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The Influence of Digital Maturity, Competitive Priorities and Decision-making Styles on the Acceptance of Digital Technologies in Micro and Small Organizations

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Abstract

The subject of this research is to determine the level of digital technology acceptance in micro and small organizations. There is a lack of research in the existing literature that would move away from existing models and theories and explain the reasons for digital technology acceptance by micro and small organizations. It was noticed that research on the intention to accept digital technologies in micro and small organizations needs to focus on moderating factors, the influence of which has been neglected in existing research.

For this reason, a model for digital technology acceptance by micro and small organizations was created, which explored the effect of moderating factors and encompassed the key characteristics of micro and small organizations. The effect of perceived financial risk, perceived security risk, perceived loss of time, perceived government pressure, and the level of knowledge of decision-makers on the intention to accept digital technologies are examined. As well the relationship between external pressure (market participants' pressure and crisis circumstances) and the level of knowledge of decision-makers in organizations was explored.

The focus of the research is to explore the moderating effect of the organization's digital maturity and competitive priorities on the relationship of factors (perceived security risk, perceived loss of time, perceived government pressure) and intent to accept digital technologies. The moderating effect of the decision-makers decision-making style on the relationship between external pressure (market participants' pressure and crisis circumstances) and the level of knowledge of decision-makers are explored as well.

Keywords: micro and small organizations, digital technologies, intention to accept, moderating effect, digital maturity, competitive priorities, decision-making style

1. Introduction

A review of previous research has identified a lack of research that would move away from existing models and theories and explain the reasons for the digital technology's

acceptance by micro and small organizations. As part of this research, micro and small organizations are all entities involved in economic activity, regardless of legal form, which meet two of the three criteria, namely: income up to HRK 60,000,000, total assets up to HRK 30,000,000, and the number of employees up to 50 [1], [2].

The number of micro and small organizations is growing rapidly and they are becoming the foundation of the global economy by creating a large number of workplaces and contributing to its further development [3]. In the Republic of Croatia alone, micro and small organizations make up to 98% of total organizations [2]. In order for digital technologies to improve the business of micro and small organizations and ensure their survival in the market and as well to achieve a competitive advantage, they need to be accepted and perceived as useful and necessary. Digital technology adoption is crucial for organizations to ensure resilience and achieve sustainability in the market.

Today there is a new paradigm in the world known as the Global Resilience Project (GRP) that tries to shift the focus of businesses to invest in upfront measures that reduce disaster risk, rather than post-disaster relief and recovery efforts [4]. Observing the covid crisis and the disturbances it has created, the application of digital technologies has gained great importance. Digitally mature organizations have found it easier to cope with the restrictions imposed during the covid crisis. It is digital technologies that can help organizations prepare in advance for potential crises and market disruptions.

Regarding sustainability, as a starting point for the organization can serve the "2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015. The main focus of agenda is to provide a shared blueprint for peace and prosperity for people and the planet, now and into the future" [5]. In order to achieve this the 17 Sustainable Development Goals (SDGs) are set, which are an urgent call for action by all countries - developed and developing - in a global partnership. Some of the set goals are to foster innovation and promote sustained, inclusive, and sustainable economic growth, that will ensure productive employment and decent work for all [5]. The Agenda itself highlights the need for innovation and economic growth, which can be achieved primarily through the application and adoption of digital technologies, which are one of the beginnings towards digitalization and ultimately the digital transformation of organizations. The above indicates the necessity for micro and small organizations to accept digital technologies in order to survive the unstable market environment.

The number of models explaining the intention to accept technologies in the literature is extensive, but due to the accelerating development of technologies and the number of their characteristics, it is difficult to develop a single general model suitable for research into the acceptance of all innovations [4], [5], [6].

The existing literature review showed that the research on new technology acceptance focused mainly on large organizations, while only a small number of them dealt with micro and small organizations. Research involving micro and small organizations generally looks at acceptance at the level of SMEs (small and medium organizations). The analysis of the definitions of small and medium-sized organizations shows that there are very pronounced differences between them,

primarily in the context of their size, which means that they need special consideration in examining the intention to accept new technologies [1].

A review of secondary data also revealed that research on the intention to accept digital technologies in micro and small organizations needs to focus on moderating factors, the influence of which has been neglected in existing research. There is a gap in research that would investigate the effect of moderating factors when exploring the correlation between factors and the acceptance of new technologies. Generally, only the direct or indirect influence of factors on the acceptance of new technologies was observed. In order to fulfil the observed gap in the literature, it is necessary to focus more research on determining the effect of moderating factors and as well to broaden the explored types of moderating factors [7].

This research was created as part of the author's doctoral dissertation. The work is a continuation of the previously published work of the author [8]. A detailed description of the construct, as well as an extensive presentation of the topic, is presented as part of the author's doctoral dissertation, which will be published afterward.

The remainder of this paper is organized as follows: Section 2 presents a review of the literature on technology adoption models. Sections 3 and 4 discuss the research model and research methodology, respectively. Sections 5 and 6 detail the data analysis. Section 7 concludes the paper with a discussion of the findings and the conclusions drawn from them.

