



**E-BUSINESS ADOPTION BASED ON THE TECHNOLOGY ACCEPTANCE MODEL
(TAM): EVIDENCE FROM ALBANIAN SMEs AND A COMPARATIVE ANALYSES
WITH THE WESTERN BALKANS REGION**

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Abstract

This study investigates the factors influencing e-business adoption among small and medium-sized enterprises (SMEs) in Albania, based on the Technology Acceptance Model (TAM). To better reflect the realities of developing economies, the model is extended with organizational and technological variables such as firm size, technological compatibility, perceived usefulness, and perceived ease of use. A quantitative research design was employed, collecting data from 384 SMEs across Albania and other Western Balkan countries. Structural Equation Modelling (SEM) was applied to test six hypotheses addressing direct, mediating, and moderating relationships. The findings reveal that firm size and technology adoption have a significant positive effect on e-business success. Technological compatibility mediates the relationships between firm size, technology adoption, and performance, while perceived ease of use moderates these effects. Comparative analysis shows that North Macedonia and Serbia demonstrate higher levels of digital maturity compared to Albania and Kosovo. The study validates the applicability of the extended TAM framework within the SME context of developing economies, emphasizing that both perceptual and organizational determinants jointly drive successful digital transformation. Policy implications suggest that governments should strengthen digital infrastructure, enhance managerial digital competencies, and provide fiscal incentives to encourage technology adoption.

Keywords: E-business, Technology Acceptance Model (TAM), SMEs, Albania, Western Balkans, digital transformation.



1. INTRODUCTION

The rapid evolution of digital technologies has transformed how small and medium-sized enterprises (SMEs) conduct business, making e-business adoption a strategic necessity rather than an optional innovation. Within the context of developing economies, such as Albania and the Western Balkans, SMEs play a dominant role in employment and value creation, yet they often face constraints related to technological infrastructure, financial capacity, and managerial readiness (Oliveira & Martins, 2011). Understanding the behavioral and organizational determinants that drive digital adoption has therefore become a central topic in information systems research (Dwivedi et al., 2021).

The Technology Acceptance Model (TAM), originally developed by Davis (1989), provides a robust theoretical foundation for explaining how users accept and utilize technology, emphasizing Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) as key predictors of behavioral intention. Over time, scholars such as Venkatesh et al. (2003) and Venkatesh and Bala (2008) expanded TAM by integrating external variables—social influence, facilitating conditions, and organizational readiness—demonstrating its validity in diverse technological and business environments.

For SMEs, however, technological adoption is not limited to individual behavior but extends to structural, strategic, and contextual determinants (Al-Qirim, 2007). To reflect these realities, the present study applies an extended TAM framework that integrates six key constructs: Size of the Company, Adoption of Technology, Ease of Use of Technology, Compatibility of the Technology, Perceived Usefulness, and E-Business Success. This integration bridges individual-level perceptions with organizational capabilities, offering a comprehensive approach to analyze e-business implementation.

In line with Rogers' (2003) diffusion of innovation theory, compatibility and firm size are considered critical factors influencing the perceived value and practical integration of digital tools. The proposed framework thus positions e-business adoption as a multidimensional process—driven by technology perceptions, organizational preparedness, and strategic alignment—that ultimately determines SME competitiveness and performance in transitional economies.



2. LITERATURE REVIEW

2.1 CONCEPT OF E-BUSINESS IN THE SME CONTEXT

E-business refers to the integration of digital technologies into business operations, enabling firms to manage processes, communicate with customers, and deliver products or services electronically (Laudon&Traver,2022). SMEs adopt e-business to enhance operational efficiency, reduce transaction costs, and expand their market reach beyond traditional boundaries (Fillis et al., 2004). However, despite the growing awareness of digital transformation, many SMEs—especially in developing economies—face challenges related to limited resources, technological readiness, and lack of digital skills (Scupola, 2009).

Research consistently shows that organizational size, managerial attitude, and technological compatibility play critical roles in e-business adoption (Ifinedo, 2011; Al-Qirim, 2007). Compared with large corporations, SMEs often exhibit slower adoption rates due to structural constraints, lack of expertise, and uncertainty about return on investment (Kartiwi & MacGregor, 2007). Consequently, understanding the psychological and organizational determinants of adoption has become a central research concern, making theoretical models such as the Technology Acceptance Model (TAM) particularly relevant.

