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SMALL AND MEDIUM SIZE ENTERPRISES CAPACITY TO ADAPT TO DIGITALISATION IN THE WEB 3.0 AGE

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Abstract: *This paper's goal is to examine how adaptable small and medium-sized businesses (SMEs) are to the difficulties brought on by the shift to the Web 3.0 digital era. The objective of the study is to create a proprietary AQ (Adaptability Quotient) model that is tailored to the contemporary digital environment and used by Romanian enterprises. The purpose of this study is to assess the perception and actual ability of SMEs to successfully adopt new technology by gathering and statistically analyzing data from a questionnaire.*

Key words: AQ, adaptability, digitalization, Web 3.0, SMEs.

1. INTRODUCTION

Because of the unstable and turbulent digital environment and the numerous crises that businesses face, it is necessary to conduct this research on how well they can handle these situations.

The idea for this line of research came from the quote "It is not the strongest of the species that survives, nor the most intelligent. It is the one that is the most adaptable to change" by Charles Darwin, which highlights the need for companies to increase their adaptability to survive in this context. The ability to adapt becomes a crucial requirement for an organization's existence in a time when digitalization is progressing at an innovative rate and old business models are continuously under technological strain. Web 3.0's changes, which are centered on decentralization, AI, and sophisticated digital interactions, present SMEs with both tremendous opportunities and difficulties. In this regard, the current study intends to investigate how small and medium-sized businesses can increase their adaptability and resilience, creating a modernized organizational adaptability model that is pertinent to the digital age.

2. THEORETICAL BACKGROUND

The entrepreneurial environment is facing an imbalance more often and is constantly changing and evolving technologically, economically, and in terms of the working environment. In this context, it is essential to increase its level of adaptability. But change is often good and creates opportunities if you look at it from a positive perspective.

2.1 Importance of SMEs

Small and medium-sized businesses, which make substantial contributions to GDP, innovation and skill development, are essential to economic growth and job creation. The adoption of digital technology has proven to be vital for SMEs' continued existence and development in an era characterized by big data and digital stoppage. Due in large part to the COVID-19 epidemic, which has compelled many SMEs to reconsider their business models and swiftly adjust to new digital realities, technology-driven change is no longer a trend but rather a strategic imperative [1].

2.2 AQ Adaptability

AQ is a science-based measure of adaptability that measures the skills, characteristics and environmental factors that influence the success of human and organizational behaviors and actions in response to uncertainty, current information or changed circumstances [2].

The AQ model (Fig. 1) is a structure that evaluates the ability of an individual or organization to adjust to quick and problematic changes, including those caused by digital transformation, emergencies, or fluctuations in the market. Three main dimensions are utilized to measure the adaptability quotient [2]:

- Abilities (How solid are my skills in adaptability?);
- Character (What personal qualities must I have?);
- Environment (How does my workplace context affect my level of adaptability?).

2.3 Organizational digitalization web 3.0

Digitalization, as used in the context of SMEs, is the process through which companies incorporate digital technologies into every facet of their business operations, including development strategy, customer and partner relations and internal processes [3].

The progression from Web 2.0 to Web 3.0 reveals a significant change in digital technology as well as how SMEs compete, adapt, and innovate in a more intelligent and decentralized environment [4].

Employee adaptation becomes a vital resource for preserving internal balance and sustaining performance at both the individual and group levels in organizations that are constantly changing. Perceived performance and personal adaptability are positively connected, indicating that those who are easily adaptable actively support the effectiveness of organizational procedures. This relationship is mediated by the degree of perceived organizational support, suggesting that employees may mobilize their adaptability resources in response to a positive corporate climate where change is welcomed and openly discussed [5] [6].

Web 3.0 may be summed up in three key terms: decentralized, intelligent, and

customized. Web 2.0 is defined as the Web of social and communication technologies, interactive network progress, and folksonomy, which encouraged user sharing and cooperation.

