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October 2025

Digital Divide: From a Gap to a Shock

Assessing Kosovo's Regulatory
Framework Against the Digital Divide



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Recommendations

- The following key recommendations are proposed to build a more resilient regulatory and societal framework:
- Launch a National 'Multiliteracy' Strategy - The government should reform the national core curriculum to integrate digital and media literacy as a transversal competence across all subjects and school levels. The model applied by Finland could be an inspiring and starting point.
- Establish a multi-channel Public Service Ecosystem - The government should launch a national network of Citizens Spots to provide digital support, while legally mandating Assisted Digital support with non-digital alternatives for all e-services.
- Link SME Digitalisation Support to Strategic Upskilling - The government should make all digitalisation subsidies for SMEs conditional on the development of a formal digitalisation and employee upskilling plan aligned with the other national digital strategies.
- Create an Agile Emergency Response Mechanism - The government should establish a National Digital Emergency Fund for the rapid procurement of devices and connectivity during a crisis, complemented by a Rapid Response Digital Inclusion Protocol with a pre-designed social voucher scheme.

Acknowledgement

- This policy brief was developed as part of the project "Assessing the Resilience of Kosovar Society to Ecological and Institutional Shocks". A comprehensive scoring database, which underpins the analysis presented herein, is available upon request. Please send your requests to info@re-actlab.org.
- Strengthen Legal Guarantees for Digital Rights - The government should amend the Law on Protection from Discrimination to explicitly prohibit digital exclusion and legislate a Digital Inclusion by Design mandate requiring all essential services to comply with the European Accessibility Act.

Introduction

The last decade has been defined by the rapid digitalisation and expansion of digital technologies in all spheres of society, leading to a transformation of the way we live, communicate and work. While this transformation is generally perceived as a positive development, it has also brought to light other risks which have profound consequences for the economy, social equity and the effective functioning of institutions. A leading risk in this regard is the digital divide, a challenge which threatens to deepen social exclusion.

Digital divide is no longer simply about access to the internet; it is manifested as a deep disparity in digital skills, the quality and affordability, and the capacity to meaningfully use technology for economic, educational and civic engagement. The digital divide issue is not a sudden event but a long-term phenomenon which has been occurring across the world, but is felt more in less developed countries and regions. This shock has the capacity to erode social and institutional resilience, creating a disbalance among available technology and digital services, their accessibility and the ability or capacity to use or afford them.

The society and institutions in Kosovo are increasingly susceptible to the shock of the digital divide, increasingly due to the country's path toward EU integration and related intensive digital transformation reforms. With the current progress made in this regard, Kosovo faces a significant 'coverage paradox'. While the country has made significant progress in providing internet to 96% of households, this figure only tells half of the story. A majority of users (around 87%) in Kosovo engage in basic communication and social media, while the use of digital tools for advanced skills or economic benefit remains very low. Similarly, digital literacy and the capacity to use digital tools remain low. There is a critical skills gap, representing

“Digital divide is no longer simply about access to the internet; it is manifested as a deep disparity in digital skills, the quality and affordability, and the capacity to meaningfully use technology for economic, educational and civic engagement.”

a systemic failure of the education system to adapt to the digital age, particularly in rural areas and within marginalised groups. This leads to a deepening of the digital divide, which in the long term contributes to the exacerbation of the existing social inequalities.

The brief employs a systematic policy analysis framework to assess the resilience of Kosovo's existing regulatory framework against the shock of the digital divide. Using the '4Rs of Resilience' framework, the analysis assesses the effectiveness of key laws, policies and strategies in withstanding this long-term stressor. The following section will detail the analytical methodology used for this assessment. Next, a mapping of the relevant regulatory framework will be provided, followed by the application of the 4Rs of resilience framework. In the end, the brief will provide a discussion of the findings and provide conclusions and recommendations on building resilience against the shock of the digital divide.



Methodology

The policy brief is part of a larger research conducted on institutional shocks that Kosovo faces. The research employs a systematic policy analysis framework designed to assess the resilience of Kosovo’s existing regulatory framework (policies, laws, bylaws, strategies, governmental documents, etc) against several shocks. The research process followed a structured process consisting of three main phases: (i) identifying the nature of the shock, (ii) assessing the current policy responses through a scoring system, and (iii) developing recommendations based on the findings and best practices.

The classification of the nature of the shocks is based on the framework developed by the OECD in 2014, as explained in the table below:

Table 1. Classification of shocks¹

| Type of shock | Characteristics | Examples |
|---|---|---|
| Covariate Shocks (Widespread, Systemic and Infrequent) | Large-scale events that affect a large portion of the population at once. They are not frequent, but their impact is widespread and systematic. | Violent Conflict and political crises, pandemic and health crises, large-scale natural disasters, cybersecurity and hybrid threats. |
| Seasonal Shocks (Recurring, Predictable and Localised) | Periodic shocks that occur at regular intervals, often linked to seasonal changes or climate patterns. Usually predictable, but inadequate preparedness can exacerbate their impact. | Annual floods and droughts, heatwaves and cold snaps, seasonal food insecurities, recurring health risks. |
| Long-Term Stressors (Gradual, Cumulative and Systemic Erosion of Resilience) | Unlike shocks, long-term stressors develop slowly over time and weaken societal systems. These are often structural, environmental, economic or social shocks requiring policy responses. | Environmental degradation, demographic shifts, economic stagnation and inequality, weak institutions and governance. |

¹ Classified based on the OECD (2014) “Guidelines for Resilience Systems Analysis: How to Analyse Risks and Build a Roadmap to Resilience”. OECD Publishing.