2.2 THE TECHNOLOGY ACCEPTANCE MODEL (TAM)

The Technology Acceptance Model (TAM), originally proposed by Davis (1989), serves as a theoretical framework for explaining how individuals accept and use technological innovations (Davis, 1989).

The model identifies two primary determinants of technology adoption: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), which influence users' behavioral intentions (Venkatesh & Davis, 2000).

Perceived Usefulness represents the extent to which individuals believe that using a system enhances their job performance, while Perceived Ease of Use refers to how effortless they perceive the system to be (Venkatesh & Bala, 2008).

Over time, TAM has been refined and extended to include external variables such as social influence, organizational support, and facilitating conditions, thereby strengthening its predictive



power in diverse technological settings (Venkatesh et al., 2003; Dwivedi et al., 2021).

Recent studies confirm its validity in explaining technology adoption in business environments, particularly among small and medium-sized enterprises (Oliveira & Martins, 2011; Al-Qirim, 2007).

2.3 E-BUSINESS ADOPTION DETERMINANTS IN SMES

E-business adoption among small and medium-sized enterprises (SMEs) is influenced by a combination of technological, organizational, and environmental factors that determine how digital tools are implemented and utilized within firms.

Technological factors relate to the perceived benefits, compatibility, and complexity of adopting e-business systems, affecting how decision-makers evaluate digital transformation. Organizational factors include management commitment, availability of financial and human resources, and the readiness of employees to engage with new technologies.

Environmental factors encompass market competition, customer pressure, and support from government policies or technological infrastructure, which together shape the pace and extent of e-business diffusion.

Integrating these determinants within the TAM framework helps to explain how perceptions of usefulness and ease of use are formed under the influence of both internal and external organizational contexts. Tornatzky & Fleischer, 1990; Oliveira & Martins, 2011).

Within the TAM framework, Perceived Usefulness often emerges as the strongest predictor of adoption (Awa et al., 2015). SMEs adopt e-business platforms when they perceive clear benefits such as increased productivity, sales growth, and improved communication. Likewise, Ease of Use significantly affects adoption by reducing perceived complexity and training costs (Ramayah et al., 2003). Compatibility acts as a critical mediator—when digital tools fit existing processes and culture, SMEs are more likely to achieve successful integration (Premkumar & Roberts, 1999).

Firm size also moderates these relationships. Larger SMEs tend to possess better IT capabilities and skilled personnel, facilitating smoother adoption (Abou-Shouk et al., 2016). However, smaller firms often rely on external support, government programs, or partnerships to bridge capability gaps (Daniel et al., 2002). Studies conducted in emerging economies highlight that financial



limitations and managerial perceptions remain the most significant barriers to e-business diffusion (Mutula & van Brakel, 2007).

2.4 EXTENDING TAM TO THE SME E-BUSINESS CONTEXT

Given the multidimensional nature of SME environments, researchers have increasingly combined TAM with complementary frameworks such as the Technology–Organization–Environment (TOE) model (Oliveira & Martins, 2011) and the Diffusion of Innovation (DOI) theory (Rogers, 2003). These integrations allow for a more holistic understanding of how internal beliefs interact with structural and external pressures.

In this extended perspective, Compatibility functions as a mediating factor, translating technological perceptions into performance outcomes, while Ease of Use often acts as a moderating variable, shaping the strength of other relationships. This approach better reflects the realities of SMEs, where decision-making is centralized and resource constraints require that technologies align seamlessly with daily operations.

Empirical research in developing regions, including Southeast Europe and the Western Balkans, supports the relevance of TAM extensions for SMEs. Studies (e.g., Dwivedi et al., 2021; AlBar & Hoque, 2019) confirm that integrating perceived usefulness, ease of use, and organizational readiness significantly enhances the explanatory power of TAM.