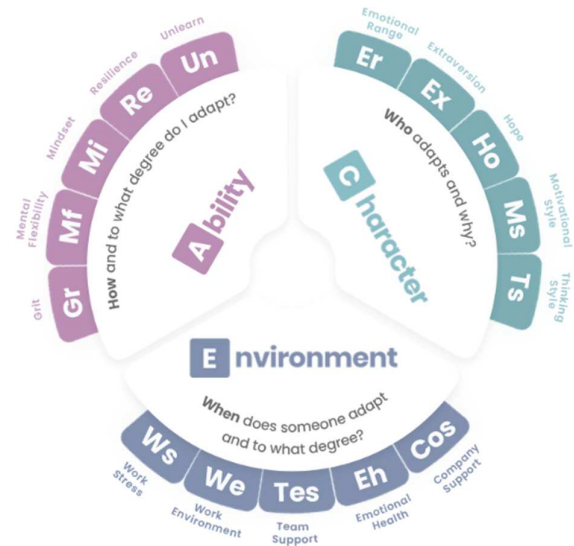


Fig. 1. AQ Model

Within Web 2.0, SMEs used cloud apps, social media, CRMs, e-commerce platforms, digital marketing and participatory platforms to communicate with partners and customers [7]. Web 3.0 seeks to create intelligent, semantic-based networks of users and machines. Although there isn't one widely recognized definition for Web 3.0 yet, it seems evident that the Web is about to take on a new dimension, and Web 3.0 and 2.0 must soon cohabit [8] [9].

SMEs run the risk of becoming obsolete if they continue adopting strategies of Web 2.0, which only uses technology without actively integrating data, artificial intelligence, and decentralized networks. More than just a technological change, the transition from Web 2.0 to Web 3.0 represents a paradigm shift in how SMEs work together, learn, and adapt [10] [11]. To successfully execute digital transformation, SMEs in particular need to build adaptive capacity, which is the power to dynamically modify and reorganize activities in reaction to external changes [12].

SMEs next advanced to a more difficult phase, which involved developing a precise plan for digital transformation. It took a well-thought-out plan that was appropriately tailored to the resources at hand to incorporate

technology into the fundamental framework of the company. The fact that digital transformation continues after technologies are first implemented is another crucial point. It is a procedure that necessitates ongoing maintenance, frequent training, and upgrades [13].

Digital transformation is a likely solution to survivability difficulties, and the desire for survival was a deciding factor. Small organizations have had to respond to external dangers, such as economic or pandemic crises, by using digital solutions that enable business continuity [14] [15].

The COVID-19 pandemic has made it the right moment for small companies to enhance the caliber of their products and offerings and develop different sales tactics according to their business needs [16]. SMEs who implemented digital technologies were better able to deal with the pandemic's obstacles, such as maintaining operations and quickly adjusting to new markets [17].

One of the primary disadvantages of rigid corporate businesses is their inability to adapt to their technological environment, which can lead to increased employee stress, decreased performance, morale, and productivity, as well as strained relationships at work. Conversely, resilient businesses demonstrate a strong capacity to maintain their competitive advantage over time through high-performance leadership and efficient innovation, always adapting their objectives to market changes [18].

The strategic implementation of Web 3.0 technologies becomes crucial as businesses negotiate the challenges of the digital age in order to gain a competitive edge and sustain growth [19] [20].

SMEs that have gone digital have proven to be more resilient to economic shocks. Companies who have embraced digital technologies have received substantial financial rewards, such as preserving cash flow and accelerating crisis recovery and better cash flow [17].

3. METHODOLOGY

This scientific work was conducted using a mixed research methodology that was founded

on practical statistical analysis, developing a new AQ model for businesses and thorough theoretical documentation.

Although there are studies in the specialized literature that address the subject of adaptability, and general directions regarding organizational adaptability in the digital age have been outlined, the specialized literature remains limited in terms of the conceptual tools applied and their practical, statistical validation. An adaptability model that clearly reflects the reality of companies' confrontation with technological changes is still insufficiently explored in academic research. There is also a gap in the integration of statistical analysis methods towards real results regarding the level of digitalization, an aspect that I propose to deepen through an innovative and interdisciplinary approach.

The initial step involved synthesizing pertinent ideas from the AQ (Adaptability Quotient) model, organizational adaptability, and the specialized literature on digitalization of companies. These pillars served as the basis for the proposal of AQ 3.0, a new conceptual model designed for the Web 3.0, dominated environment of today. The three primary elements of adaptability: abilities, character, and environment, are the framework of the model, and each has subcategories tailored to the modern digital reality.

