



Policy paper on e-Commerce and Digital Skills Development

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EXECUTIVE SUMMARY

The growing impact of digital technology on economies has made them important drivers of economic development. Small and medium-sized enterprises (SMEs) need external support to integrate digital transformation into their overall business strategy due to their inconsistent investments in information and communications technologies (Schaltegger et al., 2016; Ulas, 2019). Digital transformation can be defined as a change in the ways a company uses digital technologies, utilizing them to develop new digital business models and help creating new value for the company. However, digital transformation is not only linked to new technologies, but requires an overhaul of organizational structures, work processes, skills, and culture, but also changes in the companies' mindset. The absence of adequate government policies hinders the development of SMEs and prevents them from fully utilizing the human capital and other types of resources at their disposal. The purpose of this SME digital transformation policy paper is to provide relevant policy options and recommendations for policy makers and can serve as a guideline for the properly structuring future strategies and policy measures.

Current digital policy initiatives in Bosnia and Herzegovina (BiH) are characterized by a lack of country-wide strategic framework for SME digitalization, a fragmentation of institutional and legal frameworks, unsatisfactory level of business and digital services development, underdeveloped e-commerce, high shipping and logistic costs as well as a lack of awareness and digitalization plans among SMEs. While most countries provide support to the digitalization efforts of their SMEs, BiH continues to fail to provide support, which is proving to be highly problematic. The main objective of this policy paper is to provide relevant, feasible policy options and recommendations for BiH policy makers, regarding digital innovation ecosystem transformation. Accordingly, this paper outlines the policy problems, explores policy options pertinent to solving the problem, assesses different policy options based on objective criteria and expert opinion, and finally provides recommendations.

The present policy paper is a methodological continuation of two previous reports: a desk review entitled "In depth analysis in building digital innovation ecosystem for SMEs" and a qualitative analysis entitled "SME Support Policy Impact on e-Commerce and Digital Skills Development through Investments and Building Competitiveness". It also includes a literature review and relies on previous research done by the CoE. Three sets of policy options are defined and then analyzed, based on the research findings of previous reports.

Additionally, each of the policy sets are evaluated based on criteria of policy relevance and effectiveness, alignment with EU recommendations, feasibility, cost effectiveness, and political viability. Finally, the following set of recommendations, which are further elaborated and discussed in sections 4 and 5, represent the core actions that should be considered by policy makers:

1. In order to effectively align and harmonize the SME digital transformation policies within the country and integrate and further develop the institutional and legal framework, it is necessary to:
 - 1.1. Create of a permanent inter-ministerial body in BiH
 - 1.2. Adopt a BiH Law on Electronic Identity
 - 1.3. Strengthen the legislative framework for e-commerce
 - 1.4. Integrate the business registration system

- 1.5. Harmonize information systems laws
- 1.6. Establish a Ministry for Digital Society in FBiH
2. In order to improve Business development and the digital services provided by the government administration, the following steps should be taken.
 - 2.1. Prepare plans and implement a series of small and flexible digitalization projects at all levels of government
 - 2.2. Invest in broadband infrastructure
 - 2.3. Establish cloud computing centers in both entities
3. In order to increase the presence of e-commerce and decrease shipping and logistical costs in the economy of BiH, the following measures should be taken:
 - 3.1 Implement a program to support e-commerce development
 - 3.2 Implement a program to decrease logistic and shipping costs for SMEs
 - 3.3 Establish a web page with relevant standards and norms
 - 3.4 Reduce barriers to cross-border e-commerce.
4. In order to increase awareness of the need to improve technical skills and to promote the digitalization of SMEs, the following steps should be taken:
 - 4.1. Implement an SME Digitalization Support Program/Project
 - 4.2. Implement educational programs on digital skills for SMEs
 - 4.3. Establish Centers/Institutes for Artificial Intelligence
 - 4.4. Adopt a Stimulative Tax Deduction for Digitalization and Education.

The recommendations presented could serve as a catalyst for digital transformation and the advancement of SMEs in BiH. The transition to digital business practices has the potential to enhance the capabilities and competitiveness of SMEs in an evolving, highly dynamic environment, leading to a more developed and prosperous BiH. To achieve this, policymakers and SME management practices must prioritize new opportunities and align their actions with global trends.

1. INTRODUCTION

SMEs are very important for the inclusive economic development of a country. Nevertheless, government institutions in BiH do not provide them with sufficient support, due to institutional and market regulations, and especially due to limited access to external finance. Moreover, SMEs play a key role in providing livelihoods and income to different segments of the workforce, in creating new jobs, fostering added value and economic growth (Disse and Sommer, 2020).

In general, 'digital transformation' can be defined as a change in the way a company uses digital technologies to develop a new digital business model and helps create new value for the company (Verhoef et al., 2021). Digital transformation is by its nature multidisciplinary, as it includes changes in strategy, organization, information technologies, supply chains and marketing. Improving the business success of SMEs requires an increased understanding of how they can gain a sustainable, competitive advantage through digital transformation. Starting with drawing up a digital strategy, they should then move to adopt it in order to improve their business, changing their organizational structure to support the new strategy.