The reviewed literature underscores that successful e-business adoption among SMEs depends on both individual perceptions (usefulness, ease of use) and organizational enablers (compatibility, firm size, resources). The extended TAM model, when applied to SME contexts, offers a balanced analytical lens for understanding how technological, organizational, and human factors jointly drive digital transformation. This framework thus forms the theoretical foundation for the present study's hypotheses and empirical testing.

3. METHOD



3.1 RESEARCH DESIGN

This study applies a quantitative research design to investigate the factors influencing e-business adoption among SMEs using the Technology Acceptance Model (TAM).

The research approach allows for the collection of numerical data to analyze relationships between variables such as perceived usefulness, perceived ease of use, and organizational readiness.

The quantitative approach enables statistical testing of relationships between constructs such as perceived usefulness, ease of use, technological compatibility, firm size, and e-business success.

A cross-sectional survey method was employed, as it allows for the collection of standardized data from a large number of firms within a defined period. The data were analyzed using Structural Equation Modelling (SEM) through AMOS, complemented by descriptive and inferential statistics to validate reliability, validity, and causal relationships.

3.2 POPULATION AND SAMPLE

The study targeted SMEs operating in the services, trade, and manufacturing sectors, which are the most dynamic contributors to the national economy. The population consisted of enterprises officially registered in Albania and Kosovo that use or plan to use digital tools for business operations.

A sample of 384 SMEs was determined based on Cochran's formula (1977) for large populations, ensuring a 95% confidence level and a 5% margin of error. Respondents included managers, business owners, and IT or marketing officers, who are directly involved in technology-related decisions. The sampling technique used was stratified random sampling, dividing firms according to sector and size (micro, small, and medium enterprises) to ensure representation and minimize bias.

The demographic section of the questionnaire captured variables such as firm age, number of employees, annual turnover, and level of digitalization. Most firms in the sample employed between 10 and 50 workers, reflecting the structural composition of SMEs in the region.

3.3 RESEARCH INSTRUMENT



The primary data were gathered through a structured questionnaire designed using constructs derived from the Technology Acceptance Model (TAM) and variables adopted from previous research. (Davis, 1989; Venkatesh & Bala, 2008; Oliveira & Martins, 2011).

The questionnaire consisted of five sections:

1. Firm Characteristics – including company size, sector, and years of operation.
2. Technology Adoption – measured through six items assessing the level and purpose of technology usage (adapted from Ifinedo, 2011).
3. Ease of Use of Technology – six items reflecting user perceptions of simplicity and accessibility (adapted from Davis, 1989).
4. Compatibility of Technology – six items evaluating how well digital tools fit with existing processes and culture (Premkumar & Roberts, 1999).
5. E-Business Success – six items capturing perceived operational and financial outcomes (Delone & McLean, 2003).

All indicators were evaluated through a five-point Likert scale, where 1 represented strong disagreement and 5 indicated strong agreement

A pilot survey involving 20 SME managers was undertaken to verify the instrument's clarity, reliability, and face validity leading to minor adjustments in wording. The reliability coefficients (Cronbach's Alpha) for all constructs exceeded 0.70, confirming internal consistency.

3.4 DATA COLLECTION PROCEDURES

The data were collected through a combination of online forms and in-person survey distribution techniques.

The online version of the questionnaire was created using Google Forms and distributed via email. Participation was voluntary and anonymous, and respondents were informed about the study's purpose, confidentiality of data, and their right to withdraw at any time. Data were screened for completeness and consistency before analysis, and 384 valid responses were retained for final testing.

3.5 DATA ANALYSIS TECHNIQUES

The collected data were analyzed utilizing SPSS and AMOS software. First, descriptive statistics (mean, standard deviation, frequency) were used to summarize respondent characteristics and construct distributions.

Second, Reliability and validity were examined using Cronbach's Alpha coefficients, Composite Reliability (CR), were employed to confirm the validity of the measurement structure.

Finally, Structural Equation Modelling (SEM) tested the hypothesized relationships among constructs (H1–H6), identifying direct, indirect, and moderating effects.

The model's goodness-of-fit was evaluated using standard indices such as χ^2/df , RMSEA, CFI, and TLI, with acceptable thresholds based on Hu and Bentler (1999).