Based on the new AQ model, a questionnaire was designed to address entrepreneurs, managers, and directors of SMEs in Romania with the aim of assessing the perception and level of adaptability to the new digital era. The questionnaire was applied to a sample of 74 competent respondents in the business field, and a purposive sampling method was used to select the respondents. It was designed to include 4 sections. The first section is represented by general and demographic information, but also by a series of questions targeting the level of digitalization and technological practices. Sections 2, 3, and 4 focus on the three dimensions of the AQ model. The purpose of part 2 - abilities, is to examine the organizational capacity to cope with rapid and complex technological changes. The character section assesses the internal traits of the manager that

support adaptability in the context of Web 3.0, and the last section of the questionnaire, namely 4, analyses whether the organizational environment makes adaptation to the digital age possible or limits it. The questions contain responses on a Likert scale (1- not at all true, 5- completely true) to allow quantitative analysis of the data. Content validity was guaranteed by careful evaluation of the literature and conversation with experts in adaptability and digital transformation. The responses were collected over a month from the online questionnaire, resulting in 74 valid responses.

To verify the hypotheses and derive pertinent findings about how adaptability affects organizational performance, the gathered responses were input into a database and examined statistically using EViews software, by descriptive statistical methods, correlations, and multiple linear regressions.

4. RESULTS

4.1 AQ Adaptability Model

A new model for measuring the AQ adaptability coefficient will be presented (Fig. 2), based on the traditional model but adapted to the digital context of Web 3.0. The proposed model will contain the three main categories, Abilities, Character, and Environment, but each with five specific subcategories adjusted to the digital context.

The three fundamental dimensions of the original model-ability, character, and environment-remain intact, but each category has been redesigned with five new subdimensions that are specifically suited to the needs of the Web 3.0 age. Key digital abilities, critical character attributes, and environmental variables required for organizational adaptation in a fast-changing digital landscape are represented by the new subcategories.

The Abilities component (Table 1) will assess the practical level of adaptation of organizations to the emerging new era, as well as the effective skills that the company must possess to cope with change. It will contain the following subcategories.

The next component represents the internal character traits (Table 2) that support adaptation

to the Web 3.0 era, explaining how entrepreneurs can more easily adapt to this era.



Fig. 2. AQ 3.0 Model.

Table 1

Abilities component.

Abilities		
Code	Subcategory	Description
UR	Unlearn & relearn	Capacity to adopt new digital techniques and abandon outdated ones
AI	AI Inclusion Readiness	Transparency and the capacity to incorporate AI technologies into daily operations
AD	Decisional Adaptability	Capacity to make data-driven decisions quickly under unexpected circumstances
DA	Digital Agility	The speed at which you adapt to new digital tools, platforms, and applications
AT	Agile Testing	The capacity to continuously test and modify digital concepts and procedures without concern about failure

Table 2

Character component

Character		
Code	Subcategory	Description
FO	Future Orientation	The degree to which future digital scenarios are included in the

		business strategy and vision
DR	Digital Resilience	The capacity of the mind to handle forced changes or digital failures
RP	Risk Propensity	The willingness to evaluate innovative digital solutions by taking measured risks
IN	Innovation Mindset	The inclination for curiosity, investigation, and receptivity to new technology
SS	Soft-Skills Orientation	The degree of proficiency in abilities, including critical thinking, collaboration, and communication

Table 3

Environment component		
Environment		
Code	Subcategory	Description
DT	Digital Tools Resources	Accessibility of software, digital infrastructure, and modern work tools
DE	Digital Ecosystem Maturity	The level to which businesses are integrated into a digital ecosystem (interoperability, common platforms, collaborations)
LD	Leadership Digital Assistance	The degree to which business executives encourage and fund digital transformation
TR	Training & Upskilling	Real team and leader access to digital training and development
FA	Failure Acceptance Climate	The extent to which the company embraces errors and grows from them

The component analyses whether the internal organizational environment and external influences support or limit adaptation to digitization (Table 3). Even if you are ready, it is hard to adjust if the surroundings do not permit it.