To evaluate the effectiveness of the regulatory framework in countering various shocks, we build upon the 4Rs of Resilience framework. This framework assesses policies against four key dimensions of resilience:

Table 2. The 4Rs of Resilience Framework

| Framework | Category | Definition |
|-------------------|-----------------|---|
| 4Rs of Resilience | Robustness | The strength, or the ability of elements, systems and other units of analysis to withstand a given level of stress or demand without suffering degradation or loss of function. |
| | Redundancy | The availability of alternative resources in the recovery process of a system. |
| | Resourcefulness | The capacity to identify problems, establish priorities, and mobilise resources when conditions exist that threaten to disrupt some element, system, or other unit of analysis. |
| | Rapidity | The capacity to meet priorities and achieve goals in a timely manner in order to contain losses and avoid future disruption |

Each source identified as part of the regulatory framework addressing the shocks is evaluated against the 4Rs framework using a structured scoring system, as explained below:

Table 3. Scoring system based on the 4Rs Framework

| Scoring | |
|-----------------|---|
| Robustness | 0: No robustness—policy does not address stability in the face of shocks. 1: Weak or symbolic measures with little enforcement. 2: Moderate mechanisms exist, but they are inconsistently applied. 3: Strong, well-enforced mechanisms ensuring stability. |
| Redundancy | 0: No redundancy—failure of the main system leads to collapse. 1: Minimal or informal alternatives that are unreliable. 2: Some redundancy, but gaps exist in coverage or efficiency. 3: Well-integrated redundancy ensures continuity under stress. |
| Resourcefulness | 0: No resourcefulness—reactive rather than proactive approach. 1: Limited adaptability - response mechanisms are weak or ad hoc. 2: Moderate ability to mobilise resources, but gaps remain. 3: Highly flexible and well-coordinated response mechanisms. |
| Rapidity | 0: No rapid response mechanisms—delayed or absent reactions. 1: Slow and bureaucratic response with major inefficiencies. 2: Moderate speed, but some bottlenecks exist. 3: Highly efficient, fast-track response ensuring swift action. |

The total policy resilience score (0-12) is then normalised into a percentage, enabling comparative evaluation across different policies and sectors.

Resilience score =

$$\text{SUM (Total score/12)} \times 100$$

Table 4. Scoring interpretation

| Scoring Interpretation | | |
|---------------------------|---------------------|--|
| 0-25% (0-3 points) | Very Low Resilience | The policy makes the society highly vulnerable to shocks, offering little protection or response capability. |
| 26-50% (4-6 points) | Low Resilience | Some resilience measures exist, but they are either weak, inconsistent, or incomplete. |
| 51-75% (7-9 points) | Moderate Resilience | The policy provides a reasonable level of preparedness and response, but some critical gaps remain. |
| 76-100% (10-12 points) | High Resilience | The policy is well-designed, with strong mechanisms ensuring stability, adaptability, and quick response. |

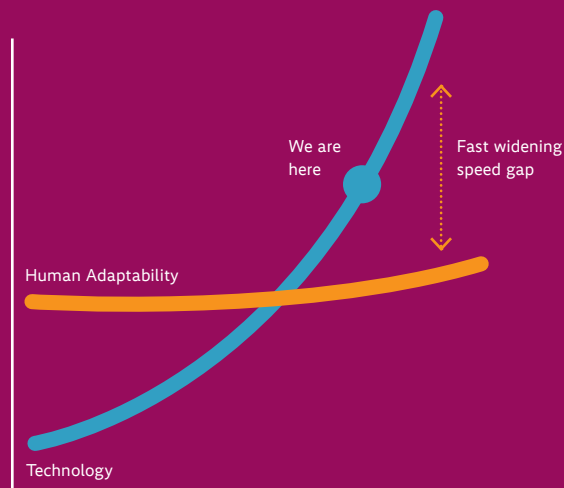
For more detailed research methodology, please refer to the Policy Analysis Framework developed for this research. You can find it in this [link](#).

Digital Divide: From a Gap to a Shock

The digital divide is a multidimensional form of inequality referring to the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to their opportunities to access, use and benefit from Information and Communication Technologies (ICTs).² The concept has evolved from a 'first level' divide, focused only on physical access to the internet and hardware, towards a more 'second level' divide. The second level focuses on the disparities in digital skills, the nature and the quality of usage, and the ability to achieve tangible outcomes in education, employment and civic life.³ This divide is not static; as technology advances through different waves of innovation (e.g. from broadband to AI, etc), it continuously morphs, creating new forms of exclusion and challenging institutional adaptation.⁴

Unlike sudden events, the digital divide is a long-term stressor. This stressor emerges gradually as technology diffuses unevenly, allowing early adopters to accumulate advantages and creating path dependencies that deepen societal stratification over time.⁵ This shock challenges the legitimacy of institutions (be it government, schools, etc) that are perceived as failing to ensure equitable participation in an increasingly digital world. As such, the digital divide requires a reevaluation of long standing concepts like 'public good' and 'universal service obligations', compelling a debate on whether broadband access, digital literacy and usage have become essential utilities for modern citizenship.⁶

(Source: UNDP (2024) Digital Inclusion Playbook 2.0: From Access to Empowerment in a Dynamic World)



*Figure 1: Speed Gap with
Technological Acceleration*

2 OECD (2001) "Understanding the Digital Divide". OECD Digital Economy Papers, No. 49.

3 van Dijk, J.A.G.M (2017) "Digital Divide: Impact of Access". The International Encyclopedia of Media Effects.