2. Literature review

Agarwal and Prasad, criticizing existing models for technology acceptance, emphasize the need to direct research toward moderating factors [9]. Thus, the TAM 3 model (Technology Acceptance Model 3) explores as moderating factors: experience, willingness to use, and quality of output, while the UTAUT model (The Unified Theory of Acceptance and Use of Technology) adds experience, willingness to use, age and sex. Sun and Zhang, exploring the moderating factors in individuals' models of technology acceptance, group them into organizational factors (willingness to use and routine and non-routine tasks), technological factors (individual / group technology, purpose, complexity), and individual (personal) factors (intellectual ability, cultural background, gender, age, and experience) [7]. Research on technology acceptance by organizations involving moderating factors is far less. Existing research focused on organizations explores the moderating effect of organizational culture [10], the ability to use computers [11], and size and experience.

An extensive literature review showed a gap in research that would fully cover the key characteristics of micro and small organizations, primarily the problem of lack of resources (financial and human) and decision-making that is entirely in the hands of directors, i.e. owners [12]. Micro and small organizations lag behind in the acceptance of new technologies precisely because of their characteristics that act as barriers to acceptance and lead to fear of the unknown and thus perceiving technology as risky and unnecessary [13], [14], [3], [15], [16], [17], [18]. In this sense, this

research is adjusted to cover the needs and characteristics of micro and small organizations.

By focusing research on micro and small organizations, it is also necessary not to neglect the key characteristics of these organizations when considering moderating factors. Bearing this in mind one of the key features of a micro and small organization is centralized decision-making, which is usually in the hands of an individual who is often the owner of the organization. Given that the main function of decision-makers is decision-making, the question arises whether there is a difference based on different decision-making styles. Therefore, the decision-making style is observed as one of the moderating factors in this research. It is explored how the different decision-making style of the decision-maker as a key person in micro and small organizations affects his knowledge of the digital technology he accepts. Therefore, the research question is:

RQ1: How does the different decision-making style of the decision-maker moderates the relationship between market participants and crisis circumstances and the level of knowledge of the decision-maker?

Observing previous research, it was also noted that there is no research that would include some kind of the motive for acceptance and observed its moderating effect on the intention to accept. Every acceptance of new technology, including digital technologies, is motivated by achieving a certain goal. Observing the business of organizations, the key goals are competitive priorities, so the next moderating factor is competitive priorities (quality, speed, reliability, flexibility, and cost) [19]. It is explored how competitive priorities influence the decision to accept digital technologies and whether there is a difference in acceptance depending on the competitive priority that digital technology seeks to achieve. Therefore the research question is:

RQ2 How do competitive priorities moderates the relationship between factors and intent to accept digital technologies?

Digital technology acceptance in organizations aims to achieve the digitalization of the business and ultimately to achieve digital transformation of business. Digital transformation is a frequent research topic, but there is a lack of research that would unite digital transformation and the very acceptance of digital technologies. Progress in achieving digital transformation is "measured" by the maturity of the organization. Therefore, there is a need to examine the dependence of the level of digital maturity of the organization and its digital technology acceptance. Incorporating the digital maturity of the organization into the digital technology acceptance model will help to get a broader picture of the "state" of the organization and its overall thinking about the digitalization of business, or digital transformation. In doing so, it is investigated whether there are differences in the acceptance of digital technologies between organizations at different levels of digital maturity. Accordingly, the research question is:

RQ3 How does the organization's level of digital maturity moderate the relationship between factors and intent to accept digital technologies?

Following the above, a digital technology acceptance model for micro and small organizations is proposed to will fill the gap in existing research by covering the key

characteristics of micro and small organizations and exploring the effect of moderating factors.

The relationship between perceived financial risk, perceived security risk, perceived loss of time, perceived government pressure, market participants pressure, perceived crisis circumstances, and the level of knowledge of decision-makers with the intention to accept digital technologies in micro and small organizations is explored. It is also explored whether there are differences in the acceptance of digital technologies between organizations at different levels of digital maturity, as well as whether there is a difference in acceptance depending on the competitive priority that the organizations seek to achieve by accepting digital technology. As well it is explored how different styles of directors' decision-making affect the relationship between market participants' pressures and crisis circumstances on the level of directors' knowledge of digital technology that is being accepted.

3. Conceptual model

Figure 1 shows the digital technology acceptance model for micro and small organizations. The model is derived from an analysis of the literature, following Rogers' recommendations, which suggests that the necessary direction of research is the development of new models, not the validation of existing ones [5].