4.2 Statistical research

The quantitative statistical study that follows is based on the answers provided by 74 managers and entrepreneurs from Romanian SMEs regarding their current situation regarding the level of adaptability to digitalization and

their perception of Web 3.0. The first section of the questionnaire involved general, personal, and technological level questions. At the end of the first section, more complex questions were addressed about the difficulties that the entrepreneurs face in terms of digitalization and how they consider that digitalization has positively influenced certain organizational aspects. Sections 2, 3, and 4 contained questions adapted to the new AQ model about various skills, character, and organizational environment. To validate the developed hypotheses, the replies were coded in an Excel database and analyzed using EViews software.

First, descriptive statistics will be performed, which means summarizing and presenting the collected data to show the responses. This involves mean, median, mode, standard deviation, minimum, and maximum.

Subsequently, correlations will be performed to see the relationship between questions, followed by hypothesis testing through regression to verify whether a variable is significantly influenced by other variables.

4.3 Principal components analysis (ability, character, environment) and generating the AQ variable

Generating AQ variable, grouping SKILL, CHAR, ENV variables (Table 4).

Table 4

All AQ variable stats.			
	SKILL	CHAR	ENV
Mean	-1.07E-15	-7.60E-16	-3.78E-16
Median	0.308744	0.295077	-0.151889
Maximum	2.436177	2.414452	2.705564
Minimum	-4.346058	-4.737426	-4.337141
Std. Dev.	1.813308	1.687538	1.734832
Skewness	-0.511556	-0.645058	-0.212326
Kurtosis	2.372728	2.844519	2.250546
Jarque-Bera	4.440705	5.206431	2.287862
Probability	0.108571	0.074035	0.318564
Sum	-8.65E-14	-6.10E-14	-2.95E-14
Sum Sq. Dev.	240.0303	207.8883	219.7038
Observations	74	74	74

With a centered mean and a positive median (0.28), the statistical analysis of the composite variable AQ, which represents the overall degree of adaptability of SMEs in the Web 3.0 era, shows a slightly positive trend, suggesting that most respondents have an above-average capacity for digital adaptation (Figure 3).

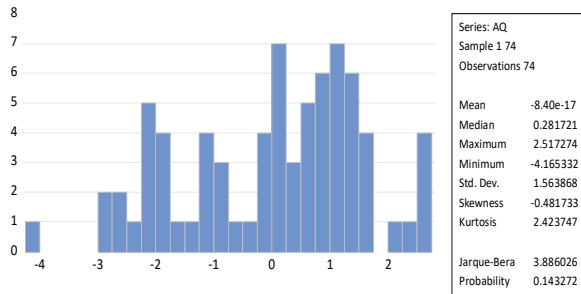


Fig. 3. AQ variable stats

All things considered, the findings point to SMEs in the sample having a strong individual foundation for adjusting to new technology realities, but they are nevertheless constrained by organizational and structural reasons, suggesting a high but underutilized potential adaptability.

4.4 Hypothesis testing through multiple linear regression

Regression equation for generating the AQ variable:

$$AQ_i = c + \alpha * \text{general information}_i + \beta * \text{technological level}_i + \gamma * \text{digitalisation difficulties}_i + \delta * \text{digital influence}_i + \varepsilon_i \quad (1)$$

c- constant;

general information - refers to the personal, demographic information of the respondents and includes independent variables related to age, gender, company age, number of employees in the company, and work mode (sex, age, age_market, no_empl, work_mode);

technological level (tech variable) - involves questions related to the level of digitalization and the technologies used by the respondents in their business;

digitalisation difficulties (digit) - refers to the obstacles encountered by the respondents because of the digital transformation process in various contexts of their business;

digital influence (digital) - represents the perceived positive influence that digitalization brings to various aspects of the entrepreneurs' business, such as the quality of decisions, sales, productivity, etc.

ε - error.

Model 1 (AQ)

Eq 1: aq c tech digit digital (Table 5)

Model 1 represents the AQ variable, which is composed of the dependent variables: tech, digit, and digital explained above.

Table 5

Equation 1 variable interpretation.