Government support in promoting the successful implementation of digital transformation in small service business has been found to be very important (Chen et al., 2021). As SMEs depend heavily on government policy and programs, a comprehensive examination of digital transformation within this sector must consider the role of the government. Furthermore, to balance the ongoing digital transformation, the fundamental importance of improving so-called "digital resilience" (which is becoming a critical factor for the success of any SME both now and in the future), has become very clear. Digital resilience refers to an SME's abilities to respond to and recover from digital crises, such as Internet security threats and cyber-attacks. The lack of digital defense capabilities and the security awareness that SMEs often have makes them an especially preferred target for cyber-attacks and can lead to global value and supply chain disruption. Digital resilience needs to be regarded as an integral part of the overall SME business strategy. Its mission and all staff involved should be centered around it (Casalino et al., 2019).

In terms of the public sector support for digitalization, the steady integration of new technologies into the everyday lives of businesses is giving rise to new forms of public sector engagement. This new digital environment offers opportunities for more collaborative and participatory relationships that allow relevant stakeholders to actively collaborate in the design of public services and participate in their delivery, providing more coherent and integrated solutions to complex challenges. As a result, new public governance approaches are needed to support a shift from governments anticipating business' needs to businesses determining their own needs and addressing them in partnership with governments (OECD, 2014).

With regards to digital transformation via e-commerce adoption, the literature clearly points out that developing countries have the potential to achieve rapid and sustainable economic and social development by building a digitalized and inter-connected SME sector, capable of applying affordable yet effective ICT solutions. In particular, e-commerce has proved to have a positive impact on the advancement of SME businesses in developing countries. (UNCTAD, 2021)

The significance of digital transformation on the modern economy is widely recognized by the literature, as it affects the business world in a variety of ways (Morakanyane et al., 2017; Ziółkowska, 2021; Cichosz et al., 2020). The digitalization of the economy opens new opportunities for businesses and the impact of digital technologies on all sectors of the economy is constantly growing. Digital technologies have become the main drivers for the transformation of financial markets and the development of foreign direct investment flows (Kozlova et al. 2019). Moreover, digitalization contributes to a favorable business climate, which in turn helps countries create opportunities for mobilizing private and foreign investment for growth in the economy. It also engenders sustainable development and alleviates poverty (Oluwatoyin and Olawale, 2021).

While digital transformation is widely recognized as a crucial process for SMEs development (Casalino, 2019), its successful implementation is not possible without stronger support by BiH's government agencies.¹ Accordingly, this policy paper addresses the obstacles facing BiH's SMEs in their digital transformation and presents policies the government should adopt to support SMEs in this transition. In particular, the purpose of this report is to offer viable policy options and recommendations to policymakers, with the aim of facilitating evidence-based policy making with regard to BiH's digitalization and digital transformation.

This policy paper is part of a series prepared by the Center of Excellence (CoE) on digital transformation in BiH. This policy paper outlines the policy problem, explores the legislative and institutional policy options relevant to solving the problem. It assesses the policy options based on objective criteria and expert opinions and provides recommendations accordingly. To accomplish this, we evaluate the formal organizational structures that pertain to policy development and implementation in BiH, identify main policy actors, and examine their role and power in the policy process.

2. POLICY PROBLEM DEFINITION

This policy paper addresses the problems that BiH companies face in their digital transformation and suggests the policies the government should adopt in order to support these companies in this transition. International and supranational organizations (OECD 2016, 2020; European Commission, 2021) and academics (Morakanyane et al., 2017; Ziółkowska, 2021; Cichosz et al. 2020) have argued that digital transformation is the key element for progress and the modernization of both companies and the economy in general, as there are benefits for both the economy and society. SMEs in BiH need external support to integrate digital transformation into their overall strategy, due to their unpredictable investments in information and communications technology, limited resources, lack of expertise, technology complexity, change management challenges, and scalability requirements (Schaltegger et al., 2016; Ulas, 2019). While the challenge to competitiveness lies in the corporate sector, where companies must build technological, marketing, management, and human capital, as well as financial capabilities,

¹ Conclusion based on the findings and evidence from previous work done i.e., *Desk review - In depth analysis in Building digital innovation ecosystem for SMEs*, and the *Qualitative analysis - SME Support Policy Impact on e-Commerce and Digital Skills Development through Investments and Building Competitiveness*.

the involvement of the government is necessary for the development of business competitiveness. SMEs need a customized government approach based on, among other things, digital readiness, which will include a wide range of measures that impact SMEs competitiveness and create an environment for successful digital transformation.

Furthermore, in BiH, there are multiple other obstacles to the SMEs digitalization process, including a lack of digital skills in the workforce, lack of awareness of the need for digital transformation, but also there is considerable, wide-spread resistance to the adoption of new digital technologies. Moreover, a specialized and educated labor pool that would also contribute to fostering digital transformation in the workplace is still missing.

In the decades to come, e-commerce may have significant effects on the structure and functioning of economies at the company, sector and aggregate levels. The impacts of e-commerce growth in the future will be diverse and likely to impinge on prices, the composition of trade, labor markets and taxation revenues. Adapting policy frameworks and institutions to these changes and ensuring that the full potential benefits of e-commerce are reaped will pose a number of challenges. Next, the sheer scale of structural shifts caused by e-commerce developments are likely to have interlinkages with macroeconomic policy and economic performance. They could modify how policymakers respond to a problem and might even impact the ability to conduct and effectively implement macroeconomic policy (OECD, 2016).

Moreover, trust in technological solutions is fundamental to the functioning of the digital economy; without it, individuals, companies, and governments might be reluctant to adopt digital technologies, resulting in missing opportunities for growth and social progress. Greater cooperation among all stakeholders in developing coherent strategies for digital security and privacy and implementing privacy and security risk management frameworks for prosperity, are essential.