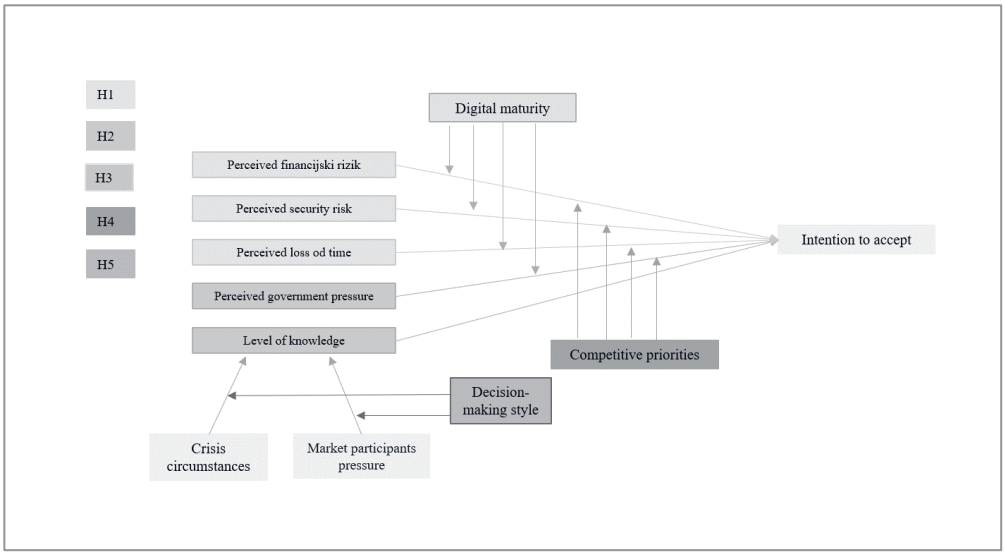

Figure 1. Digital technology acceptance model for micro and small organizations

All constructs of the model are explained in detail in the paper [8] except the one described below.

3.1. Competitive priorities

Competitive priorities include five priorities defined by Slack and others that enable the acquisition of competitive advantage, and thus the achievement of more efficient operations. Competitive priorities include *quality, speed, reliability, flexibility, and cost*. Quality implies an increase in quality in meeting the needs of the market based on the acceptance of digital technologies. Speed refers to the acceleration of business processes within the organization due to the acceptance of digital technologies, as well as faster recognition and meeting market demands. Reliability refers to the fulfilment of expectations related to meeting the deadlines for the delivery of services and products and the perception of business partners, which has a direct implication on gaining customer loyalty. Flexibility refers to variability in meeting expectations regarding adaptation to market requirements, the acceptance of digital technologies will enable organizations to be more agile. Finally, the cost refers to the expected reduction in operating costs that may result in a reduction in the price of products and services and/or enable the allocation of funds for other purposes [19], [20].

Based on existing theories, the following hypotheses are formulated:

H1 Perceived risks (financial, security, loss of time) have negative effects on the intention to accept digital technologies in micro and small organizations.

H2 Perceived government pressure and the level of knowledge of directors have positive effects on the intention to accept digital technologies in micro and small organizations.

H3 The level of digital maturity of the organization moderates the relationship between factors (perceived financial and security risk, perceived loss of time, and perceived government pressure) and intention to accept digital technologies.

H4 Competitive priority moderates the relationship between factors (perceived financial and security risk, perceived loss of time, and perceived government pressure) and intention to accept digital technologies.

H5 Decision-making style moderates the relationship between external pressures (crisis circumstances and market participants' pressure) and the level of knowledge of the decision-maker.

4. Methodology

The model is tested on the acceptance of cloud computing in micro and small organizations. Cloud computing in the context of this research includes "technological and infrastructural digital platforms, which enable efficient and secure use of almost unlimited digital (hardware, data, and software) capacities for data management, storage, and use" [21].

A review of the literature showed that a questionnaire as a research instrument is most often used in research on technology acceptance, and in this study for the purpose of testing the proposed model a measuring instrument (survey questionnaire) was developed [4].

The reliability and validity of the measuring instrument are tested. Reliability is tested with the Cronbach's alpha reliability coefficient, which for acceptable reliability

needs to be greater than 0.7 [22]. Validity testing includes convergence and discriminatory validation testing. Convergent validity is measured using the average extracted variance (AVE) [23]. The AVE value for an individual construct must be 0.5 or more [6]. Discriminatory validity is tested to confirm that variables within a certain factor do not correlate strongly with variables in another factor. In order to confirm this, it is necessary that the square of the AVE value of each construct is greater than the correlation between that construct and any other construct, also the correlation between each pair of the latent exogenous constructs should be less than 0.85 [6], [23].

Structural Equation Modeling (SEM) is used to test the conceptual model and evaluate the hypotheses.

The moderating effect is tested using multigroup analysis. All three variables used in this research: digital maturity, decision-making style, and competitive priorities are categorical, with digital maturity having three groups, decision-making style two groups, and competitive priorities five groups. The categorical variable serves as a grouping variable and divides the sample into subgroups, i.e. subsamples. Once divided into subsamples the same theoretical model is estimated for each group. The aim is to determine whether there are statistically significant differences between groups, which is achieved through the use of multigroup analysis. Multigroup analysis compares the same model across different groups in the sample [24].

The digital maturity model is adopted and adjusted from the research of Kruljac [25]. It contains five dimensions (resources to implement digital transformation, advanced technologies use, technology management efficiency, openness and communication, and risk acceptance) The calculation of the digital maturity of the organization is taken from the research of Blatz and others who in their research propose a model of digital maturity for small and medium enterprises [26].

5. Results

The results of the statistical analysis are presented below. Data were collected through the online questionnaire, that was sent to a total of 1.670 email addresses. The return rate is 28% as shown [27]:

$$\% \text{ return rate } \frac{total\ number\ of\ returned\ questionnaires}{total\ number\ of\ questionnaires\ sent - inappropriate} = \frac{457}{1670-25} = 28$$

A total of 457 questionnaires were returned, 25 of them were excluded from the further analysis because they belong to the organisations from the IT industry that were excluded from this research.