Variable	Coefficient	Probability	Result Interpretation
tech	0.534106	0	Positive influence and significant relationship between the tech variable and AQ. The result is significant at 99% confidence. A rise of 1% in tech will lead to an increase of 0.53% in AQ.
digit	-0.059210	0.4017	Digit has no significant influence on AQ.
digital	0.220185	0.0043	Positive influence and significant relationship between the digital variable and AQ. The result is significant at 99% of confidence. A rise with 1% of digital will lead to an increase of 0.22% of AQ.

In models 2-6, the main variable AQ (tech, digit, and digital) remains constant. Each model, in turn, examines the relationship of the dependent variable AQ with the independent variables in the database relating to general information. Specifically, Model 2: AQ with sex, Model 3: AQ with age, Model 4: AQ with age_market, and so on, to observe how each variable influences the level of adaptability.

Next, I will perform a multiple linear regression: Method - LS (least squares), in which I will add the personal characteristics one by one into the basic equation of the level of adaptability.

Model 7 (AQ+ all variables)

Eq 7: aq c tech digit digital sex age age_market
no_empl work_mode (Table 6).

Table 6

Equation 7 variable coefficients.			
INT	Model 1	Model 2	Model 3
C	2.86E-16	-0.06447	-0.199617
	Model 4	Model 5	Model 6
	0.173393	0.175906	0.027100
	Model 7		
	0.081489		
tech	Model 1	Model 2	Model 3
	0.534106***	0.534579* **	0.541839* **
	Model 4	Model 5	Model 6
	0.532506***	0.522570* **	0.536957* **
	Model 7		
digit	Model 1	Model 2	Model 3
	-0.059210	-0.046425	-0.059051
	Model 4	Model 5	Model 6
	-0.057714	-0.057849	-0.060006
	Model 7		
digital	Model 1	Model 2	Model 3
	0.220185***	0.217251* **	0.221492* **
	Model 4	Model 5	Model 6
	0.223757***	0.225578* **	0.219707* **
	Model 7		
sex	Model 1	Model 2	Model 3
		0.227201	
	Model 4	Model 5	Model 6
	Model 7		
age	Model 1	Model 2	Model 3
			0.074983
	Model 4	Model 5	Model 6
	Model 7		
age_market	Model 1	Model 2	Model 3
	Model 4	Model 5	Model 6
	-0.045825		
	Model 7		
no_empl	Model 1	Model 2	Model 3
	Model 4	Model 5	Model 6
		-0.088551	
	Model 7		

work_mode	-0.072686		
	Model 1	Model 2	Model 3
	Model 4	Model 5	Model 6
			-0.014746
R2	Model 7		
	-0.024396		
	Model 1	Model 2	Model 3
	0.52	0.52	0.52
	Model 4	Model 5	Model 6
	0.52	0.52	0.52
	Model 7		
	0.53		

Note: ***, **, * means statistical significance at 99%, 95% and 90% confidence level

From the results, it has been observed that the technological level (tech) and the digital influence (digital) are always positive variables and with a strong and significant level for the AQ coefficient. Therefore, a high technological level increases the level of adaptability to the Web 3.0 era.

4.5 Statistical correlation

Correlation matrix between AQ, technological level, digitalization difficulties, and digital influence (observing whether the variables increase/decrease together) (Table 7).

Table 7

Correlation matrix between AQ TECH DIGIT DIGITAL

	AQ	TECH	DIGIT	DIGITAL
AQ	1.000000	0.672918	-0.241848	0.605698
TECH	0.672918	1.000000	-0.211235	0.595620
DIGIT	-0.241848	-0.211235	1.000000	-0.227170
DIGITAL	0.605698	0.595620	-0.227170	1.000000

Table 8

Correlation results for AQ TECH DIGIT DIGITAL

Variable correlation	Coeff.	Results interpretation
Aq-tech	0.67	Strong positive correlation: the more digitalized an organization is, the more adaptable it is; digitalized SMEs have a better adaptive profile
Aq-digit	-0.24	Weak negative correlation: a lower level of adaptability is associated with challenges encountered during the digitalization process (e.g., lack of time, budget, or skills)

Aq-digital	0.60	Moderate to strong positive correlation: a higher level of adaptability is significantly correlated with positive perceptions of the effects of digitalization (e.g., on productivity, collaboration, and morale)
Tech-digit	-0.21	Weak negative correlation: Businesses that are less digitally savvy face greater challenges during the digital transformation process.
Tech-digital	0.59	Moderately favorable correlation: businesses that have embraced digitalization are more likely to see the advantages of doing so.
Digit-digital	-0.22	Weak negative correlation: SMEs are less likely to see the advantages of digitization.

