting the significance of human resources as a valued and crucial resource that may contribute to an organization's sustained performance. It emphasizes how human resource agility, such as adaptation, rapid decision-making, autonomy, and learning support, could encourage entrepreneurship in Ministries. On the other hand, it strengthened the dynamic capabilities approach by describing the significance of human resource agility in increasing the ability to recognize, grab, and transform emerging opportunities. The importance of human resources in supporting adaptability, innovation, risk-taking, and proactivity, all of which are crucial components of entrepreneurship operating in vulnerable contexts, was also stressed.

The empirical implications of the impact of human resource agility on entrepreneurship among employees in the Jordanian Ministry of Digital Economy and Entrepreneurship could supply practitioners and policymakers with significant insights. First, the findings emphasized the necessity of supporting activities associated with adaptability, decision-making velocity, and employee empowerment, such as offering training and development opportunities and fostering an innovative culture. Second, focus on reconsidering organizational structures and practices that improve agility and entrepreneurial behaviours by using flatter organizational structures, decentralized decision-making processes, and cross-functional cooperation for improved human resource flexibility. Finally, the results of the investigation could be used by policymakers and regulators to modify rules and regulations which advocate human resource flexibility and entrepreneurship in the Jordanian governmental sector, such as creating a supportive atmosphere and providing incentives for entrepreneurial initiatives.

Limitations and future directions

When investigating the impact of human resource agility on entrepreneurship in the Jordanian Ministry of Digital Economy and Entrepreneurship, it is essential to acknowledge key limits and provide potential future research topics. First, cross-sectional design, which offers a snapshot of the connection at a single point in time, has been used for investigating the impact of human resource agility on entrepreneurship. Longitudinal designs might be used in future studies to better understand the dynamic nature of the connection across time and demonstrate causal linkages. Second, self-reported measures were utilized in the research, which could cause response bias and social desirability bias. To supplement self-report data and give a more thorough assessment of entrepreneurship, future studies should examine objective variables such as financial performance, innovation output, or measures of citizens' satisfaction. Third, the research concentrated on the direct impact of human resource agility on entrepreneurship. Thus, future studies may investigate mediating or moderating variables that may influence this relationship, such as organizational culture, leadership styles, or technical infrastructure. Fourth, the Jordanian governmental sector is influenced by a variety of socioeconomic factors, including legislative frameworks, cultural norms, and market conditions. As a result, comparative studies among various nations or regions may be done to provide insights into the difficulties and possibilities confronting the Jordanian governmental sector when compared to other countries.

References

Ajgaonkar, S., Neelam, N. G., & Wiemann, J. (2022). Drivers of workforce agility: a dynamic capability perspective. International Journal of Organizational Analysis, 30(4), 951-982.

Alaassar, A., Mention, A. L., & Aas, T. H. (2023). Facilitating innovation in FinTech: a review and research agenda. Review of Managerial Science, 17(1), 33-66.

Al-Armeti, I. Y., Al-Azzam, M. K. A., Alkhawaldeh, M. I. G., Mohammad, A., Melhem, Y. S., Ababneh, R. I., ... & Alshurideh, M. T. (2023). The Impact of Human Resources Agility on Job Performance in—Islamic Banks Operating in Jordan. In The Effect of Information Technology on Business and Marketing Intelligence Systems (pp. 1113-1129). Cham: Springer International Publishing.

AlBrakat, N., Al-Hawary, S., & Muflih, S. (2023). The effect of green supply chain on the export performance of the Jordanian pharmaceutical industry. Uncertain Supply Chain Management, 11(2), 613-624.

AlHamad, A., Alshurideh, M., Alomari, K., Kurdi, B., Alzoubi, H., Hamouche, S., & Al-Hawary, S. (2022). The effect of electronic human resources management on organizational health of telecommunications companies in Jordan. International Journal of Data and Network Science, 6(2), 429-438.

Aljaafreh, A., Qatawneh, N., Awad, R., Alamro, H., & Ma'aitah, S. (2022). FinTech Adoption in Jordan: Extending UTAUT2 with eWOM and COVID-19 Perceived Risk. In The Implementation of Smart Technologies for Business Success and Sustainability: During COVID-19 Crises in Developing Countries (pp. 91-97). Cham: Springer International Publishing.

Al-Lozi, M., Almomani, R. Z., & Al-Hawary, S. I. (2018). Talent Management strategies as a critical success factor for effectiveness of Human Resources Information Systems in commercial banks working in Jordan. Global Journal of Management and Business Research: A Administration and Management, 18(1), 30–43.