Characteristics of respondents and organizations from the sample as well as descriptive statistics were processed using Microsoft Excel and IBM SPSS. Multivariate analysis is performed via PLS SEM made in SmartPLS3. The sample consisted of 432 organizations.

Variable	Category	Number of Organizations	Structure %
Size of organization	Micro	215	49,8
	Small	217	50,2
Total		**432**	**100**
Type of organization	Crafts	80	18,5
	Company	352	81,5
Total		**432**	**100**

Table 1. Size and type of organization from the sample

The calculation of the digital maturity of the organizations in the sample showed that the largest number of organizations (41.20%) is at the first level. At the second level is 37.3% while only 21.5% of organizations are at the third level of digital maturity.

Level of digital maturity	Number of organizations	Structure %
1 level	178	41,2
2 level	161	37,3
3 level	93	21,5
Total	**432**	**100**

Table 2. Digital maturity of the organization from the sample

Determining the decision-making style of the respondents is done using the mean value. The respondent was assigned a decision-making style depending on whether the mean was higher on the intuitive or rational style scale. The analysis found that 56 respondents have an intuitive decision-making style (13%) while 376 (87%) have a rational decision-making style.

Decision-making style	Number of organizations	Structure %
Intuitive	56	13
Rational	376	87
Total	**432**	**100**

Table 3. The decision-making style of the respondents

Table 4 shows the competitive priorities that organizations want to achieve by embracing cloud computing. It is a tie between increasing flexibility and cutting costs.

Competitive priorities	Number of organizations	Structure %
Speed	85	19,7
Flexibility	84	19,4
Quality	107	24,8
Reliability	52	12
Cost	104	24,1
Total	**432**	**100**

Table 4. Competitive priorities

After presenting the characteristics of the respondents, the results of testing the research model are presented in the next section.

5.1. Measurement Model Assessment

The Cronbach's alpha coefficient and the composite reliability coefficient (CR) are applied to verify the internal consistency and reliability of the construct. Table 5 shows that the values for both coefficients are above 0.7, which indicates good reliability and internal consistency of the construct [28].

Convergent validity is assessed by the Average Variance Extracted (AVE). The obtained values for each individual construct are above 0.5, which indicates good convergent validity [28] (Tabel 5).

The relationship between perceived financial risk, perceived security risk, perceived loss of time, perceived government pressure, and the level of knowledge of decision-makers with the intention to accept digital technologies is examined. The connection between the market participants' pressure and crisis circumstances with the level of knowledge of decision-makers in organizations is also explored.

Items	Loading	Cronbach's alfa	Composite Reliability CR	Average Variance Extracted AVE
Perceived financial risk (PFR)				
C_PFR1	0,828	**0,805**	**0,872**	**0,632**
C_PFR2	0,668			
C_PFR3	0,840			
C_PFR4	0,831			
Perceived security risk (PSR)				
C_PSR2rev	0,907	**0,903**	**0,939**	**0,837**
C_PSR3rev	0,930			
C_PSR4rev	0,908			
Perceived loss of time (PGV)				
C_PGV1	0,798	**0,929**	**0,948**	**0,822**
C_PGV2	0,958			

Items	Loading	Cronbach's alfa	Composite Reliability CR	Average Variance Extracted AVE
C_PGV3	0,961			
C_PGV4	0,901			
Perceived government pressure (PPD)				
C_PPD1	0,854	**0,883**	**0,918**	**0,738**
C_PPD2	0,897			
C_PPD3	0,869			
C_PPD4	0,813			
Level of knowledge of decision-makers (RZ)				
C_RZ2	0,846	**0,702**	**0,834**	**0,629**
C_RZ3	0,682			
C_RZ4	0,841			
Crisis circumstances (KO)				
C_KO1	0,713	**0,885**	**0,909**	**0,668**
C_KO2	0,743			
C_KO3	0,886			
C_KO4	0,885			
C_KO5	0,845			
Market participant's pressure (PST)				
C_PST1	0,827	**0,854**	**0,889**	**0,669**
C_PST2	0,847			
C_PST3	0,712			
C_PST4	0,875			
Intention to accept (NP)				
C_NP1	0,980	**0,961**	**0,981**	**0,963**
C_NP2	0,982			

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ)

Table 5. Measurement model

Discriminant validity is assessed by the Fornell Larcker criterion and by calculating cross-loadings [28]. Hair et al. suggest that the value of the factor load should be 0.7 or more [28] (Table 6).