4 Hilber, M (2011) "The End Justifies the Definition: The Manifold Outlooks on the Digital Divide and their Practical Usefulness for Policy-Making". Telecommunications Policy.

5 Ibid 3

6 Sorj, B (2008) "The Dimension of the Digital Divide". Centro Edelstein de Pesquisa Social. SciELO Books.

Given the recent development in the country with regard to digitalisation, as well as Kosovo's path towards EU integration, which includes large reforms related to digitalisation, its susceptibility to the shock of the digital divide is constantly growing. A significant issue in the digitalisation process in Kosovo is the 'coverage paradox'. On one hand, the country has made remarkable progress in establishing basic connectivity, boasting a household internet penetration rate of 96% since 2021 and near universal internet coverage.⁷ This progress has been significantly accelerated by initiatives like the World Bank supported Kosovo Digital Economy (KODE) project, which extended high-speed broadband to previously unconnected rural areas.⁸ On the other hand, this impressive quantitative access masks significant qualitative deficiencies and persistent barriers in the digital space. Marginalised communities (including Roma, Ashkali, Egyptians, as well as the elderly and persons with disabilities) continue to face major challenges due to low income, limited education and a lack of targeted support in regard to their access and usage of digital technologies and services.⁹

For these groups, affordability remains a major concern, and even when a connection is available, low awareness and a lack of skills mean that crucial platforms like the e-Kosova¹⁰ portal are rarely used. This gap is further confirmed by international organisations working directly with government bodies. Experience from GIZ highlights that while many citizens, including older generations in Kosovo, are 'digital savvy' with social media and apps, significant portions of the population, particularly minority communities, are 'completely left behind'.¹¹ For instance, a Roma woman involved in the consultation for their project reported not owning a phone or being able to use it, illustrating a profound gap that high-level connectivity statistics fail to capture.

This gap between technical availability and meaningful use is a core finding also echoed in the ReSPA regional study, which notes that while Kosovo possesses the infrastructure, it struggles with the maturity of its digital services and their usage.¹² Furthermore, this digital divide is not limited only to the marginalised groups. The UNDP Digital Household Survey in 2022 shows that, regardless of the large access to the internet, around 87% of people in Kosovo use the internet for general communication and social media, whereas the usage for more advanced competencies such as programming, coding, working with data, or general economic benefits, remains very low.¹³

"A significant issue in the digitalisation process in Kosovo is the 'coverage paradox'. On one hand, the country has made remarkable progress in establishing basic connectivity. On the other hand, this impressive quantitative access masks significant qualitative deficiencies and persistent barriers in the digital space."

⁷ ETF (2023) "Embracing the Digital Age: The future of work in the Western Balkans". European Training Foundations.

⁸ Sajic, B, et al., (2024) "Policy Report on the Digital Transformation in the Western Balkans". Policy Answers.

⁹ Edutask Institute (2025) "Exploring the Digital Divide Among Marginalised Groups in Albania, Kosovo and North Macedonia". QSNNN.

¹⁰ e-Kosova is a state portal where public services that are found in offices and physical wickets of institutions are offered in an electronic way. See more - e-Kosova.

¹¹ Re-ACT Lab (2025) Interview with Ms. Sabelski, Project Manager at GIZ Kosovo.

¹² Lauk, M. & Lemmik, J. (2023) "Western Balkan Regional Study on Digitalisation in Government". Regional School of Public Administration.

¹³ UNDP Kosovo (2022) "Digital Household Survey".

Compounding the access issue is a critical skills gap, representing a systemic failure of the education and training system to adapt to the digital age. A significant mismatch persists between the skills offered by the education system and the demands of the digitalisation progress, especially the digital economy. Although the youth in Kosovo is broadly familiar with digital tools, they often lack the advanced and transversal skills required for high-value jobs, particularly in the growing freelance and platform economy.¹⁴ These deficits act as a major impediment to economic competitiveness and growth. Evidence from the 2021 RCC study on digital skills revealed that 44.2% of firms in Kosovo (the highest percentage in the region) identified an inadequately educated workforce as a major operational constraint.¹⁵ Further underscoring this challenge, the Western Balkans (WB) DESI report for 2022 placed Kosovo below the regional average in the Human Capital dimension, noting that a mere 1% of enterprises provided any form of ICT training to their employees in 2022.¹⁶ Such a systemic skill shortage represents a significant institutional bottleneck, limiting the country's ability to capitalise on its digital infrastructure.

Although the digital ecosystem in Kosovo continues to show signs of vibrancy and development, this development continues to be uneven. This reflects the disjuncture between the achievement of digital presence (the availability of technology) and attaining digital maturity (its effective and innovative use). The underperformance of Kosovo in the integration of digital technology by businesses was highlighted in the WB DESI report in 2022.¹⁷ Similarly, the use of digital public services remains generally low. Although the e-Kosova portal was launched in 2021, accounting for more than 700,000 registered users, and providing a range of services to citizens, its broader uptake has been somewhat limited.¹⁸ Generally, the citizens' satisfaction with e-services reportedly declined during the pandemic, and many citizens remain unaware of the portal or find it difficult to navigate it.¹⁹ Furthermore, the SIGMA report on the readiness to implement the Single Digital Gateway Regulation classified Kosovo's implementation of key online life event services as being at an 'early stage'.²⁰

Kosovo's institutional response to these challenges is hampered by the fragmented governance and persistent bottlenecks. While recent strategies like the e-Government Strategy 2023-2027 and the Digital Agenda of Kosovo 2030 signal a move towards a cohesive, 'whole-of-government' approach, implementation remains a challenge.²¹ The institutional responsibilities for digitalisation are scattered across different bodies²², leading to a lack of clear leadership and co-

¹⁴ Ibid, 7.