Finally, the Council of EU in its Joint Conclusions of the Economic and Financial Dialogue between the EU and the Western Balkans and Turkey for 2022, recommended for BiH: “Some progress was made towards online business registration in both entities, also in view of reducing the significant informal economy. However, further progress is needed, and obtaining licenses and permits remains a complex and fragmented process with insufficient countrywide harmonization. BiH has unfortunately made little progress towards a harmonized, countrywide electronic identity and signature system. More needs to be done to foster digital solutions contributing to a sustainable economy, better public services to businesses and citizens and implementation of customs legislation providing for simplified customs procedures in line with the Digital Agenda for the Western Balkans and the Economic and Investment Plan.” (Council of European Union, 2022)

3. METHODOLOGICAL FRAMEWORK

A policy paper’s methodology should be grounded in evidence-based research and take into account the interests and perspectives of all stakeholders involved. Accordingly, this policy paper is a methodological

continuation of two previous reports, the desk review of the "In depth analysis in building digital innovation ecosystem for SMEs" and the quantitative analysis "SME Support Policy Impact on e-Commerce and Digital Skills Development through Investments and Building Competitiveness". Therefore, the research team employed qualitative and quantitative research approaches, based on desk reviews, and thematic and comparative analysis in conducting this research study.

The methodology for the desk review in the report "In depth analysis in building digital innovation ecosystem for SMEs" relied on a qualitative methodological approach, including an extensive, systematic literature review of primarily legal and strategic documents related to the improvement of the digital innovation ecosystem for SMEs in BiH, and semi-structured interviews with important local and international stakeholders in the digitalization reform processes.

For the second report which included the quantitative analysis, a primarily mixed-methodological approach was adopted, which involved conducting a comprehensive literature review of scientific articles pertaining to the enhancement of the digital innovation ecosystem for SMEs, and a closed-ended questionnaire, the Business Survey 2022, which was administered to SME owners across BiH. The survey was used to obtain data for the four measurement models: SME support policies, business competitiveness, foreign investment, and SME digitalization.

The methodology for this policy paper was based on a structured and rigorous approach to analyzing complex policy issues. This involved identifying both the problem and the stakeholders based on a comprehensive desk review, and thematic and comparative analysis. Consequently, in accordance with these analyses and the policy options we developed, conclusions and policy recommendations were made.

In particular, three policy options are defined and analyzed, based on the current analysis. They focus on:

1. The stated policy problem
2. The processes and institutions through which policies are developed and implemented
3. Policy development based on understanding existing legislation and policies
4. EU recommendations and the longer-term view

Based on these, three-policy sets have been identified and analyzed. Each one of the policy sets are evaluated based on the criteria: policy relevance and effectiveness; alignment with EU recommendations; cost effectiveness; feasibility; and political viability. The set of recommendations is based on the stated criteria. In particular, the policy relevance and effectiveness of each set is assessed using questions as to whether the option would address the domestic needs, as identified in policy problems, and would it address the problem in an effective way with the least additional fiscal implications. Additionally, we evaluate the feasibility and political viability of the policy option, based on the existing political practices and expert opinions from professionals in the field.

4. POLICY OPTIONS/CONTEXT

In the previous reports, the "In depth analysis in building digital innovation ecosystem for SMEs" and the "SME Support Policy Impact on e-Commerce and Digital Skills Development through Investments and Building Competitiveness" provided a basis for relevant policy options, which we present in Table 1. Based on the previous reports we prepared three policy options, which we denote as: No policy change, Extensive policy changes (set one), and Moderate policy changes (set two). These policies we present in Table 1 and detailed explanation is following the table.

Table 1: Overview of the policy options

	No policy change	Extensive policy changes - set one	Moderate policy changes - set two
Institutional Legal Framework	There is no country-wide strategic framework or harmonized approach for SME development, nor country-wide strategic plan for SME digital transformation.	Establish a Central State Office for the Development of Digital Society and then develop a national Strategy for SME Digitalization.	Establish a permanent inter-ministerial body, involving all relevant ministries, their agencies and stakeholders to develop and adopt country-wide strategy for SME digital development, with action plans for each level of government.
	Institutional and legal framework for SME development is fragmented and not sufficiently developed.	<p>Establish a system for electronic registration of businesses, into one system at the state level.</p> <p>At the state level, adopt a Law on information system, in line with the EU legislative framework.</p> <p>Adopt a BiH Law on Electronic Identity, harmonized with EU directives.</p> <p>Strengthen legislative framework for e-commerce. (For example: Electronic Commerce Law, Consumer Protection Law, Data Protection, etc.)</p>	<p>In FBiH, establish a ministry responsible for development of digital society and implementing Agency.</p> <p>Adopt a BiH Law on Electronic Identity harmonized with EU directives.</p> <p>Integrate systems for electronic registration of businesses into one system with two or three modules i.e., for the entities and Brčko.</p> <p>At the entity level, adopt harmonized laws on information systems in line with the EU legislative framework.</p>
Direct Support to Business	Business development services provided by the government administration are not at a satisfactory level.	Implement a big overarching digitalization project covering most of the issues at the state or the entity level.	Prepare a coherent plan and implement a series of small to medium size flexible digitalization projects.
	The quality of digital service provided by the public sector is not		Adopt a plan for investment in

