

and media literacy; digital creation, problem-solving and innovation; digital communication, collaboration, and participation; digital learning and development; and digital identity and well-being [52].

One of the key concepts related to digital literacy refers to the competencies needed to participate and interact with digital devices such as smartphones, tablets, laptops, and desktop PCs [53]. For example, digital literacy enables entrepreneurs to connect their ventures to digital platforms [54] and to achieve improvements in efficiency and effectiveness [55]. Therefore, organizational capabilities should be developed to enhance the ability to fail, and also be agile and flexible [7]. Previous research confirms the relationship between digital capabilities and business performance [14,28,37]. The development of capabilities is one of the assumptions for successful digital transformation, while the variety of capabilities depends on the specific sector and the specific needs of a particular enterprise [28]. Organizational capabilities encompass digital capabilities, and according to the findings of Konopik et al. [29], organizational capabilities are a component of dynamic capabilities, which are the core of the digital transformation process. Moreover, digital capabilities have a positive impact on digital innovation [14]. Following previous evidence, digital transformation can be perceived as a process that changes the entire business model and must be supported by a dedicated digital strategy and the development of digital skills [37]. Carcary et al. [56] show that organizations have shifted from a process-based approach to a capability-based approach in aiming at undergoing digital transformation. Heredia et al. [15] confirm that digital capabilities positively influence business performance through digital transformation, but only in conjunction with technological capabilities. Based on a summary of prior research, it can be stated that digital capabilities are an important premise for digital transformation; however, to our knowledge, there are no studies assessing the direct effect of digital capabilities on digital transformation. Consequently, we found that a relationship should be established between digital capabilities as an independent variable and digital transformation as a dependent variable. Digital transformation as a risk-involved change implies decomposing this variable into two constructs: change management and risk management. Therefore, we present the following hypotheses:

Hypothesis 1a (H1a). *Digital capabilities have a positive direct effect on change management.*

Hypothesis 1b (H1b). *Digital capabilities have a positive direct effect on risk management.*

Humans, as digital users, became addicted to information and new technology; thus, they have been transformed from passive receivers to active information processors, who must engage with, construct with, respond to, and act with information and technology. As a result of certain trends, the concept of digital citizenship has emerged in the literature [19,24,30]. Jæger [20] states that the digitalization of society completely changed the lives of citizens in the way they work, communicate, and make decisions. According to Simsek and Simsek [19], digital citizenship is defined as the ability to uncover information and interact with people digitally. Initially, Mossberger [22] and Ribble and Miller [24] explained digital citizenship in terms of online access, which has evolved into safe and responsible behavior. Recently, Ribble and Miller defined digital citizenship as comprising the concepts of responsibility, rights, safety, and security. Digital citizenship is defined by UNESCO [26], which notes the ability of citizens “to locate, access, use and create information effectively, actively, critically, sensitively and ethically engage with users and content while navigating digital environments, as well as, being safety-conscious and acting responsibly”. Morandi Sheykhjan [16], Spector [17], and Oberländer et al. [18] agree that digital skills entail the creative, critical, and safe use of ICT, factors necessary for citizens to adapt to a digital environment.

Digital citizenship contains several elements, such as digital access, digital commerce, digital communication and cooperation, digital etiquette, digital governance, digital health and well-being, digital law, digital rights and obligations, and digital security and confidentiality [24,30]. Important prerequisites for these qualifications, which are important for the competencies of the digital citizen, are digital literacy and skills. In this paper, digital citizenship is presented by the constructs of: (i) Information security management; and (ii) Information and data literacy. In

DC02	0.853	3.106				
DC03	0.802	2.658				
DC04	0.856	2.945				
DC05	0.721	1.649				
DC06	0.764	1.828				
Digital Citizenship						
IDL: Information and Data Literacy			0.926	0.904	0.677	0.528
IDL01	0.795	2.081				
IDL02	0.801	2.363				
IDL03	0.873	2.890				
IDL04	0.820	2.313				
IDL05	0.811	2.531				
IDL06	0.832	2.821				
ISM: Information Security Management			0.906	0.798	0.832	0.423
ISM01	0.907	1.790				
ISM02	0.918	1.719				
DT: Digital Transformation						
CM: Change Management			0.882	0.822	0.653	0.422
CM01	0.757	1.715				
CM02	0.763	1.735				
CM03	0.858	2.722				
CM04	0.849	2.652				
RM: Risk Management			0.925	0.878	0.804	0.570
RM01	0.883	2.218				
RM02	0.905	2.547				
RM03	0.901	2.508				

In this study, multicollinearity is not a concern. The variance inflation factor (VIF) was utilized for assessment, and all values of this coefficient for the items employed in the study are significantly lower than 5, the maximum acceptable value. The Fornell–Larcker criteria [78] and the heterotrait–monotrait (HTMT0.85) criterion [79] were used to assess the discriminant validity.

The reason for applying both criteria is additional certainty in the validity of the constructs contained in the research model. The results shown in Table 2 verify the discriminant validity according to the Fornell–Larcker criterion, while the results shown in Table 3 prove the discriminant validity according to the heterotrait–monotrait (HTMT0.85) criterion. Summarizing the above, it can be concluded that the measurement model of our study matches the satisfactory discriminant validity.

required by the applied statistical method, it still remains relatively small and heterogeneous. Due to the above, it can be concluded that the tested model can have limited application in developed countries that demonstrate leadership in the development and application of digital technologies. Additionally, the heterogeneity and absence of a larger participation of small firms in the sample does not give a complete insight into the applicability of the model in emerging economies. At the same time, this provides an incentive for new research that will focus on small and medium-sized firms or a specific industry.

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