¹⁵ Labrovic Andjelkovic, J., et al., (2021) "Digital Skills Needs and Gaps in the Western Balkans". RCC

¹⁶ Tintor, V., et al. (2022) "Western Balkans: Digital Economy Society Index (DESI) 2022". RCC

¹⁷ Ibid.

¹⁸ Ibid, 12.

¹⁹ Ibid

²⁰ OECD (2025) "The Single Digital Gateway in the Western Balkans". SIGMA PAPER No.74. OECD Publishing.

²¹ Behluli, P. (2025) "Digital Transformation in Kosovo: Navigating the Data Landscape & Pathways Forward". Re-ACT Lab.

²² Ibid, 12.

ordination. Other critical technical and legal enablers for a mature digital ecosystem remain underdeveloped. For instance, the lack of a fully functional, universally accepted digital signature and integrated e-payment systems cripples the potential of transactional e-services, impacting citizens and hampering the growth of the platform economy.²³ Furthermore, Kosovo's public sector suffers from vendor-lock-in²⁴ - a long standing reliance on single technology providers that limits flexibility, increases costs, and stifles innovation, creating institutional rigidity in a field that demands agility. This fragmentation is exacerbated by a critical lack of capacity within public institutions. A significant challenge is that IT departments within public institutions are often understaffed and sometimes have underqualified staff. This lack of sustainable human resources leads to what one expert described as 'software corpses': digital tools and databases developed by different institutions that fall into disuse because no one is left to maintain them, or passwords and accounts are lost - leading to a waste of resources and hindering the sustainability of digitalisation efforts.²⁵

The shock of the digital divide has profound and systemic consequences. Economically, this shock constrains productivity, limits the growth of SMEs, and puts Kosovo at a competitive disadvantage.²⁶ Socially, it exacerbates inequalities, limiting access to education, health information, and public services - especially for the already marginalised groups. The lack of digital opportunities is also a significant driver of brain drain, with highly skilled youth seeking prospects abroad, a trend that is threatening Kosovo's long-term human capital base.²⁷ This dynamic risks creating an institutional capacity trap, where weak institutions fail to bridge the digital divide, and the resulting skills deficit and economic stagnation further weaken institutional capacity - a vicious circle.

“The lack of digital opportunities is also a significant driver of brain drain, with highly skilled youth seeking prospects abroad, a trend that is threatening Kosovo’s long-term human capital base.”

Looking ahead, the risks from the digital divide are set to intensify. As the global economy increasingly relies on AI and data analytics, the digital divide will evolve into new forms of exclusion, including a 'security divide' where those

²³ Ibid.

²⁴ EGA (2024) "Shaping Digital Futures: Kosovo's Journey in e-Government Strategy Development - Interview with the Chief Technology Officer/Advisor at Prime Ministers Office of Kosovo". e-Governance Academy Foundation.

²⁵ Ibid 11.

²⁶ Barbić, T., et al. (2018) "The Impact of Digital Transformation on the Western Balkans - Tackling the Challenges towards Political Stability and Economic Prosperity". WB6+ Digital.

²⁷ Ibid, 7.

without digital literacy become more vulnerable to cyber threats and disinformation.²⁸ Without a robust and adaptive regulatory framework, Kosovo risks being perpetually locked in a state of digital catch-up, unable to harness the transformative potential of technology for sustainable development and societal well-being.



²⁸ Internet Society (2017) "Global Internet Report 2017: Paths to Our Digital Future".

Regulatory Framework

As a shock, the digital divide touches numerous horizontal issues which span across various policies, laws and regulations. The regulatory framework addressing this shock needs to move beyond simply promoting technological adoption towards building resilience and helping institutions and society to adjust and cope with the resulting inequalities. The current regulatory framework is rather limited, and a gap between strategic ambition and implementation capacity is evident. The current primary focus remains on the infrastructure, which is not yet matched by human capital development, as well as characterised by fragmented responsibilities across different government bodies.

The primary regulatory source is the Kosovo Constitution, which guarantees fundamental rights that are directly relevant to inclusion, such as the principle of equality and non-discrimination and the right to quality education for all.²⁹ Overall, these constitutional guarantees set the stage for an inclusive information society by establishing a legal obligation on the state to ensure that the benefits of any policies (digital transformation in this case) are accessible to all citizens, without prejudice. Nonetheless, the constitution requires other specific supporting legislation that builds upon it to ensure effective implementation of these rights and contribute to closing the digital divide. For instance, this constitutional vision is brought into practice through the Law on the Protection from Discrimination, which provides the primary legal tool that citizens can utilise to challenge policies or services that disproportionately exclude them.³⁰ Although the law does not directly address digital discrimination as such, it could be interpretively used for legal litigation. No cases of such have been filed in Kosovo, but there are cases in other countries. For instance, in 2023, a court in Slovakia decided in favour of a Roma girl who was denied access to education during the COVID-19 pandemic due to the lack of access to technology and digital tools. The court offered financial damages to the student.³¹

The 'first-level' of the digital divide (physical access and infrastructure) is primarily addressed by the Law on Electronic Communications. The law establishes mechanisms to ensure a broad and equitable network rollout, such as the establishment of the obligation of 'Universal Services', aiming to provide a minimum

²⁹ Constitution of the Republic of Kosovo, Art.7, Art. 47.