Significant connections between the variables under analysis and the degree of adaptability (AQ) are indicated by the correlation results (see Table 8). The degree of digitalization and AQ show a substantial positive connection (TECH, $r = 0.672$), suggesting that more digitalized firms are better able to adjust to the new Web 3.0 realities.

5. CONCLUSIONS

To determine the true degree of adaptation and perception of digitalization, the study sought to examine SMEs' adaptability in the context of the new digital era, Web 3.0.

The benefits, drawbacks, and obstacles of SMEs' shift from Web 2.0 to Web 3.0 were examined based on thorough documentary research.

An expansion of the conventional model, tailored to the unique needs of the Web 3.0 age and new digital requirements, was offered as the new AQ 3.0 model.

A questionnaire designed to gauge the organizational environment, abilities, and

qualities of SMEs' managers and entrepreneurs was used to test the model.

Excel was used to create a database based on the questionnaire results, which was then subjected to numerous linear regressions, correlations, and descriptive statistics in EViews. We looked at the effects of independent variables, including gender, age, and length of service, on the dependent variables (skills, character, and environment) from the AQ 3.0 model. The coefficients and statistical significance levels (designated with ***, **, and *) for each regression showed how much each variable affected the outcome. In the context of Web 3.0 digitalization, this technique made it possible to find pertinent connections between the respondents' profiles and organizational adaptability level.

The conclusion, which highlights Romanian SMEs' perceptions of digitization and their level of flexibility, demonstrates that the paper's goal has been achieved. Except for artificial intelligence, which is heavily utilized (54 out of 74 respondents), most businesses are medium to highly digitalized and primarily utilize Web 2.0 technology. Other Web 3.0 technologies, on the other hand, are seldom present. The organizational environment remains a weakness for over half of organizations, which can hinder digital advancement. At the adaptability level, the best ratings are seen for skills and character.

5.1 Research limitations

A few limitations of the study include the fact that the questionnaire was only used nationally and that there were only a few respondents, which might limit how broadly the findings can be applied. Additionally, the questionnaire also included questions with subjective perceptions, which may influence the interpretation of the results, and the focus on quantitative statistical analysis did not allow me to delve into the qualitative part, the motivation behind the subjective responses. At the same time, the AQ 3.0 model is in an initial stage, not yet validated within organizations.

5.2 Future development opportunities

By expanding the research to a more varied and broadly relevant sample inside SMEs, the findings will lead to the development of

directions that include: the establishment of an extended AQ 3.0 model, empirically validated. This will be converted into a standardized test for evaluating adaptability and included in an elaborate online platform that offers business owners a precise assessment of their present degree of adaptation, along with tailored suggestions for development. To address the issues raised in the questionnaire, particularly those associated with the organizational environment, the absence of a developed digital ecosystem, employee technological training opportunities, and digital infrastructure, the platform will also incorporate practical features found through Kano analysis and the actual needs of the business environment.

The study will additionally support the integration of contemporary techniques in practical scientific research by validating the use of advanced neuromarketing tools (eye-tracking and fNIRS) in the analysis of user behavior in connection to digital technologies.