	C_KO	C_NP	C_PFR	C_PGV	C_PPD	C_PSR	C_PST	C_RZ
C_KO1	0,713	0,229	0,101	0,120	0,082	-0,093	0,414	0,232
C_KO2	0,743	0,180	0,081	0,118	0,119	-0,153	0,338	0,252
C_KO3	0,886	0,071	0,309	0,367	0,156	-0,056	0,224	0,577
C_KO4	0,885	0,048	0,302	0,393	0,215	-0,066	0,282	0,474
C_KO5	0,845	0,264	0,104	0,214	0,170	-0,180	0,372	0,364

	C_KO	C_NP	C_PFR	C_PGV	C_PPD	C_PSR	C_PST	C_RZ
C_NP1	0,175	0,980	-0,211	-0,171	0,360	-0,378	0,331	0,055
C_NP2	0,145	0,982	-0,217	-0,164	0,382	-0,396	0,284	0,091
C_PFR1	0,230	-0,221	0,828	0,585	0,028	0,178	0,253	0,415
C_PFR2	0,130	-0,150	0,668	0,474	0,115	0,018	0,127	0,324
C_PFR3	0,150	-0,144	0,840	0,703	0,089	0,078	0,171	0,421
C_PFR4	0,277	-0,157	0,831	0,728	0,129	0,129	0,208	0,441
C_PGV1	0,352	-0,100	0,581	0,798	0,109	0,150	0,255	0,514
C_PGV2	0,300	-0,202	0,764	0,958	0,177	0,156	0,203	0,564
C_PGV3	0,293	-0,173	0,740	0,961	0,199	0,155	0,221	0,569
C_PGV4	0,312	-0,087	0,720	0,901	0,280	0,156	0,161	0,573
C_PPD1	0,230	0,256	0,168	0,278	0,854	-0,165	0,118	0,285
C_PPD2	0,228	0,261	0,126	0,185	0,897	-0,230	0,082	0,233
C_PPD3	0,114	0,420	0,053	0,125	0,869	-0,243	0,046	0,231
C_PPD4	0,120	0,307	0,048	0,148	0,813	-0,184	-0,011	0,201
C_PSR2rev	-0,091	-0,410	0,124	0,171	-0,229	0,907	-0,108	0,089
C_PSR3rev	-0,128	-0,328	0,100	0,096	-0,221	0,930	-0,081	0,005
C_PSR4rev	-0,112	-0,332	0,152	0,189	-0,219	0,908	-0,015	0,049
C_PST1	0,346	0,346	0,112	0,110	0,189	-0,080	0,827	0,093
C_PST2	0,293	0,260	0,210	0,114	0,102	-0,112	0,847	0,112
C_PST3	0,298	0,383	0,083	0,054	0,032	-0,202	0,712	0,018
C_PST4	0,301	0,213	0,275	0,307	-0,049	-0,015	0,875	0,172
C_RZ2	0,402	-0,069	0,522	0,563	0,109	0,128	0,112	0,846
C_RZ3	0,308	0,317	0,194	0,277	0,487	-0,126	0,108	0,682
C_RZ4	0,478	-0,026	0,459	0,568	0,108	0,102	0,140	0,841

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ)

Table 6. Cross-loadings

Fornell Larcker represents the second root of the AVE indicator and points to the discriminant validity of a construct when the second root of the AVE indicator of an individual construct is greater than the correlation between that construct and other constructs in the external reflective model [28]. Table 7 shows how this condition is met.

	C_KO	C_NP	C_PFR	C_PGV	C_PPD	C_PSR	C_PST	C_RZ
C_KO	**0,817**							
C_NP	0,162	**0,981**						
C_PFR	0,253	-0,218	**0,795**					
C_PGV	0,335	-0,170	0,778	**0,907**				
C_PPD	0,190	0,379	0,106	0,203	**0,859**			
C_PSR	-0,119	-0,394	0,137	0,168	-0,244	**0,915**		
C_PST	0,364	0,312	0,247	0,229	0,063	-0,078	**0,818**	
C_RZ	0,508	0,075	0,506	0,606	0,274	0,056	0,153	**0,793**

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ)

Table 7. Fornell-Larcker Crirerion

5.2. Structural Model Assessment

The collinearity check is performed using the variance inflation factor (VIF). Table 8 shows that all values are within the recommended range of 0.2 to 5, which leads to the conclusion that there is no multicollinearity between independent and dependent variables in the structural model [28].

	C_NP	C_RZ
Crisis circumstances (C_KO)		1,153
Intention to accept (C_NP)		
Perceived financial risk (C_PFR)	2,574	
Perceived loss of time (C_PGV)	3,095	
Perceived government pressure (C_PPD)	1,190	
Perceived security risk (C_PSR)	1,123	
Market participant pressure (C_PST)		1,153
Level of knowledge (C_RZ)	1,653	

Table 8. Collinearity statistics (Inner VIF values)

The coefficient of determination (R^2) indicates the quality of the adjusted model. Cohen stated that values of 0.26, 0.13, and 0.02 indicate strong, moderate, and weak predictive power [29] (Table 9).

	R^2	Predictive power (Results interpretation)
Intention to accept (C_NP)	0,310	Moderate
Level of knowledge (C_RZ)	0,259	Weak

Table 9. The R^2 of endogenous latent variables

Table 10 shows the values of the Cohen f^2 coefficient, which represents the strength of the influence of each path coefficient of the structural model. A value of 0.02 represents a small impact, a value of 0.15 represents a medium impact, and a value of 0.35 represents a large impact [29]. As it can be seen from the Tabel 10 the crisis circumstances (C_KO) have a medium impact on the level of knowledge (C_RZ) while market participant pressure (C_PST) has a small impact on the level of knowledge (C_RZ). The perceived financial risk (C_PFR), perceived loss of time (C_PGV), perceived government pressure (C_PPD), perceived security risk (C_PSR), and level of knowledge (C_RZ) have a small impact on the intention to accept (C_NP).