³⁰ Law No. 05/L-021 on the Protection from Discrimination. Art.2.

³¹ Center for Civil and Human Rights (2023). Decision.

set of services for all users in Kosovo, regardless of their geographical location.³² Furthermore, the law also establishes the Regulatory Authority of Electronic and Postal Communications, which, among other things, protects the customer's interest.³³ The first level access and infrastructure is further realised through the direct intervention of the KODE Project, which plays a crucial role in the expansion of digital connectivity through the deployment of high-speed broadband connectivity to areas that were not connected or underserved.³⁴ The project also plays a crucial role in the 'second level' of the digital divide as it directly contributes to increasing the skills of young people through training.

The 'second level' of the digital divide (skills to use technology and capacity for meaningful engagement with it) is further addressed by the Education Strategy 2022 - 2026, which intends to address the national skills gap. The strategy sets a strategic objective for integrating digital tools in the education system in Kosovo, as well as developing curricula which include the development of digital competencies at all educational levels.³⁵ Similarly, the Digital Agenda of Kosovo 2030 aims to transform Kosovo into a competitive digital economy by, among other objectives and activities, enhancing the digital literacy and skills of citizens with the goal of closing the digital gap.³⁶ Furthermore, the National Development Strategy and Plan 2030 complements these by placing digital transformation and building digital skills as a key cross-cutting enabler for its main pillars, including 'equitable human development' and 'sustainable economic development'. This directly links digital inclusion to Kosovo's development goals.³⁷

The Strategy for Industrial Development and Business Support 2030 (Industrial Policy) focuses on increasing the competitiveness of Kosovo's industry by supporting the digital transition of businesses, particularly the SMEs, in order to enhance their productivity as well as their innovation capacities.. Lastly, the e-Government Strategy Kosovo 2023 - 2027 has a strong focus on bridging the usage divide in public services, aiming to fully

“Although the presented regulatory framework is extensive and spans across various topics, the digital divide is almost never directly addressed, but comes up more as a general understanding of overall non-discrimination clauses and goals.”

³² Law No. 04/L-109 on Electronic Communications. Chapter V.

³³ Ibid. Art. 10

³⁴ KODE Project Appraisal Document.

³⁵ Education Strategy 2022 - 2026. Ministry of Education, Science, Technology and Innovation. Specific Objective 5.4.

³⁶ Digital Agenda for Kosovo 2030. Strategic Objective 4.

³⁷ National Development Strategy and Plan 2030.

digitise administrative processes and deliver them through a user-centric approach, particularly through the e-Kosova platform. Furthermore, the strategy explains that this delivery is guided by principles like the 'once-only' data rule to improve the engagement of citizens as well as the service efficiency.³⁸

Although the presented regulatory framework is extensive and spans across various topics, the digital divide is almost never directly addressed, but comes up more as a general understanding of overall non-discrimination clauses and goals. While the infrastructure and access to digital infrastructure are largely addressed and comprehensive actions are taken, the issue of skills and meaningful usage remains significantly unaddressed. This requires a more in-depth focus across different governmental interventions.

³⁸ e-Government Strategy Kosovo 2023 - 2027.

Applying the policy analytical framework

Law No. 05/L-021 on the Protection from Discrimination

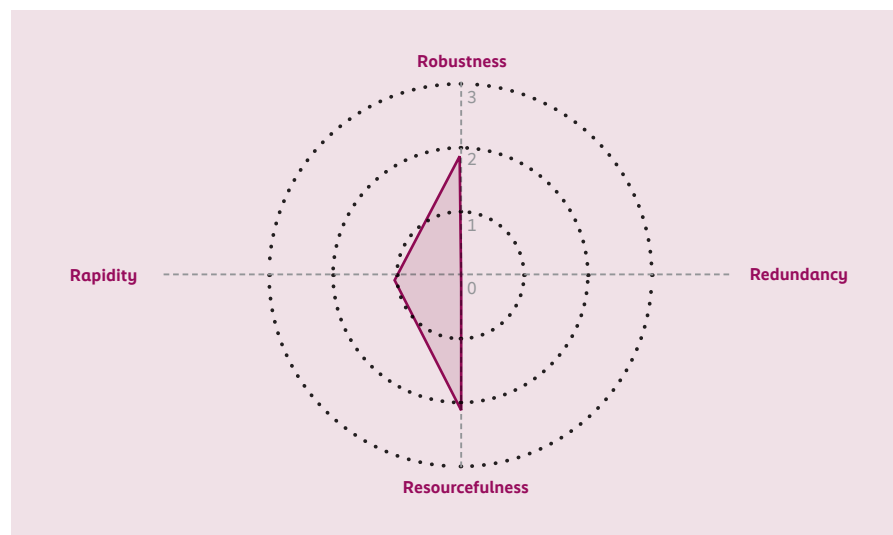


Figure 2: 4Rs Framework Assessment of the Law No. 05/L-021 on the Protection from Discrimination. (Source: Own creation)

The law serves as a general legal instrument against inequality. However, the law is not thought of with the idea of digital inequalities and leaves multiple gaps in this direction. The law was scored with 42% showing a low level of resilience.