Proposed Framework of the Study

The proposed framework illustrates how organizational and technological determinants shape e-business success among SMEs, drawing on prior models in digital transformation and innovation management (Liu & Vorhies, 2020; Wagner et al., 2018). Building on TAM, e-business adoption is influenced by both perceptual factors (perceived usefulness, ease of use, compatibility) and structural factors (firm size, resource capacity). The study proposes an integrated TAM-based model examining how these variables jointly affect e-business performance, with six hypotheses capturing direct, mediating, and moderating effects.

Research Hypotheses

H1: Firm size has a significant and positive impact on e-business success.

H2: Technology adoption exerts a notable and favorable influence on e-business success.



H3: Technological compatibility acts as a mediating factor in the relationship between technology adoption and e-business success.

H4: Technological compatibility mediates the association between firm size and e-business success.

H5: Ease of use moderates the connection between firm size and e-business success.

H6: Ease of use moderates the link between technology adoption and e-business success.

Model of research:

This configuration provides the analytical basis for empirical assessment.

The model of research identifies three core variables: two independent ones, namely firm size and technology adoption, and a single dependent variable representing e-business success

Firm size is conceptualized as a structural indicator of organizational capacity, reflecting workforce strength, financial capital, and market scope. Larger SMEs generally possess more resources to invest in digitalization, thus achieving higher efficiency and performance (Asare et al., 2021; Tzavlopoulos et al., 2019).

Technology adoption captures how far SMEs integrate information and communication technologies into their daily operations—ranging from enterprise software and digital marketing to online sales and data-analytics tools (Al-Ali et al., 2022). High adoption levels are expected to yield stronger competitive advantages and performance improvements (Kumar & Dutta, 2020).

The outcome construct, e-business success, synthesizes multiple dimensions of performance: sales growth, customer satisfaction, market reach, and brand positioning (Sullivan & Kim, 2018; Dwivedi et al., 2022). Together, these variables form the foundation for further analysis of mediating and moderating relationships (Subagja, 2023).

1. Firm Size

Firm size acts as a primary determinant of e-business performance. It mirrors the SME's resource base, managerial capacity, and strategic flexibility (Sensuse et al., 2020). Empirical evidence suggests that larger SMEs are better equipped to exploit digital technologies due to greater



financial stability and skilled personnel (Nuseir, 2022).

Consequently, firm size is hypothesized to have a positive and significant impact on e-business success. Larger enterprises can allocate resources for advanced platforms, staff training, and customer engagement initiatives (Saridakis et al., 2018).

E-business technologies also enhance operational efficiency by automating processes that once required manual input. They lower overheads, accelerate transactions, and enable real-time monitoring of inventory and demand (Sam et al., 2019; Costa et al., 2022).

Through automation and digital communication, SMEs become more agile and customer-oriented, positioning themselves for sustained growth in volatile markets (Rungtornsupatt et al., 2019; Katiwi et al., 2018).

2. Technology Adoption

The technology-adoption construct gauges how effectively SMEs integrate digital innovations into business activities. Adoption spans e-payment systems, cloud computing, artificial intelligence applications, and analytics that optimize operations (Pattinaja et al., 2023; Al-Omouh et al., 2022). Following the Technology Acceptance Model (TAM) and the Information-Systems-Success (ISS) framework, this study assumes that perceived usefulness and ease of use are decisive factors driving acceptance (Ocloo et al., 2020; Venkatesh et al., 2021).

Nevertheless, numerous SMEs face implementation barriers such as financial constraints, infrastructure gaps, and lack of IT expertise (Babenko et al., 2019; Hu et al., 2019).

Security and trust remain critical. As firms process sensitive data, maintaining strong cybersecurity and compliance frameworks is essential (Moriuchi et al., 2020; Sensuse et al., 2020). SMEs that build customer trust through secure platforms are more likely to sustain digital engagement and loyalty (Nguyen & Simkin, 2023).

3. E-Business Success

E-business success serves as the dependent variable, reflecting the overall outcome of digital transformation within SMEs. It encompasses tangible performance indicators—sales volume, profit growth—and intangible outcomes such as customer satisfaction, innovation capability, and market agility (Matarazzo et al., 2021; Mehmood, 2021).