	adequate.		broadband infrastructure. Establish Cloud Computing Centers ² in both entities
E-commerce	E-commerce is not sufficiently present in BiH economy	Implement the program with the purpose of decreasing logistic and shipping costs for SMEs.	Implement a program to support e-commerce development.
	High shipping and logistics cost are the barrier to e-commerce development	In the Ministry of Foreign Trade and Economic Relations (MOFTER), prepare a webpage and program of continuous education about standards and norms for exploring SMEs.	Reduce barriers to cross-border e-commerce. In MOFTER, establish and continuously update a web page with all relevant standards and norms for different countries
Digitalization Skills and Plans	There is a lack of awareness of insufficiency of technical skills for digitalization	Implement SME Digitalization Support Program/ Project, including development of digitalization plans. Implement campaigns educating on the need for digitalization.	Implement Educational programs for digital skills of SMEs. Establish in each entity centers/institute for Artificial intelligence.
	Very small number of companies have digitalization plans	Establish a BiH center/ institute for Artificial intelligence. Define the IT sector as strategic with tax relief on corporate tax for all SME (or small companies) companies in this sector.	Adopt stimulative (200% or 300%) tax deduction for expenses spent on digitalization in SMEs.

In this section, we also identify the pros and cons of possible policy options for identified policy problems, by highlighting specific aspects of current policies and alternative policy sets.

Policy option - No policy change

The initial option presented in the policy papers is No policy change. This does not mean that the government will do nothing but rather that it will continue with the status quo or current practice and current policy initiatives. The main details are explained as No policy change option in Table 1, with the core message being that the level of government support to technology utilization and digitalization of SMEs is low, same as the level of digitalization that has taken place in the public sector.

Policy options - Extensive policy changes

The policy option defined as Extensive policy changes or ‘set one’, proposes policy initiatives that would improve the current situation. In order to create a country-wide strategic framework or harmonized

² A programming environment that uses the internet as a platform and enables the use of computer resources from anywhere, at any time, used by a large number of users for reduction of investments in information infrastructure, higher security systems and a number of other benefits.

approach for SME development, or a country-wide strategic plan for SME digital transformation and improvement in institutional and legal framework, the first policy set proposes:

1. *Establish the Central State Office for the Development of Digital Society and develop a national Strategy for SME Digitalization.* For example, Croatia has established such an office with the purpose of: Drafting policy proposals for the development of the digital society; the creation of a methodology for monitoring progress and assessing the effects of policies; Popularizing digital skills development and inclusiveness; Monitoring, proposing and coordinating the development and use of information and communication technology; Coordinating projects related to the development of a digital society; Ensuring the unique and permanent availability and re-use of publicly available official documents and information of the Republic of Croatia and other open data, for all stakeholders on equal terms and impartially. This data is made available through the Open Data Portal and the Central Catalogue of Official Documents of the Republic of Croatia (RDD, 2023). In addition, development of the National strategy for SME digitalization (in BiH) with action plans for different levels of government, prepared and monitored from one place, would avoid fragmentation and ensure a harmonized approach in the SME digitalization process.
2. *Establish a system for electronic registration of businesses in one system at the state level.* A single electronic registration system would include online portals and digital platforms. It would allow businesses to submit registration information and documentation electronically, which would reduce the time and cost associated with the traditionally paper-based registration models. This electronic registration system would enable the government to use this register for other purposes such as tax, subsidies or communication. The power of the EU single market has enabled a number of companies to expand beyond their national borders. As of June 2017, the business registers of all EU countries have been interconnected and become searchable (European Justice, 2017). BiH should do the same and continue to become part of EU business space. The COVID-19 pandemic contributed to the acceleration of digital technology adoption by governments and economies. For example, in Croatia since late 2019, the Croatian government provides a web application called START that makes opening a business easier, cheaper, and faster. The START application is an information system that enables citizens to start a private business online. START integrates multiple steps, procedures, institutions, and banks into one simple online process. Using this application company can be registered within only a few days.
3. *At the state level adopt a Law on information systems, in line with the EU legislative framework.* Growth in use of information systems has made provision of proper security essential and they should be designed to improve BiH's cybersecurity. Security of information systems is an international matter because they often cross national boundaries. Further, it impacts the BiH integration into the EU by increasing BiH's ability to supervise critical sectors (European Parliament, 2020), in this case, mainly related to cyber risks, data protection and access to information. It may also regulate intellectual property related to the information system, electronic signatures or e-commerce. This is very important from the perspective of SME development, since it provides a legal framework for the creation, protection and use of management systems. SMEs usually lack investment capacities for individual expensive security measures and may be more vulnerable to data breaches or cyberattacks. Adequate regulation would add to their operational efficiency and protection of sensitive data.