The law shows moderate robustness (score 2), as it offers protection against discrimination. It offers a solid (although indirect) legal basis that can be interpretively applied to cases of digital discrimination/exclusion. The resourcefulness is also moderate (score 2) as it provides institutional channels for response, including the Ombudsperson and formal complaint procedures. These structures allow for a degree of institutional flexibility, albeit not fully adapted to the specific nuances of digital transformation. The rapidity is weak (score 1) because the available legal and administrative procedures are inherently slow and bureaucratic. While the possibility for resolution exists, it lacks emergency provisions or fast-track mechanisms, representing a major inefficiency when dealing with the time-sensitive issues of digital access. In terms of redundancy, this is the main critical failure of this law (score 0) as it does not establish any alternative institutions or backup systems, leaving no other safety options should the legal channels fail, are too slow, or simply too expensive to initiate.

Although the law offers low resilience against the digital divide, its value lies in the potential application of its general anti-discrimination principle and the use of its existing institutional channels. However, the practical impact of the law is severely limited due to its slow and bureaucratic nature. While not fully applicable, the law needs to expand with direct references to digital rights and exclusions, moving from a general understanding to an explicit and enforceable safeguard in the digital age.

Law No. 04/L-109 on Electronic Communications

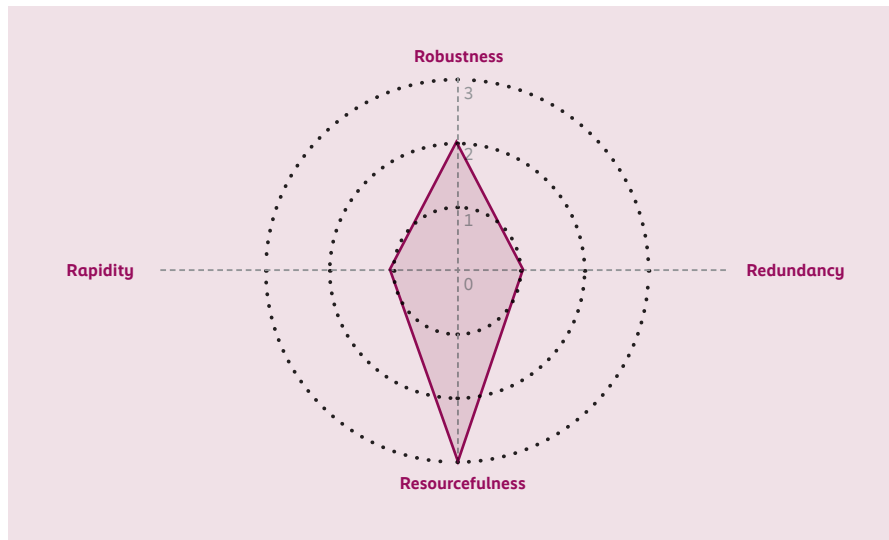


Figure 3: 4Rs Framework Assessment of the Law No. 04/L-109 on Electronic Communications. (Source: Own creation)

This law is a cornerstone of Kosovo's digital regulatory landscape, designed to especially create a competitive and accessible market for electronic services. Due to its nature, it is not primarily directed to address all issues related to the digital divide; however, it establishes some foundation with regard to ensuring equitable digital access for all citizens. The law received a score of 58%, indicating a moderate resilience against this shock.

The primary strength lies in its resourcefulness (score 3). The law fosters flexibility as it encourages infrastructure sharing and mandates multi-stakeholder co-operation between different actors.³⁹ This is important as it allows for a better mobilisation of resources and adaptation to the challenges of the digital divide. The robustness is moderate (score 2) as it successfully establishes key institutions like the Regulatory Authority, which has a key role in overseeing the universal service obligations. Conversely, the law has a weak redundancy (score 1) as it heavily relies on designated universal service providers to extend network access, and fails to establish any contingency plans or parallel systems which would come into play if the primary providers fail to deliver. Similarly, the rapidity

³⁹ Ibid, 32. Article 24 and 14.

ty is weak (score 1); although the law has emergency protocols and priority communications, they are not applicable to digital divide-specific issues like access disruptions in underserved areas. Additionally, any recourse from individuals requires legal litigation, which is generally a lengthy and costly process.

Although the law offers a moderate resilience, its redundancy and rapidity capacities are limited. The over-reliance on a single track of universal service providers and the absence of crisis-specific protocols make the system vulnerable and slow to react. This necessitates clear intervention to fill the gaps and ensure that the foundational goal of universal access is fully achieved.

Kosovo Digital Economy (KODE) Project

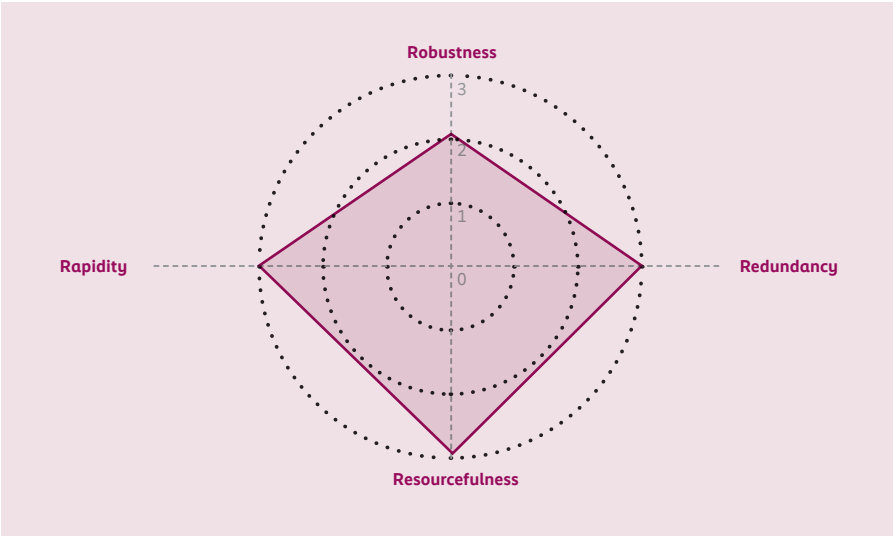


Figure 4: 4Rs Framework Assessment of KODE Project. (Source: Own creation)