	C_NP	C_RZ
Crisis circumstances (C_KO)		0,318
Intention to accept (C_NP)		
Perceived financial risk (C_PFR)	0,020	
Perceived loss of time (C_PGV)	0,012	
Perceived government pressure (C_PPD)	0,116	
Perceived security risk (C_PSR)	0,099	
Market participant pressure (C_PST)		0,002
Level of knowledge (C_RZ)	0,034	

Table 10. The f^2 effect sizes

To assess the predictive relevance, the calculation of Stone-Geisser indicators (Q^2) is performed. A Q^2 value greater than 0 indicates low predictive relevance, a value greater than 0.25 indicates medium predictive relevance, and a value greater than 0.50 indicates high predictive relevance of the PLS model [30] (Table 11).

	Q^2	Results interpretation
Intention to accept (C_NP)	0,291	Medium
Level of knowledge (C_RZ)	0,157	Small

Table 11. Predictive relevance Q^2

5.3. Path analysis

The path coefficient analysis examines the impact on the endogenous variable. Values range from -1.00 to +1.00, with values closer to +1.00 indicating a statistically strong positive relationship between variables.

With a degree of significance of 5%, the p-value must be lower than 0.05 in order to conclude that the relationship between the constructs is significant. A t-value greater than 1.96 with a degree of significance $\alpha = 5\%$, indicates the significance of the path coefficient. Table 12 shows the values of the path coefficient, t-value, and p-

value for individual connections and the interpretation of the results, i.e. the set hypotheses.

Hypothesis	Path	Path Coefficients ß	t - Values	p- Values	Interpretation	Supported
H1	C_PFR → NP	-0,188	2,996	0,003	Significant	Yes
	C_PSR → NP	-0,277	6,610	0,000	Significant	
	C_PGV → NP	-0,160	2,442	0,015	Significant	
H2	C_PPD → NP	0,309	7,548	0,000	Significant	Yes
	C_RZ → NP	0,198	3,208	0,001	Significant	

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ)

Table 12. Summary of the structural model

Table 12 shows that H1 and H2 are accepted. There is a statistically significant negative effect of perceived risks (financial, security, loss of time) on the intention to accept digital technologies in micro and small organizations. As well there is a statistically significant positive effect of perceived government pressure and the level of knowledge of directors on the intention to accept digital technologies in micro and small organizations.

6. Moderating effect

To examine the moderating effect of digital maturity and competitive priorities on the relationship between factors (perceived financial and security risk, perceived loss of time, and perceived government pressure) and intention to accept digital technology, and the effect of decision-making style on the relationship between external pressures (crisis circumstances and market participants pressure) and level of knowledge, an analysis of the moderating effect is
performed.

6.1. Moderating effect of digital maturity

Prior to the analysis, it was checked whether there are differences between the observed groups, which was done by univariate analysis of variance (ANOVA) [22].

		Sum of Squares	df	Mean Square	F	Sig.
C_PFR	Between Groups	15,942	2	7,971	12,817	0,000
	Within Groups	266,804	429	0,622		
	Total	282,746	431			

		Sum of Squares	df	Mean Square	F	Sig.
C_PSR	Between Groups	15,044	2	7,522	9,437	0,000
	Within Groups	341,937	429	0,797		
	Total	356,981	431			
C_PGV	Between Groups	19,706	2	9,853	13,350	0,000
	Within Groups	316,613	429	0,738		
	Total	336,319	431			
C_PPD	Between Groups	0,157	2	0,079	0,092	0,912
	Within Groups	367,158	429	0,856		
	Total	367,316	431			
C_NP	Between Groups	12,244	2	6,122	8,489	0,000
	Within Groups	309,394	429	0,721		
	Total	321,638	431			

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ)

Table 13. ANOVA – level of digital maturity

When the p-value of the F-ratio is less than 0.05, it can be stated that the differences between the arithmetic means of the groups (groups) are statistically significant ($p < 0.05$). The results indicate that there are statistically significant differences in the arithmetic means between the groups for all variables except for the variable perceived government pressure (C_PPD). After checking that the groups differed from each other, a multigroup analysis is performed.

Path	Path Coefficients (1 level)	Path Coefficients (2 level)	Path Coefficients (3 level)	t-Values (1 level)	t-Values (2 level)	t-Values (3 level)	p-Values (1 level)	p-Values (2 level)	p-Values (3 level)
C_PFR -> C_NP	-0,093	-0,358	-0,277	0,846	3,556	1,471	0,398	**0,000**	0,141
C_PSR -> C_NP	-0,178	-0,280	-0,324	3,073	4,416	2,658	**0,002**	**0,000**	**0,008**
C_PGV -> C_NP	-0,070	-0,315	0,065	0,587	3,194	0,245	0,557	**0,001**	0,806
C_PPD -> C_NP	0,471	0,074	0,310	5,368	1,045	1,947	**0,000**	0,296	0,052

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ)

Table 14. Multigroup analysis - level of digital maturity

The results of the multigroup analysis indicate that for the first level of digital maturity, there is a statistically significant negative effect of a perceived security risk (C_PSR) and a statistically significant positive effect of perceived government

pressure (C_PPD) and the intention to accept. For the second level of digital maturity, there is a statistically significant negative effect between perceived financial risk (C_PFR), perceived security risk (C_PSR), and perceived loss of time (C_PGV) and the intention to accept. For the third level of digital maturity, there is a statistically significant negative effect between perceived security risk (C_PSR) and intention to accept.