4. *Adopt a BiH Law on Electronic Identity, harmonized with EU directives.* In terms of digital transformation, it is a priority for the government and its institutions, to align the existing legislation on electronic documents, electronic identification, and trust services, such as those related to digital signatures, encryption, authentication etc., in electronic business, with the EU acquis.
5. *Strengthen the legislative framework for e-commerce and implement a program with the purpose of decreasing logistic and shipping costs for SMEs.* When it comes to the digitalization of the e-commerce sector it is necessary for the government to start with fundamentals and implement a new legal and technical infrastructure, if the costs for payment and postal services are to be lowered. Implementation of such a program will lead to the introduction of measures and tools such as digital platforms, software systems to automate tasks, supply management software that optimizes processes in logistics and shipping, and decreases costs in the transportation and delivery of goods. On the legal side the postal laws should be adjusted to EU standards in a way that would not allow entity owned postal companies to have dominant positions on the market – this would increase competitiveness and the introduction of new services for a better service quality.
6. *Implement a big overarching digitalization project covering most of the issues at the state or the entity level.* Examples of measures needed are the preparation of a project to cover every part of BiH with broadband; establish a BiH Cloud Computing Center to increase the data sovereignty, in line with the EU Data Strategy, Digital Strategy, and EU Industrial Strategy; prepare and implement Strategy for Digital transformation of government - including all levels of government.
7. *In MOFTER, prepare a webpage and program of continuous education about standards and norms for exploring SMEs.* This web platform could act as a single source of information for SMEs willing to digitalize and enhance their knowledge on standards and norms in digital transformation. This would include e-learning training materials (on topics such as modernizing business processes, redesigning jobs and upskilling workforce, using digital technology), digital maturity self-assessments to measure companies' level of digital maturity and get guidance on the business case for digitalization and how to achieve it, access to public support schemes that will facilitate digital transformation and to financing programs available in the country. This platform could also act as a matching tool between the supply and demand of digital solutions, as seen for example in Slovenia, with their "Less is More Platform" (OECD, 2020).
8. *Implement SME Digitalization Support Program/Project, including development of digitalization plans and implement campaigns educating on the need for digitalization.* The program, or the project, should contain a comprehensive digitalization plan including assessment of digital readiness and identifying areas and ways for improvement. It should also include training and support for SMEs to adopt digital technologies, secure customized digitalization plans for individual SMEs, provide technical support and advice in implementation technologies such as digital marketing, and promote benefits of digitalization through media campaigns. Accordingly, it is necessary that public sector institutions give priority to supporting projects in the field of digital transformation, following the global trend and examples of countries worldwide, but also of those in the region.

9. *Establish a BiH center/institute for Artificial intelligence.* Following the AI trends, Western Balkan (WB) economies (Albania, BiH, North Macedonia, Montenegro, Serbia and Kosovo) are pushing for the implementation of advanced information technologies and artificial intelligence, particularly in the public sector (Krivokapić et al. 2022). However, BiH should extend this work and follow the good practice from Slovenia in the establishment of the Center for AI, Europe's first artificial intelligence (AI) research center, which began operating in early spring in Ljubljana. The center is operating under the auspices of UNESCO and is a result of the pioneering role in the development of artificial intelligence played by Ljubljana's Josef Stefan Institute.
10. *Define the IT sector as of strategic importance, with tax relief on corporate tax for all SME companies in this sector.* Encouraging the IT sector in the form of tax reliefs and subsidies available to IT professionals is a necessity as it is one of the more dominant sectors in BiH. There is a global trend to encourage the IT sector since the whole world is moving towards digitization and technological innovations. Given that the IT sector in BiH has shown serious potential, it should not be discouraged with administrative and tax burdens. For example, in Serbia, there are several tax incentives that are available to the IT sector, and these are the so-called R&D deduction³, the IP Box regime⁴ and the Tax Credit⁵ for newly founded innovative companies (Digitalna zajednica, 2021).

Policy option - Moderate policy changes

The detailed policy changes of this policy option are presented in Table 1. Both policy options contain some identical recommendations, due to our approach in policy development (in which the policy set Moderate policy changes - 'Set Two' - is proposed by modifying the Extensive policy, Set One). We include the following adjustments: considering cost of the action, and adapting the ideal solutions based on further considerations of BiH-specific political and institutional arrangements. By doing so, we, as well as policymakers, can assess the feasibility and potential impact of each option, and gradually build support for more significant policy changes. We have tried to ensure that the Extensive policy change option is clearly differentiated from the Moderate option. Meanwhile, in order to avoid repetition in this part, we focus on those policies that are distinctive from the Extensive policy option, while for those which remain the same or are related, we do not repeat the explanation.

1. *Establish a permanent inter-ministerial body, involving all relevant ministries, their agencies and stakeholders, to develop and adopt a country-wide strategy for SME digital development with action plans for each level of government.* The inter-ministerial body would serve as an alternative to the Central state office. Meanwhile, a country-wide strategy, including

³ According to (R&D) deduction, every euro spent on R&D by a company in Serbia is eligible for a double deduction. Inspiration for these incentives were drawn from tax measures recently introduced in Poland, but also from Slovenia and Slovakia.

⁴ Namely, as of 2019, Serbia amended its tax legislation in order to introduce certain incentives for the creation of intellectual property on its territory (so-called "IP box"). The Act on Corporate Profit Tax prescribes that an owner of intellectual property rights can deduct up to 80% of its qualified income from the taxation base.

⁵ A taxpayer who is not a newly established company performing innovative business activities and which invests in the share capital of the newly established company performing innovative business activities, has a right to a tax credit in the amount of 30% of such investment.

participation by different levels of governance, with action plans for each level of government, will function as an alternative to a national digitalization strategy.