The KODE project is a critical and direct intervention which addresses multiple levels of the digital divide issue. The project plays a crucial role in expanding high-speed broadband to underserved areas and in increasing the digital skills of young people through training. The project demonstrates high resilience, receiving a score of 92%.

The project’s primary strength is the high resourcefulness (score 3). It uses an innovative competitive matching grants model to mobilise private investments from Internet Service Providers (ISPs), effectively co-financing the expansion of broadband into commercially unviable areas. This flexible and collaborative approach between the government, the private sector and civil society is its most resilient feature. The project’s redundancy is also high (score 3), as it leverages the expanded network to enhance early warning systems and disaster communication, creating a valuable secondary function. Its rapidity is also high (score 3), as the project uses resilient technologies to enable faster recovery and continued operation during emergencies and disruptions. It also supports early warning systems for quicker emergency communication. Its robustness is moderate (score 2); while the project successfully expands internet coverage (targeting ur-

ban-rural divide), it is generally built upon existing national infrastructure that is not fully inclusive.

This project is of vital importance for Kosovo. Its intervention effectively targets key gaps left by the broader regulatory framework, and it contributes to both levels of the digital divide. While the project is crucial, it is highly dependent on donor funds, which could risk cancellation in case of budgetary cuts. Kosovo should consider utilising the benefits of this project and ensure that its activities, especially the ones related to the second level of digital divide (skills and competencies), are integrated into other policies/strategies.

Education Strategy 2022 - 2026

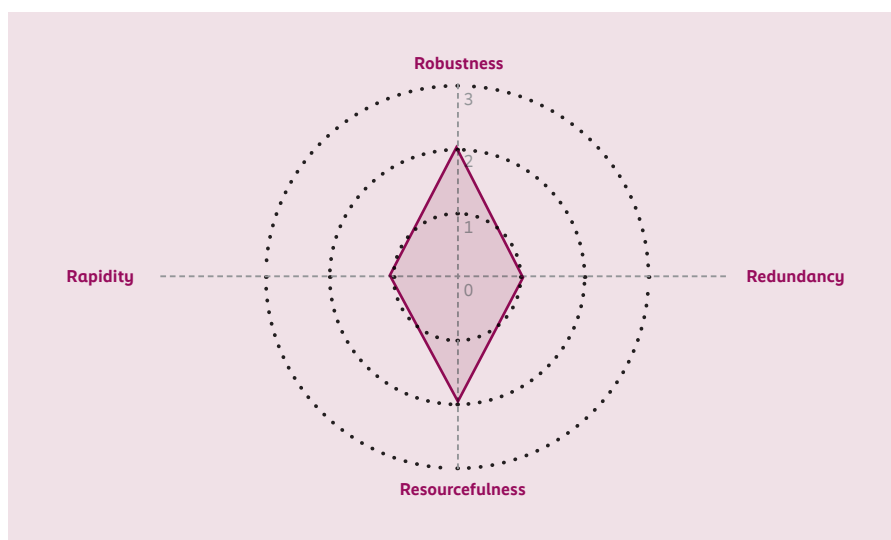


Figure 5: 4Rs Framework Assessment of Education Strategy 2022 - 2026. (Source: Own creation)

The Education Strategy is a key policy, especially in addressing the ‘second level’ of the digital divide by building skills and integrating digital competencies into the curricula at all educational levels. The strategy has low resilience, receiving a score of 50%.

The robustness is moderate (score 2) as it provides a structural foundation for closing the digital divide by identifying ICT access and digital literacy as essential to quality education. While it plans for systemic changes like teacher training and curriculum digitalisation, it lacks any concrete enforcement or mechanisms that guarantee access for all students regardless of their background. Similarly, its resourcefulness is also moderate (score 2); it shows some institutional flexibility through collaboration with municipalities, but its ability to react to local needs is diminished by a lack of localised innovation strategies and by funding restrictions and reliance on international donors. The redundancy is weak (score 1) as it heavily relies on digital platforms and online learning without establishing adequate contingency plans for students with poor internet access. Similarly, its rapidity is also weak (score 1) as the strategy has no fast-track

mechanisms to respond to sudden emergencies related to digital infrastructure or a lack of access to it.

The strategy has a clear and important long-term vision for building digital skills in Kosovo, but its low resilience reflects a failure to protect students against existing inequalities and immediate shocks. While it lays the foundation for the future, at the current stage, it does not adequately address the resilience needed in the present.