Previously, results of ANOVA showed that there are no differences in arithmetic means within the groups for the variable perceived government pressure (C_PPD), so a parametric test was performed to confirm that there are differences between the groups (Table 15). A parametric test assuming equal variance in groups indicates whether there are differences between the observed groups.

Table 15 shows that there is a statistically significant difference between the first and second levels of digital maturity in the relationship between perceived government pressure (C_PPD) and intention to accept (C_NP), and as Table 14 shows, this link is stronger at the first level.

Path	Comparison	Path Coefficients difference	t- Values	p- Values
C_PPD -> C_NP	1 level vs 2 level	0,397	3,494	**0,001**
	1 level vs 3 level	0,161	0,964	0,336
	2 level vs 3 level	-0,237	1,554	0,121

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ)

Table 15. Parametric test – level of digital maturity

According to the results of multigroup analysis and parametric test, it can be confirmed that digital maturity moderates the relationship between factors (perceived financial and security risk, perceived loss of time, and perceived government pressure) and intention to accept cloud computing in micro and small organizations, thus accepting H3.

Observing the relationship between perceived security risk and intention to accept, it is clear that the strongest influence is with organizations on a 3. level. On a 2. level, there is the strongest influence as well between perceived loss of time (C_PGV) and intention to accept cloud computing. Regarding the connection between perceived financial risk and intent to accept it is clear that the strongest influence is with organizations on the 2. level. On level 1 there is the strongest influence between perceived government pressure (C_PPD) and intent to accept.

6.2. Moderating effect of competitive priorities

In order to check the moderating effect of competitive priorities (speed, flexibility, quality, reliability, costs) on the relationship between factors (perceived financial and

security risk, perceived loss of time, and perceived government pressure) and the intention to accept cloud computing, a multigroup analysis is performed.

ANOVA was used to test the differences in the arithmetic means of the groups.

		Sum of Squares	df	Mean Square	F	Sig.
C_PFR	Between Groups	10,228	4	2,557	4,006	0,003
	Within Groups	272,518	427	0,638		
	Total	282,746	431			
C_PSR	Between Groups	16,177	4	1,044	5,067	0,001
	Within Groups	340,804	427	0,798		
	Total	356,981	431			
C_PGV	Between Groups	11,068	4	2,767	3,633	0,006
	Within Groups	325,251	427	0,762		
	Total	336,319	431			
C_PPD	Between Groups	16,429	4	4,107	4,998	0,001
	Within Groups	350,887	427	0,822		
	Total	367,316	431			
C_NP	Between Groups	28,399	4	7,100	10,338	0,000
	Within Groups	293,239	427	0,687		
	Total	321,638	431			

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ)

Table 16. ANOVA – competitive priorities

ANOVA results shown in Table 16 indicate that there are statistically significant differences in arithmetic means between the observed groups for all variables ($p < 0.05$). After checking that the groups differed from each other, a multigroup analysis is performed. Table 18 shows the results of a multigroup analysis.

	C_PFR -> C_NP	C_PSR -> C_NP	C_PGV -> C_NP	C_PPD -> C_NP
Path Coefficients (S)	-0,561	-0,02	0,254	0,307
Path Coefficients (F)	-0,128	-0,378	-0,264	-0,115
Path Coefficients (Q)	0,204	-0,316	-0,483	0,151

	C_PFR -> C_NP	C_PSR -> C_NP	C_PGV -> C_NP	C_PPD -> C_NP
Path Coefficients (R)	-0,475	-0,593	0,296	0,218
Path Coefficients(C)	-0,073	-0,465	-0,232	0,378
t- Values (S)	3,443	0,2	1,67	2,209
t- Values (F)	0,714	4,019	1,202	0,641
t- Values (Q)	0,627	3,07	2,196	1,619
t- Values (P)	1,925	4,074	1,212	1,25
t- Values (C)	0,412	6,062	1,27	3,839
p- Values (S)	**0,0010**	0,8410	0,0950	**0,0270**
p- Values (F)	0,4750	**0,0000**	0,2290	0,5220
p- Values (Q)	0,5310	**0,0020**	**0,0280**	0,1060
p- Values (R)	0,0540	**0,0000**	0,2260	0,2110
p- Values (C)	0,6800	**0,0000**	0,2040	**0,0000**

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ), speed (S), flexibility (F), quality (Q), reliability (R), costs (C)

Table 17. Multigroup analysis – competitive priorities

It is evident that for the competitive priority *speed* there is a statistically significant negative effect of perceived financial risk (C_PFR) and a statistically significant positive effect of perceived government pressure (C_PPD) on the intention to accept (C_NP). For *flexibility and reliability*, there is a statistically significant negative effect of a perceived security risk (C_PSR) on the acceptance intent.

For *quality,* there is a statistically significant negative effect of a perceived security risk (C_PSR) and perceived loss of time (C_PGV) on the acceptance intent (C_NP) while for *cost* there is a statistically significant negative effect of a perceived security risk (C_PSR) and statistically significant positive effect of perceived government pressure (C_PPD) on the acceptance intent (C_NP). Observing the relationship between perceived security risk and intent to accept, it is clear that the strongest influence is with organizations that want to increase *reliability* by accepting cloud computing.