2. *In FBiH, establish a ministry responsible for development of digital society and implementing Agency as is established in RS.* The ministry and the agency would, in general, formulate digitalization policies, define objectives, prepare regulations and standards related to digital technology, data protection, e-governance etc. They will also promote digital literacy and skills, facilitate digital inclusion, and perform monitoring and evaluation of digitalization initiatives.
3. *Adopt BiH Law on Electronic Identity harmonized with EU directives.*
4. *Integrate systems for electronic registration of businesses into one system with two or three modules i.e., for entities and Brčko.*
5. *Adopt entity-level harmonized laws on information systems in line with the EU legislative framework.*
6. *Prepare a coherent plan and implement a series of small to medium size flexible digitalization projects.* This plan could include projects on enhancing digital marketing and online presence of SMEs, support to establishment of customer relations management systems, processes automatization, supply chain optimization etc.
7. *Adopt a plan for investment in broadband infrastructure.* This will include assessment of current infrastructure, define future needs, goals and objectives, engage stakeholders, and design network and implementation phases.
8. *Establish Cloud Computing Centers in both entities.* The governments of both entities should, by establishing Cloud Computing centers, make additional efforts and undertake further work on improving regulations related to the application of digital signatures, use of cloud services, protection of personal data, access to data registers and others, with the aim of harmonizing the regulatory framework with global trends and building an enabling environment for the accelerated digital transformation of businesses in BiH.
9. *Implement the 'Program to support e-commerce development'.* When it comes to the digitalization of the e-commerce sector, it is necessary for the state government to start with fundamentals and implement a new legal and technical infrastructure if the costs for payment and postal services are to be lowered. On the legal side, the postal laws should be adjusted to EU standards in a way that should not allow entity owned postal companies to have dominant positions on the market – this would increase competitiveness and the introduction of new services for a better service quality.
10. *Reduce barriers to cross-border e-commerce.* MOFTER can simplify custom procedures, harmonize technical standards in line with the EU, increase transparency when it comes to pricing and delivery options, and additionally invest in logistical infrastructure that can reduce time and cost of delivery.
11. *In MOFTER, establish and continuously update a web page with all relevant standards and norms for different countries.*
12. *Implement Educational programs for digital skills of SMEs.* The government should support implementation of educational programs for digital skills with the aim to enhance proficiency in utilization of technology in SMEs. These programs should combine formal and informal learning opportunities. For example, these programs can include digital tools and strategies for SMEs, website development or maintenance, online and email marketing, search engine optimization, cloud computing, digital project management, optimizing business processes etc.

13. *Establish in each entity centers/institute for Artificial intelligence.*

14. *Adopt stimulative (200% or 300%) tax deductions for expenses spent on digitalization in SMEs.* Helping SMEs in complying with their tax obligations while minimizing both compliance burdens and wider administrative burdens. If tax administrations are not able to fully relieve SMEs from tax obligations, they might be able to help mitigate tax compliance costs which can be significant for SMEs.

Criteria for the evaluation of the policy options and the best option

We identify five criteria for the evaluation of the policy options. These criteria include:

1. *Policy relevance and effectiveness.* Policy relevance and effectiveness as a policy option set directly contribute to solving the problems identified and the ability to maintain its beneficial effects in the longer term.
2. *Alignment with EU recommendations.* Is the policy set in line with EU recommendations in Joint Conclusions?
3. *Feasibility.* Option is practical, feasible, imposes the least additional fiscal burden or has minimal negative fiscal impact. By these criteria, we unify Legal Feasibility or the Consistency of our policy options with the current constitutional/legal framework in BiH, national/entity/cantonal/local mandates as appropriate.
4. *Cost effectiveness.* Cost effectiveness with the goal of achieving policy goals at the least cost.
5. *Political viability.* Acceptability of the policy option to various relevant stakeholders that hold political power (voters, legislators, president's cabinet, etc.)

Table 2 presents our main findings on different policy options. The option of maintaining the status quo, or not implementing any policy changes, is perceived as incurring no additional costs or impact to the budgets, it is feasible and politically viable. However, this approach has implicit opportunity costs in terms of not having effective and adequate policies in place, which adversely impact SMEs. Our findings from previous research, which correspond to the option of no policy change, indicates that the current approach is inadequate and the government response to the digitalization trends and needs is insufficient and unsatisfactory. Thus, it is recommended to eliminate this option.

The assessment of the second policy set, marked as “extensive policy change”, presented in Table 2, reveals that it is relevant to the policy problem, and it is consistent with the process of the Policy Dialogue with the European Union (EU). The corresponding recommendations are articulated in the Joint Conclusions of the EU. It is also aligned to the legal and institutional framework of the country. However, this policy set incurs significant additional budget costs, and the centralization of certain policies, which might negatively impact implementation. Additionally, political support for this policy option set might not be universal due to the frequent political disputes about constitutional authorities or competencies.

Lastly, the moderate policy option is assessed. The results of the evaluation indicate that this policy option would address the policy problem and secure the implementation of EU recommendations in this area. Similar to the Extensive policy change option, it imposes additional financial costs, primarily on the budgets of the Bosnian entities. Furthermore, it requires increased coordination efforts to achieve harmonized solutions between the entities, which should be facilitated by state institutions. The assessment of the acceptability of this policy option to various relevant stakeholders with political

influence suggests that there is unlikely to be any political opposition to this option, since it mitigates the issue of constitutional authorities. The risks may include common resistance to change as digitalization may threaten some interests or position of power, as in any reform.

Table 2: Overview of the main criteria and policy evaluation

Criteria	Criteria details	No policy change	Policy option set 1	Policy option set 2
Alignment with EU recommendations in the Joint Conclusions ⁶	<p>“Improving the business environment through closer cooperation and coordination at all levels of government.”</p> <p>“Online business registration in both entities.”</p> <p>“Countrywide electronic identity and signature system.”</p> <p>“... foster digitalization of public services and to complement the development of e-Government infrastructure, adopt the law on electronic identity and trust services for electronic transactions with a single supervisory body in line with the EU acquis and ensure that the Indirect Tax Authority, whose ability to fulfill its vital country-wide role must be maintained, begins issuing electronic signatures. “</p>	<p>The current policy has been deemed inadequate and fails to align with European Union recommendations. Despite the government having declared digitalization as a priority, the lack of effective implementation of these policies is underlined by the Joint Conclusions of the EU Council.</p>	<p>The policy change would fulfill recommendations outlined by the Joint Conclusions.</p>	<p>The policy change would fulfill recommendations outlined by the Joint Conclusions.</p>
Policy relevance and effectiveness	<p>Policy option sets directly contribute to solving the identified problem and ability to maintain its beneficial effects in the longer term.</p>	<p>Based on our finding in the current study current policy is not satisfactory and does not fulfill necessary improvement in the business environment</p>	<p>The policy change would address the identified policy problem.</p>	<p>The policy change would address the identified policy problem</p>