6. REFERENCES

- [1] Ugwu, J.N., Turyamureeba, S., Kule, A.M., Nyamboga, T.O. *Digital Transformation in SMEs: Challenges, Technologies, and Best Practices*, Kampala International University, May, 2024.
- [2] AQ documentation for the AQ 3.0 Model. Available online: <https://www.aqai.io/resources/the-aq-model-old> (accessed on 17th of June, 2025)
- [3] Bordia, P., Hobman, E., Jones, E., Gallois, C., & Callan, V. J. *Uncertainty during organizational change: Types, consequences, and management strategies*. *Journal of Business and Psychology*, 18, pp. 507–532, 2004.
- [4] DiFonzo, N., & Bordia, R. *A tale of two corporations: Managing uncertainty during organizational change*. *Human Resource Management*, 37, pp. 295–303, 1998.
- [5] Shoss, M.K., Witt, L.A., Vera, D., *Employees' Adaptability and Perceptions of Change-Related Uncertainty: Implications for Perceived Organizational Support, Job Satisfaction, and Performance*, *Journal of Business and Psychology*, 27(2), pp. 179–190, 2012.
- [6] Fisher, S. L., & Howell, A. W. *Beyond user acceptance: An examination of employee reactions to information technology systems*. *Human Resource Management*, 43, pp. 243–258, 2004.
- [7] Almeida, F., Santos, J. D., & Monteiro, J. A., *E-commerce business models in the context of Web3.0 paradigm*, arXiv:1401.6102, 2014.
- [8] Ayoade, G., Karande, V., Khan, L., & Hamlen, K. *Decentralized IoT data management using blockchain and trusted execution environment*, *IEEE International Conference on Information Reuse and Integration*, pp. 15–22, 2018.
- [9] Chui, M. *Artificial intelligence: The next digital frontier*. McKinsey & Company Global Institute, 47(3.6), 2017.
- [10] Brodie, M.L., Papazoglou, M.P., *Exploring the potential of Open Innovation 2.0 and Web 3.0 for SMEs*, *Journal of Business and Psychology*, 27(2), pp. 179–190, 2016.
- [11] Li, Y., Chen, C., Liu, N., Huang, H., Zheng, Z., & Yan, Q. *A blockchain-based decentralized federated learning framework with committee consensus*. *IEEE Network*, 35(1), pp. 234–241, 2020.
- [12] Kahveci, E. *Digital Transformation in SMEs: Enablers, Interconnections, and a Framework for Sustainable Competitive Advantage*. *Administrative Sciences*, 15(3), 107, 2025.
- [13] Kahveci, E., Avunduk, Z. B., Daim, T., & Zaim, S. *The role of flexibility, digitalization, and crisis response strategy for SMEs: Case of COVID-19*. *Journal of Small Business Management*, pp. 1–38, 2024.
- [14] Sagala, G. H., & Öri, D. *Exploring digital transformation strategy to achieve SMEs resilience and antifragility: a systematic literature review*. *Entrepreneurship and Sustainability Issues*, 12(1), pp. 495–524, 2024.
- [15] Robledo, P. *Process digitalization in digital transformation*, Albatian, 2018.
- [16] Winarsih, M., Indriastuti, M., Fuad, K., *Impact of Covid-19 on Digital Transformation and Sustainability in Small*

- and Medium Enterprises (SMEs): A Conceptual Framework, Complex, Intelligent and Software Intensive Systems*, vol. 1194, Springer, Cham, pp. 471–476, 2021.
- [17] Cong, L.W., Yang, X., Zhang, X. *SMEs Amidst the Pandemic and Reopening: Digital Edge and Transformation*, Applied Economics and Policy Working Paper Series, Cornell University, vol. 317045, 2021.
- [18] Țîmbaliuc, N. *Resilient organizations in modern economy*, Proceedings of the International Conference on Social and Political Marketing – ICSPM 2023, pp. 68–73, 2023.
- [19] Hussain, M., Yasin, A., & Mohsin, M. *The mediating role of psychological empowerment on the relationship between digital transformation, innovative work behavior, and organizational financial performance*. *Frontiers in Psychology*, 15, 11762508, 2024.
- [20] Chen, Y., & Fulmer, I. S. *Sustainability meets digital culture: The influence of ESG on financial performance in Malaysian manufacturing SMEs*. *Journal of Intellectual Capital*, 25(1), pp. 123-145, 2024.

Capacitatea IMM-urilor de a se adapta la digitalizare în era Web 3.0

Scopul acestei lucrări este de a examina cât de adaptabile sunt întreprinderile mici și mijlocii (IMM-urile) la dificultățile generate de trecerea la era digitală Web 3.0. Obiectivul studiului este de a crea un model propriu de AQ (coeficient de adaptabilitate), adaptat mediului digital contemporan și utilizat de întreprinderile românești. Scopul acestui studiu este de a evalua percepția și capacitatea reală a IMM-urilor de a adopta cu succes noile tehnologii prin colectarea și analiza statistică a datelor dintr-un chestionar

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