Both firm size and technology adoption exert direct influence on success, while technological compatibility and ease of use act as mediating and moderating variables shaping these effects (Luo et al., 2020; Lm, 2021).

To remain competitive, SMEs must adapt continuously to digital trends, emerging consumer expectations, and ethical considerations in online business (Fedorko et al., 2018; Haseeb et al., 2019).

From the consumer side, digital commerce offers convenience, personalization, and transparency (Xiao et al., 2022; Dwivedi et al., 2023).

By integrating digital tools, strategic leadership, and customer-centric approaches, SMEs can secure long-term competitiveness and resilience in the global digital ecosystem (Marques & Ferreira, 2024).

4. RESULTS

Hypothesis testing

To ensure the reliability of the measurement scales, Cronbach's Alpha was computed for each construct. All alpha coefficients ranged between 0.72 and 0.89, confirming satisfactory internal consistency and meeting the threshold of 0.70 recommended by Nunnally (1978).

To assess the reliability of the constructs used in this study, internal consistency was examined through Cronbach's Alpha coefficients. This analysis ensures that all measurement items within each construct consistently reflect the underlying dimension as proposed by the extended TAM framework.

Table 1
Internal Consistency: Cronbach's Alpha

Section	No. of Items	Cronbach's Alpha
Size of the Company	6	0.726
Adoption of Technology	6	0.848
Ease of Use of Technology	6	0.785
Compatibility of Technology	6	0.872
E-Business Success	6	0.884



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Overall	30	0.944
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Source: Author elaboration on Davis (1989); Venkatesh & Bala (2008); Oliveira & Martins (2011); Nunnally (1978)

Validity

To evaluate construct validity, Pearson correlation coefficients were calculated between key variables. All correlations were positive and statistically significant ($p < 0.05$), ranging between $r = 0.33$ and $r = 0.69$, indicating moderate to strong associations among constructs. These results demonstrate both convergent and discriminant validity of the questionnaire measures (Carmines & Zeller, 1979).

Hypothesis Summary

The hypotheses were examined using ANOVA, multiple regression, and Structural Equation Modelling (SEM) with AMOS, based on responses from 384 SMEs. The tests explored direct, indirect, and moderating effects among firm size, technology adoption, compatibility, and ease of use, assessing their combined impact on e-business success.

An ANOVA test was conducted to evaluate whether variations in firm size, technology adoption, compatibility, and ease of use lead to significant differences in e-business performance. The results provide insights into the relative strength of each determinant in explaining e-business success among SMEs.

Table 2
ANOVA Test Results

Variable	F-value	Sig. (p)	Effect Size (η^2)	Decision
Size of Company	12.94	0.001	0.102	Significant
Technology Adoption	17.63	0.000	0.128	Significant
Compatibility of Technology	9.78	0.002	0.081	Significant
Ease of Use of Technology	8.05	0.005	0.070	Moderately Significant
E-Business Success	18.96	0.000	0.134	Highly Significant

Source: Author elaboration on Davis (1989); Venkatesh & Bala (2008); Oliveira & Martins (2011); Nunnally (1978)

The overall model fitness was evaluated using Structural Equation Modelling (SEM) to confirm the adequacy of the theoretical framework. Model fit indices such as χ^2/df , CFI, GFI, TLI, and RMSEA were analyzed to determine the degree to which the empirical data align with the conceptual TAM-based model.

Table 3
Structural Equation Model (SEM) Fit Indices

Fit Index	Recommended Value	Obtained Value	Model Status	Interpretation
χ^2/df	< 3.0	2.32	Good Fit	Acceptable model fit
GFI	> 0.90	0.907	Good Fit	Model adequately represents data
CFI	> 0.90	0.943	Excellent Fit	Strong comparative fit
TLI	> 0.90	0.936	Excellent Fit	Consistent with observed data
RMSEA	< 0.08	0.055	Good Fit	Low residual variance

Source: Author elaboration on Hu & Bentler (1999); Venkatesh & Bala (2008); Dwivedi et al. (2021)

To test the direct, indirect, and moderating effects hypothesized in the conceptual framework, path coefficients were estimated through SEM. These coefficients indicate the magnitude and statistical significance of relationships among the constructs—firm size, technology adoption, compatibility, ease of use, and e-business success.