⁶ Joint Conclusions of the Economic and Financial Dialogue between the EU and the Western Balkans and Turkey as approved by the participants of the Dialogue on 24 May 2022. <https://www.consilium.europa.eu/en/press/press-releases/2022/05/25/western-balkans-and-turkey-joint-conclusions-of-the-economic-and-financial-dialogue-of-24-may-2022/>

Cost Effectiveness	Policy set imposes the least additional fiscal burden or minimal negative fiscal impact, with a goal of achieving policy goals at the least cost.	No policy change option means no additional direct cost, but it induces huge opportunity cost and does not solve the policy problem.	Implementation of the policy set would impose additional fiscal cost, mostly to the state level institutions.	Implementation of the policy set would impose additional fiscal costs, mostly to the institutions at the entity level.
Feasibility	This criterion unifies the Legal Feasibility or the Consistency of our policy option with current constitutional/legal framework in BiH, national/entity/cantonal/local mandates.	No policy change is in line with the legal framework but does not solve the policy problem.	Policy change aligns with the legal framework, but constitutional/legal framework distributes the power across different levels of government and over-centralizing can impede implementation effectiveness.	The proposed policy change aligns with the existing legal framework. However, it assumes increased coordination efforts to reconcile the various levels of government involved.
Political viability	Acceptability of the policy option to various relevant stakeholders that hold political power (executive government and legislators).	No policy change is politically feasible but does not solve policy problems.	Given the current political trends, the feasibility of securing universal acceptance among all relevant stakeholders for a particular policy option is not certain.	Support for the implementation of this set of policies can be expected at all levels of government. The risks may include common resistance to change, or digitalization may threaten some interests or position of power as in any reform.



5. RECOMMENDATIONS

This report suggests that the implementation of Policy Set 2 (Moderate policy change), would have the highest likelihood of being implemented and of enhancing the digital transformation of SMEs in BiH. This policy outcome would solve the policy problem to an acceptable degree, while being feasible from the political and fiscal perspective. In comparison to the Extensive policy option, the Moderate option is, from a political perspective, more acceptable to all actors within the country. The actors at the various levels of government should support this proposal since it does not include ambiguity about constitutional authorities between state and entity level. At the same time, it does satisfy policy relevance criteria and EU accession process, which is a stated priority for all decision makers. Furthermore, we note that each recommendation item is a complicated change and each requires further study to fully identify the detailed actions necessary to realize it. Accordingly, the following set of recommendations is suggested:

1. In order to effectively align and harmonize the SME digital transformation policies within the country and integrate and further develop the institutional and legal framework, it is necessary to:
 - 1.1. Create a permanent inter-ministerial body in BiH, involving all relevant ministries, their agencies, and stakeholders. This body should be responsible for developing and adopting a country-wide strategy for SME digital development based on the Open Method of Coordination⁷ including all relevant stakeholders and action plans for each level of government.
 - 1.2. In order to support the growth of digital technologies and to promote a secure and efficient digital environment, it is necessary to adopt a BiH Law on Electronic Identity that is harmonized with EU directives.
 - 1.3. The country should integrate its electronic business registration systems into a single system with two or three modules, including modules for the entities and Brčko.
 - 1.4. The two BiH entities and Brcko District should adopt harmonized laws on information systems that are in line with the EU legislative framework.
 - 1.5. The legislative framework for e-commerce should be strengthened to provide a more supportive environment for businesses and to promote the growth of digital technologies.
 - 1.6. The entity FBiH should also establish a Ministry responsible for the development of a digital society and related implementing agency.
2. In order to improve the business development and digital services provided by the government administration, the following steps can be taken.

⁷ The Open Method of Coordination is a policy-making approach used by the EU to promote cooperation and exchange of information among member states in areas of common interest. The OMC involves setting shared objectives, monitoring progress towards these objectives, and sharing best practices and experiences among member states. The OMC is used in areas such as employment, social inclusion, education and training, and research and innovation. It is a voluntary approach that relies on peer pressure and benchmarking to encourage member states to adopt policies and practices that are in line with EU goals and values.

- 2.1. A coherent plan should be prepared and a series of small- to medium-size flexible digitalization projects should be implemented at all levels of government, to support the development of digital services within the country.
 - 2.2. A plan for investment in broadband infrastructure should be adopted, at all levels of government, to support the growth of digital technologies and to ensure that businesses have access to high-speed internet.
 - 2.3. Establish Cloud Computing Centers in both entities: Cloud Computing Centers should be established in both entities within the country to provide businesses with access to cost-effective and scalable computing resources.
3. In order to increase e-commerce and decrease shipping and logistic costs within the economy of BiH, the following measures can be taken:
 - 3.1 A program should be implemented to support the development of e-commerce in BiH and to provide businesses with the tools and resources they need to succeed in the digital economy.
 - 3.2 A government program should be implemented with the purpose of decreasing logistic and shipping costs for SMEs in order to support their growth and competitiveness.
 - 3.3 In MOFTER, a web page should be established and continuously updated with all relevant standards and norms for different countries to support businesses in navigating the complexities of international trade.
4. In order to increase awareness of the need to improve technical skills and to promote the digitalization of SMEs, the following steps can be taken:
 - 4.1. A program or project should be implemented to support the development of digitalization plans for SMEs and to provide them with the tools and resources they need to succeed in the digital economy.
 - 4.2. Educational programs should be implemented to help SMEs develop the technical skills they need to take advantage of digital technologies.
 - 4.3. Centers or Institutes for Artificial Intelligence should be established in each entity within the country to provide businesses with access to expertise and resources in this important field.
 - 4.4. A stimulative tax deduction of 200% or 300% should be adopted, in each entity, for expenses spent on digitalization and education for digitalization in SMEs, to help these businesses comply with their tax obligations while minimizing compliance burdens and wider administrative burdens.