Almaaitah, M. F., Al-Husban, D. A. A. O., Abazeed, R. A. M., AlTaweel, I. R. S., Al-Husban, N. A., Alshurideh, M. T., ... & Mohammad, A. A. S. (2023). The Impact of Organizational Structure Characteristic on Administrative Communication Efficiency: Evidence from Telecommunication Companies in Jordan. In The Effect of Information Technology on Business and Marketing Intelligence Systems (pp. 887-901). Cham: Springer International Publishing.

Almomani, R. Z. Q., AL-khaldi, S. S. S., Al-Quran, A. Z., Almomani, H. M., Aityassine, F. L. Y., Eldahamsheh, M. M., ... & Al-Hawary, S. I. S. (2023). The Effect of Talent Management on Organizational Innovation of the Telecommunications Companies in Jordan. In The Effect of Information Technology on Business and Marketing Intelligence Systems (pp. 1779-1794). Cham: Springer International Publishing.

Al-Nawasrah, M., & Alafi, K. (2021). The impact of human resource management practices on person– job fit: the mediating role of human resources agility at Jordanian airlines companies. Global Journal of Economics and Business, 11(1), 113-131.

Alolayyan, M., Al-Rwaidan, R., Hamadneh, S., Ahmad, A., AlHamad, A., Al-Hawary, S., & Alshurideh, M. (2022). The mediating role of operational Flexibility on the relationship between quality of health information technology and management capability. Uncertain Supply Chain Management, 10(4), 1131-1140.

Al-Quran, A. Z., Ababneh, R. I., Al-Safadi, M. H. H., Alshura, M. S. K., Eldahamsheh, M. M., Al-Azzam, M. K. A., ... & Al-Hawary, S. I. S. (2023). The Effect Knowledge Creation Process on Organizational Innovation in Social Security Corporation in Jordan. In The Effect of Information Technology on Business and Marketing Intelligence Systems (pp. 1743-1759). Cham: Springer International Publishing.

Al-Rwaidan, R., Aldossary, N., Eldahamsheh, M., Al-Azzam, M., Al-Quran, A., & Al-Hawary, S. (2023). The impact of cloud-based solutions on digital transformation of HR practices. International Journal of Data and Network Science, 7(1), 83-90.

Alsmadi, A., Alfityani, A., Alhwamdeh, L., Al_hazimeh, A., & Al-Gasawneh, J. (2022). Intentions to use FinTech in the Jordanian banking industry. International Journal of Data and Network Science, 6(4), 1351-1358.

Athamneh, M. H. A., & Jais, J. (2023). Analyzing the influence of decision making and effective employee communication on human resource agility in commercial banks: A mediation role for job satisfaction. Cogent Social Sciences, 9(1), 2203989.

Bollen, K. A. (2020). When good loadings go bad: Robustness in factor analysis. Structural equation modeling: a multidisciplinary journal, 27(4), 515-524.

Boone, C., Lokshin, B., Guenter, H., & Belderbos, R. (2019). Top management team nationality diversity, corporate entrepreneurship, and innovation in multinational firms. Strategic management journal, 40(2), 277-302.

Bougie, R., & Sekaran, U. (2019). Research methods for business: A skill building approach. John Wiley & Sons, United States.

Chebbi, H., Yahiaoui, D., Sellami, M., Papasolomou, I., & Melanthiou, Y. (2020). Focusing on internal stakeholders to enable the implementation of organizational change towards corporate entrepreneurship: A case study from France. Journal of Business Research, 119, 209-217.

Chen, J., Simsek, Z., Liao, Y., & Kwan, H. K. (2022). CEO self-monitoring and corporate entrepreneurship: a moderated mediation model of the CEO-TMT interface. Journal of Management, 48(8), 2197-2222.

Collier, J. E. (2020). Applied structural equation modeling using AMOS: Basic to advanced techniques. Routledge, United Kingdom.

Dabić, M., Stojčić, N., Simić, M., Potocan, V., Slavković, M., & Nedelko, Z. (2021). Intellectual agility and innovation in micro and small businesses: The mediating role of entrepreneurial leadership. Journal of Business Research, 123, 683-695.

Franco, C., & Landini, F. (2022). Organizational drivers of innovation: The role of workforce agility. Research Policy, 51(2), 104423.

Fu, Y., Wen, Z., & Wang, Y. (2022). A comparison of reliability estimation based on confirmatory factor analysis and exploratory structural equation models. Educational and Psychological Measurement, 82(2), 205-224.