Table 4
Path Coefficients (Direct, Indirect, and Moderating Effects)

Path	Standardized Estimate (β)	p-value	Effect Type	Decision
Size → E-Business Success	0.418	0.000	Direct	Accepted (H1)
Technology Adoption → E-Business Success	0.447	0.000	Direct	Accepted (H2)
Adoption → Compatibility → Success	0.298	0.001	Indirect	Accepted (H3)
Size → Compatibility → Success	0.266	0.002	Indirect	Accepted (H4)
Size × Ease of Use → Success	0.193	0.032	Moderation	Partially Accepted (H5)
Adoption × Ease of Use → Success	0.182	0.038	Moderation	Partially Accepted (H6)

Source: Author elaboration on Davis (1989); Venkatesh & Bala (2008); Oliveira & Martins (2011); Dwivedi et al. (2023)

A summary of hypothesis testing results is presented below to consolidate the outcomes of all analytical procedures. This table provides an overview of accepted and partially accepted hypotheses, confirming the predictive validity of the extended TAM framework in the SME e-business context.

Table 5
Summary of Hypothesis Testing Results

Hypothesis	Statement	Result	Decision
H1	Firm size positively affects E-Business Success.	$\beta=0.418, p<0.01$	Accepted
H2	Technology adoption positively affects E-Business Success.	$\beta=0.447, p<0.01$	Accepted
H3	Compatibility mediates adoption–success relationship.	$\beta=0.298, p<0.01$	Accepted
H4	Compatibility mediates size–success relationship.	$\beta=0.266, p<0.01$	Accepted
H5	Ease of use moderates size–success link.	$\beta=0.193, p<0.05$	Partially Accepted
H6	Ease of use moderates adoption–success link.	$\beta=0.182, p<0.05$	Partially Accepted

Source: Author elaboration on Davis (1989); Venkatesh & Bala (2008); Dwivedi et al. (2021); Rogers (2003)

The findings validate the hypothesized relationships, confirming that firm size and technology adoption are strong predictors of e-business success, while compatibility and ease of use enhance performance through indirect and moderating mechanisms. The SEM model exhibited solid fit indices and reliability, providing evidence of a robust framework explaining the technological and organizational dynamics driving SME digital transformation.

5 COMPARATIVE ANALYSIS: E-BUSINESS ADOPTION BASED ON TAM IN SMES ACROSS THE WESTERN BALKANS

The diffusion of e-business technologies among small and medium-sized enterprises (SMEs) in the Western Balkans has followed uneven trajectories across countries, shaped by variations in infrastructure, institutional maturity, and managerial perceptions of technology. Drawing on the Technology Acceptance Model (TAM), this section compares how perceived usefulness (PU), perceived ease of use (PEOU), compatibility, and organizational characteristics influence e-

business adoption and performance in Albania, Kosovo, North Macedonia, Serbia, and Montenegro.

1. General Trends in the Region

The Western Balkans exhibit a growing yet heterogeneous level of digital adoption among SMEs.

- In Albania and Kosovo, rapid post-transition reforms and investments in ICT infrastructure have accelerated SME digitalization, though many firms still rely on basic online tools rather than integrated e-business platforms.
- North Macedonia shows the most advanced SME e-business integration, supported by stronger governmental digital strategies and EU-aligned policies.
- Serbia and Montenegro demonstrate moderate adoption, with progress concentrated in urban centers and technology-driven sectors.

Across all countries, managerial awareness and perceived strategic benefits of e-business strongly drive adoption decisions, in line with the TAM construct of Perceived Usefulness (PU). However, persistent barriers such as low digital skills, financial limitations, and cultural resistance moderate the effectiveness of these drivers.

2. Perceived Usefulness (PU)

Empirical evidence suggests that PU is consistently the strongest determinant of e-business adoption in all five countries.

- In Albania and Kosovo, managers adopt digital platforms primarily for improving market access and communication efficiency.
- In North Macedonia, PU extends beyond operational benefits to include data analytics and customer relationship enhancement.
- In Serbia and Montenegro, firms perceive e-business as a way to reduce operational costs but remain cautious about its long-term ROI.
- The cross-country pattern confirms that SMEs' adoption is motivated more by tangible business benefits than by technological novelty. Yet, when governments provide digital

incentives or tax reliefs (as in North Macedonia), PU perception rises substantially, demonstrating that institutional support amplifies TAM constructs.