Leveraging the benefits and addressing the challenges of digital transformation requires coordination across all policy domains identified in the policy paper. It also requires the consideration of multisectoral policy issues (e.g., skills, digital government and data governance) that cut across several of the framework's policy dimensions. The above policy recommendations, therefore, need to be coordinated through a whole-of-government approach that maintains an element of entity-level autonomy.

Coordination implies the involvement of a wide range of actors across multiple parts and levels of government, as well the participation of non-governmental stakeholders and international partners.

6. CONCLUDING REMARKS

The ongoing digitalization of the economy and society will only expand and deepen. Digitalization does not only contribute to productivity and efficiency, but also to broader socio-economic development. It is an accelerator of development and BiH must be ready to make the most of it. This paper provides the basis for constructing a pro-active BiH digital transformation agenda.

BiH lacks a supportive digital policy framework and regulatory environment that empowers SMEs to seize the opportunities presented by the digital transformation. Moreover, a multifaceted policy response is required to address the identified challenges to SME digitalization. Policies should be flexible enough to combine a range of measures to reflect the needs of different SMEs. SMEs should have incentives and public sector support to embrace new technologies and to embark on their journey of innovation. Even though government programs have a focal role in strengthening SMEs' resilience to external shocks, this is still not well enough reflected in the government policies on SMEs that are currently being implemented in BiH.

The findings of this study suggest that the inefficiencies in current government policies hinder the development of SMEs and prevent them from fully utilizing the human capital and other resources at their disposal. We argue that the implementation of the recommendations provided in the previous sections can stimulate digital transformation and the development of SMEs in BiH.

The optimal policy option to enhance the digital transformation of SMEs in BiH and to have broader impact is Policy set 2, or a Moderate policy change. This option, as we have presented, is feasible from both fiscal and political perspectives. It solves the recognized policy problem to an acceptable degree, satisfies the criteria of relevance to the country needs for the EU accession path, and minimizes any political risk in terms of constitutional competencies. Each policy recommendation requires further detailed actions necessary to implement it. By implementing recommendations, the country could create a cohesive and harmonized approach to supporting the digital transformation of SMEs. Integrating and further developing the institutional and legal framework might provide a supportive environment for SMEs to be able to compete globally as well as to fully realize the potential benefits of digital transformation. The government administration can improve the business development and digital services it provides and create a more supportive environment for businesses to thrive in the digital economy. Further, the support for development of e-commerce and the competitiveness of businesses can be increased, contributing to the growth of the BiH economy.

Transitioning to digital business would increase the potential and strength of SMEs in a new environment and will make BiH more developed. Policymakers and management of SMEs must prioritize and focus on the new opportunities and act according to the contemporary trends in the world.

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ANNEX A: Definitions

Digitalization

The basic idea of digitalization is the efficient and complete use of information and communications technology tools, while the main purpose of digitalization is to improve access and business operations. To many, digitalization is simply the adoption of digital technologies to enable a digital economy. Hadi (2020) underlines that digitalization and digital transformation are much more than this. Digital transformation is best defined as the adaptation of systems in businesses, households, and government to address real world challenges. Moreover, by digitalizing their business processes, SMEs make business transactions more profitable and save time (Babu and Chakravarty, 2014). For example, operating on an e-commerce platform or website can give SMEs the opportunity to increase sales and access new customers both locally and internationally. Also, e-commerce enables flexibility of time, geographic location, and product delivery.

Digital readiness

Digital readiness refers to the ability of an individual, organization, or country to adopt and utilize digital technologies effectively. It involves having the necessary infrastructure, tools, skills, and knowledge to leverage technology for various purposes, such as communication, data processing, and innovation. Digital readiness also encompasses factors such as internet access, digital literacy, and cybersecurity measures, which can impact the level of readiness and effectiveness in utilizing digital technologies. (Ulas, 2019)

Digital resilience

In the business world, resilience is understood as crisis management and business continuity, as well as responding to all types of risks that organizations may face, ranging from cyberspace threats to natural disasters, and many others. The term “digital resilience”, therefore, refers to the competences of SMEs to respond to and recover from digital crises such as Internet security threats and cyber-attacks. (Casalino et al., 2019)

Digital transformation

Digital transformation can be defined as a change in the way a company uses digital technologies to develop a new digital business model and helps create new value for the company (Verhoef et al., 2021). Digital transformation is by its nature multidisciplinary, as it includes changes in strategy, organization, information technologies, supply chains and marketing. In this regard, business success requires an increased understanding of how companies can gain a sustainable competitive advantage by transforming their business, what strategies they should adopt to improve their business, and how to change their organizational structure to support the new strategy.