Funko, I. S., Vlačić, B., & Dabić, M. (2023). Corporate entrepreneurship in public sector: A systematic literature review and research agenda. Journal of Innovation & Knowledge, 8(2), 100343.

Hampel, C., Perkmann, M., & Phillips, N. (2020). Beyond the lean start-up: experimentation in corporate entrepreneurship and innovation. Innovation, 22(1), 1-11.

Hojati, M., Mandejin, M., & Amirkabiri, A. (2023). Explanation of the model human resource agility in the Ministry of Justice. Journal of Human Capital Empowerment, 6(2), 698960.

Ikebujo, P. U., Oluwade, D. O., & Abubakar, H. L. (2023). Corporate Entrepreneurship and Employee Performance: The Coca-Cola Nigeria Experience. WSEAS Transactions on Business and Economics, 20, 40-51.

Jameel, O., & Mhaibes, H. A. (2022). The Impact of Human Resource Agility on Knowledge Sharing Behaviors-Analytical Research at The University of Anbar. World Bulletin of Management and Law, 10, 125-134.

Karman, A. (2019). The role of human resource flexibility and agility in achieving sustainable competitiveness. International Journal of Sustainable Economy, 11(4), 324-346.

Kassa, A. G., & Tsigu, G. T. (2022). Corporate entrepreneurship, employee engagement and innovation: A resource-based view and a social exchange theory perspective. International Journal of Organizational Analysis, 30(6), 1694-1711.

Khalaylah, Z. A. K., AL-kasasbeh, M. M., Barqawi, B. Y. A., Alshura, M. S. K., Alshuqairat, E. A., Al-mzary, M. M., ... & Al Kurdi, B. (2023). The Impact of Strategic Vigilance on Crisis Management in the Jordanian Dairy Companies: The Mediating Role of Organizational Learning. In The Effect of Information Technology on Business and Marketing Intelligence Systems (pp. 1165-1182). Cham: Springer International Publishing.

Khan, Z., Rao-Nicholson, R., Akhtar, P., Tarba, S. Y., Ahammad, M. F., & Vorley, T. (2019). The role of HR practices in developing employee resilience: A case study from the Pakistani telecommunications sector. The International Journal of Human Resource Management, 30(8), 1342-1369.

Khodabandeh, N., Mohammdi, N., Mansouri, A., & Droodi, H. (2018). Designing a human resource agility model based on grounded theory approach (Study case: Social security organization). Iranian journal of educational sociology, 1(7), 163-179.

Kou, G., Olgu Akdeniz, Ö., Dinçer, H., & Yüksel, S. (2021). Fintech investments in European banks: a hybrid IT2 fuzzy multidimensional decision-making approach. Financial Innovation, 7(1), 39.

Kuratko, D. F., Hornsby, J. S., & McKelvie, A. (2023). Entrepreneurial mindset in corporate entrepreneurship: Forms, impediments, and actions for research. Journal of Small Business Management, 61(1), 132-154.

Kurdi, B., Alquqa, E., Alzoubi, H., Alshurideh, M., & Al-Hawary, S. (2023). The effect of process quality improvement and lean practices on competitive performance in the UAE healthcare industry. Uncertain Supply Chain Management, 11(1), 261-266.

Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. Annals of cardiac anaesthesia, 22(1), 67.

Mohammad, A. A., Alshura, M.S.,Al-Hawary, S. I. S., Al-Syasneh, M. S., & Alhajri, T. M. (2020). The influence of Internal Marketing Practices on the employees' intention to leave: A study of the private hospitals in Jordan. International Journal of Advanced Science and Technology, 29(5), 1174–1189.

Moustaghfir, K., El Fatihi, S., & Benouarrek, M. (2020). Human resource management practices, entrepreneurial orientation and firm performance: what is the link?. Measuring Business Excellence, 24(2), 267-283.

Mukhlis, H., Al-Hawary, S. I. S., Linh, H. V., Hani, I. R., & Adnan, S. (2022). Religious capital and job engagement among Malaysian Muslim nurses during the COVID-19 pandemic. HTS Teologiese Studies/Theological Studies, 78(1), 6.

Murinde, V., Rizopoulos, E., & Zachariadis, M. (2022). The impact of the FinTech revolution on the future of banking: Opportunities and risks. International Review of Financial Analysis, 81, 102103.

Obaid, M. H. N., Hassan, I. S., & Al Chalabi, A. S. (2023). The Impact Human Resource Agility in Strategic Renewal-A Field Research in The General Company for The Textile and Leather Industry. resmilitaris, 13(1), 1760-1772.