It can be concluded that competitive priorities moderate the relationship between factors (perceived financial and security risk, perceived loss of time, and perceived government pressure) and the intention to accept cloud computing, thus accepting H4.

6.3. Moderating effect of decision-making style

The T test is used to check whether there are differences in the arithmetic means of the observed groups and it was confirmed that the groups differed from each other (p-value <0.05) [22].

	T-test		
	t	df	P- Values
C_KO	5,478	430	0,000
C_PST	3,788	430	0,000
C_RZ	2,668	430	0,008

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ)

Table 18. T-test (decision-making style)

After checking that the groups differed from each other, a multigroup analysis is performed. Table 19 presents the results of a multigroup analysis of the impact of decision-making style on the relationship between market participants' pressure (C_PST) and crisis circumstances (C_KO) on the level of knowledge of decision-makers (C_RZ).

It is evident that for both styles a statistically significant positive effect was observed between the crisis circumstances and the level of knowledge. The relationship between market participant pressure and level of knowledge is not statistically significant. It is also evident that the effect of crisis circumstances on the level of knowledge is stronger among decision-makers with intuitive style (rational ß = 0.481, intuitive ß = 0.911).

Path	Path Coefficients (Intuitive)	Path Coefficients (rational)	t- Values (Intuitive)	t- Values (rational)	p- Values (Intuitive)	p- Values (rational)
C_KO -> C_RZ	0,911	0,481	9,784	12,222	0,000	0,000
C_PST -> C_KO	-0,193	-0,000	1,562	0,001	0,118	0,999

Note: Crisis circumstances (C_KO), Intention to accept (C_NP), Perceived financial risk (C_PFR), Perceived loss of time (C_PGV), Perceived government pressure (C_PPD), Perceived security risk (C_PSR), Market participant pressure (C_PST), Level of knowledge (C_RZ).

Table 19. Multigroup analysis – decision-making style

It can be concluded that the decision-making style moderates the connection between crisis circumstances and the level of knowledge, thus partially accepting H5.

7. Discussion and conclusion

In accordance with the conducted analysis, a summary of the research results is presented in Table 20.

Hypotheses	Results
H1 Perceived risks … have negative effects on the intention to accept cloud computing in micro and small organizations.	
financial risk	Accepted
security risk	Accepted
loss of time	Accepted
H2 Perceived ... of directors have positive effects on the intention to accept cloud computing in micro and small organizations.	
government pressure	Accepted
level of knowledge	Accepted
H3 The level of digital maturity of the organization moderates the relationship between factors.	
perceived financial risk and intention to accept cloud computing	Accepted
perceived security risk and intention to accept cloud computing	Accepted
perceived loss of time and intention to accept cloud computing	Accepted
H4 Competitive priority moderates the relationship between…	
perceived financial risk and intention to accept cloud computing	Accepted
perceived security risk and intention to accept cloud computing	Accepted
perceived loss of time and intention to accept cloud computing	Accepted
H5 Decision-making style moderates the relationship between ….	
crisis circumstances and the level of knowledge of decision-makers	Accepted
market participants' pressure and the level of knowledge of decision-makers	Rejected

Table 20. Summary of results

A total of five hypotheses are presented in this paper of which four of them are fully accepted while hypothesis H5 is partially accepted due to the absence of moderating effect of decision-making style on the relationship between the market participant pressure and the level of knowledge of director on the cloud computing.

The level of digital maturity is found to moderate the relationship between factors (perceived financial and security risk, perceived loss of time, and perceived government pressure) and the intention to accept cloud computing. Observing the relationship between perceived financial risk and perceived loss of time, the effect is strongest at the second level of digital maturity, while in the relationship between security risk and intention to accept, the effect is strongest at the third level of maturity.

Observing the moderating effect of competitive priorities on the acceptance of cloud computing, the results indicate that there is a moderating effect on the relationship between factors (perceived financial and security risk, perceived loss of time, and perceived government pressure) and intention to accept cloud computing. The relationship between perceived financial risk and intention to accept is strongest by the competitive priority *speed*, while the relationship between perceived security risk and intent to accept is strongest by *reliability*. *Quality* has the strongest effect on

the relationship between perceived loss of time, while *cost* has the strongest impact on the relationship between perceived government pressure and the intention to accept cloud computing.

The last moderating factor observed was the decision-making style and its effect on the relationship of external pressures (crisis circumstances and market participants' pressure) to the intention to accept. The moderating effect of decision-making style on the relationship between crisis circumstances and intention to accept was confirmed. It is found that this influence is stronger among decision-makers who have an intuitive decision-making style. The moderating impact of decision-making style on the relationship between market participants' pressure and acceptance intentions is not been confirmed.

As mentioned in the introduction, this research is created as part of the author's doctoral dissertation, in which the proposed model is described in more detail. As part of the dissertation, the model was tested on two digital technologies: cloud computing and smart contracts. As well in the dissertation, the development of the measurement instrument is presented, the sample is explained, and the remaining tests that are not presented in this paper are presented together with an extended results discussion, conclusion and limitation, and recommendation for further research.

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