3. Perceived Ease of Use (PEOU)

The influence of PEOU varies more significantly across the region.

- In Kosovo and Albania, limited ICT literacy and lack of professional IT support constrain perceived ease of use, especially among micro-enterprises.
- In contrast, North Macedonian SMEs report higher PEOU due to broader exposure to EU-funded training programs and e-government systems.
- Serbia and Montenegro lie in the middle, with adoption concentrated in younger firms led by digitally savvy managers.

Thus, while PEOU plays a secondary role to PU, it becomes a critical moderating factor when user training and platform design directly influence technology acceptance. The findings mirror the extended TAM logic (Venkatesh & Bala, 2008), where usability reduces cognitive resistance and accelerates behavioral intention.

4. Compatibility and Organizational Readiness

Compatibility, defined as the degree to which digital systems fit existing business practices, demonstrates mixed outcomes.

- North Macedonian and Serbian SMEs show relatively high compatibility due to the integration of ERP and CRM systems into daily operations.
- In Albania and Kosovo, technological compatibility remains limited, as SMEs often adopt fragmented tools (social media, email marketing) without full integration into back-office processes.
- Montenegrin firms, although smaller, display adaptability through cloud-based and outsourced digital solutions, mitigating their limited in-house expertise.

Organizational readiness—including firm size, financial capacity, and managerial commitment—acts as both a mediating and moderating variable within the TAM framework. Larger and better-capitalized SMEs are more likely to overcome technological barriers, confirming findings from global studies (Dwivedi et al., 2021; Oliveira & Martins, 2011).



5. Comparative implications

The comparative results indicate that North Macedonia leads the region in e-business adoption maturity, followed by Serbia, Montenegro, Albania, and Kosovo. Despite structural and policy differences, a common pattern emerges:

1. Perceived Usefulness (PU) remains the dominant driver across all countries.
2. Ease of Use (PEOU) significantly influences smaller firms and less digitalized economies.
3. Compatibility and organizational readiness explain inter-country differences in adoption success.

These findings suggest that the TAM framework, when extended with organizational and contextual variables, effectively captures the adoption behavior of SMEs in transitional economies. To enhance adoption rates, regional governments should focus on digital literacy programs, affordable technology solutions, and incentives that strengthen both perceived usefulness and ease of use among SME managers.

Overall, the comparative analysis underscores that the adoption of e-business in the Western Balkans is not merely a technological process but an organizational transformation driven by perception, capability, and institutional environment.

While TAM constructs (PU and PEOU) provide a solid foundation for understanding individual acceptance, their interaction with compatibility, firm size, and external support determines actual adoption outcomes. Therefore, policy interventions should promote not only technology diffusion but also the perceived strategic value and ease of integration of e-business tools, ensuring sustainable digital transformation among SMEs in the region.

1. CONCLUSION AND POLICY RECOMMENDATIONS

The study confirms that the adoption of e-business among Albanian SMEs is driven by both individual perceptions and organizational readiness. Within the extended TAM framework, perceived usefulness and compatibility emerge as the most influential determinants, while firm size and technological readiness play significant mediating roles. The empirical findings demonstrate that SMEs that integrate digital tools strategically achieve higher levels of efficiency, competitiveness, and customer satisfaction.



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From a theoretical perspective, this research validates the applicability of TAM in the SME context of developing economies, proving that behavioral constructs remain consistent when complemented with organizational variables. Moreover, the comparative analysis highlights the regional disparities in digital maturity across the Western Balkans, emphasizing that Albania and Kosovo still lag behind countries like North Macedonia and Serbia in policy-driven digitalization. Policy and managerial recommendations include the need for governments to expand digital infrastructure, incentivize technology investment through tax benefits, and strengthen collaboration between academic institutions and SME sectors. Training programs focused on digital skills and managerial awareness should be prioritized, while regional harmonization of digital policies would support faster e-business adoption.

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