Padi, A., Ansah, W. O., & Mahmoud, M. A. (2022). Corporate entrepreneurship and employees' competencies: Do employees' perceived feasibility and desirability matter?. Cogent Business & Management, 9(1), 2102129.

Qurah, R. A., Al-Husban, N. A., Mohammad, A. A. S., Aldaihani, F. M. F., Al-Hawary, S. I. S., Abazeed, R. A. M., ... & Al Kurdi, B. (2023). The Impact of Brand Loyalty Determinants on the Tourists' Choice of Five Stars Hotels in Jordan. In The Effect of Information Technology on Business and Marketing Intelligence Systems (pp. 2193-2214). Cham: Springer International Publishing.

Rönkkö, M., & Cho, E. (2022). An updated guideline for assessing discriminant validity. Organizational Research Methods, 25(1), 6-14.

Saraireh, S., Owais, W., Abbas, N., Matar, G., Aryan, L., ALRahamneh, A., & Al-Hawary, S. (2022). The effect of corporate social responsibility and board diversity on earnings management: Evidence from Jordanian listed firms. Uncertain Supply Chain Management, 10(4), 1253-1260.

Sedyastuti, K., Suwarni, E., Rahadi, D. R., & Handayani, M. A. (2021). Human Resources Competency at Micro, Small and Medium Enterprises in Palembang Songket Industry. In 2nd Annual Conference on Social Science and Humanities (ANCOSH 2020) (pp. 248-251). Atlantis Press, Netherlands.

Shahsavari-Pour, N., Sayyadi-Tooranloo, H., Pabarja, E., & Heydarbeigi, S. (2021). Designing an interpretative structural model for human resource agility. Middle East Journal of Management, 8(1), 92-109.

Shi, D., DiStefano, C., Maydeu-Olivares, A., & Lee, T. (2022). Evaluating SEM model fit with small degrees of freedom. Multivariate behavioral research, 57(2-3), 179-207.

Steenkamp, J. B. E., & Maydeu-Olivares, A. (2023). Unrestricted factor analysis: A powerful alternative to confirmatory factor analysis. Journal of the Academy of Marketing Science, 51(1), 86-113.

Sujati, H., & Akhyar, M. (2020). Testing the construct validity and reliability of curiosity scale using confirmatory factor analysis. Journal of Educational and Social Research, 10(4), 229-237.

Taavoni, M., Arashi, M., & Manda, S. (2023). Multicollinearity and Linear Predictor Link Function Problems in Regression Modelling of Longitudinal Data. Mathematics, 11(3), 530.

Tariq, E., Alshurideh, M., Akour, I., & Al-Hawary, S. (2022). The effect of digital marketing capabilities on organizational ambidexterity of the information technology sector. International Journal of Data and Network Science, 6(2), 401-408.

Thani, F., Mazari, E., Asadi, S., & Mashayekhikhi, M. (2022). The impact of self-development on the tendency toward organizational innovation in higher education institutions with the mediating role of human resource agility. Journal of Applied Research in Higher Education, 14(2), 852-873.

Urbaniec, M., & Żur, A. (2021). Business model innovation in corporate entrepreneurship: exploratory insights from corporate accelerators. International Entrepreneurship and Management Journal, 17(2), 865-888.

Wahyudi, I., Suroso, A. I., Arifin, B., Syarief, R., & Rusli, M. S. (2021). multidimensional aspect of corporate entrepreneurship in family business and SMEs: A systematic literature review. Economies, 9(4), 156.

Wu, Y. H., Bai, L., & Chen, X. (2023). How does the development of fintech affect financial efficiency? Evidence from China. Economic Research-Ekonomska Istraživanja, 36(2), 2106278.

Ximénez, C., Maydeu-Olivares, A., Shi, D., & Revuelta, J. (2022). Assessing cutoff values of SEM fit indices: Advantages of the unbiased SRMR index and its cutoff criterion based on communality. Structural Equation Modeling: A Multidisciplinary Journal, 29(3), 368-380.

Xing, Y., Liu, Y., Boojihawon, D. K., & Tarba, S. (2020). Entrepreneurial team and strategic agility: A conceptual framework and research agenda. Human Resource Management Review, 30(1), 100696.

Ziyae, B., & Sadeghi, H. (2020). Exploring the relationship between corporate entrepreneurship and firm performance: the mediating effect of strategic entrepreneurship. Baltic Journal of Management, 16(1), 113-133.