Digital Agenda of Kosovo 2030

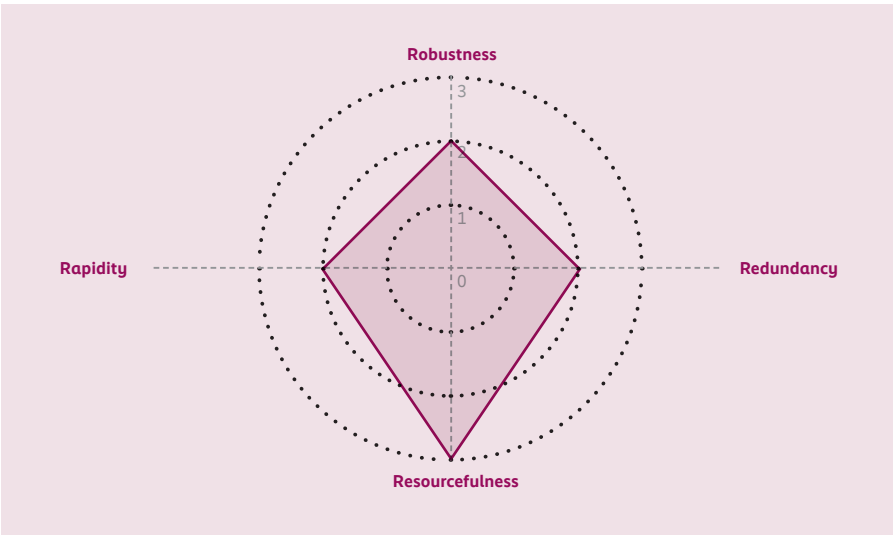


Figure 6: 4Rs Framework Assessment of Digital Agenda for Kosovo 2030. (Source: Own creation)

The Digital Agenda of Kosovo 2030 is an important strategic document designed to guide the digital transformation of the country. The agenda addresses several levels of the digital divide, aiming to enhance not only infrastructure but also close the skills gap by enhancing the digital literacy of citizens. The agenda received a score of 75%, which indicates a moderate resilience.

The agenda has a high resourcefulness (score 3) as it promotes innovation by planning for digital innovation hubs, supports SME transformation, and explicitly aims to enhance the digital literacy skills of citizens. This focus on both economic and human capital is complemented by its moderate robustness (score 2) with detailed plans for the cybersecurity agency and national CERT (Computer Emergency Response Team) to protect critical infrastructure. Its redundancy is also moderate (score 2), showing foresight by including a disaster recovery data centre, though it could be strengthened with more diverse parallel systems. Lastly, its rapidity is moderate (score 2), with plans for a coordinated emergency response network, though specific fast-track protocols could be further developed.

The digital agenda is a comprehensive strategic document. The moderate resilience score stems not from a lack of vision but from the uncertainty of its full execution. Concrete actions in implementation are crucial for it to realise its potential.

National Development Strategy and Plan (NDSP) 2030

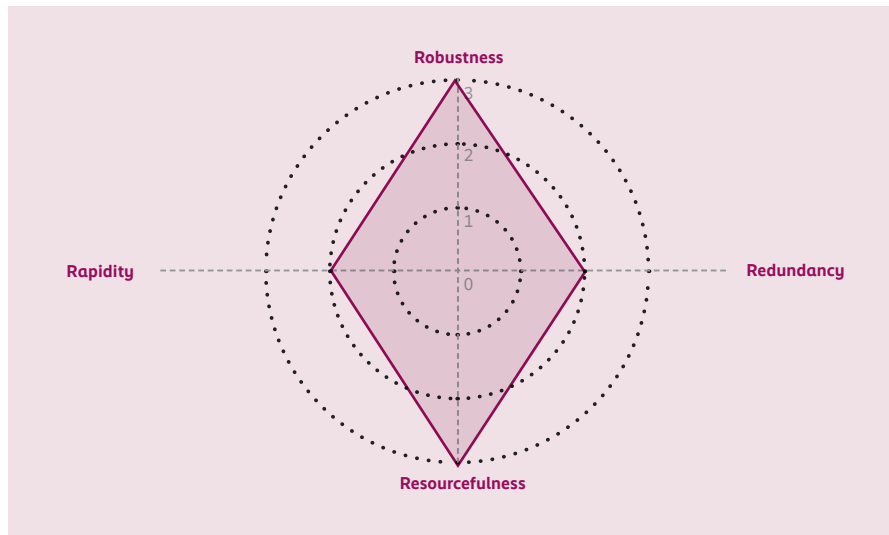


Figure 7: 4Rs Framework Assessment of National Development Strategy and Plan 2030. (Source: Own creation)

The NDSP 2030 is a high-level and overarching framework which places digital transformation at its centre. By linking digital transformation with digital inclusion and building digital skills directly to national goals, it provides a strong direction to address the digital divide. The strategy received a score of 83%, demonstrating high resilience.

The strategy has a high robustness (score 3) as it structurally embeds digital transformation and inclusion into national planning, institutional budgeting cycles and EU-aligned frameworks. Its resourcefulness is also high (score 3) as it creates space for innovation and stakeholder-driven problem solving by promoting data-based, dynamic planning tools and enabling decentralised, local initiatives. The redundancy is moderate (score 2); it is implicitly provided through the intended collaboration of multiple institutions, but it lacks explicit fallback mechanisms or emergency mechanisms if primary systems fail. Its rapidity is also moderate (score 2) with a clear annual implementation timeline, but it fails to respond to unforeseen or urgent digital demands.

As a strategy, it is highly important as it brings digital transformation and digital inclusion to the highest level of national policy. The strategy should consider more rapid responses for managing immediate digital shocks.

Strategy for Industrial Development and Business Support 2030 (Industrial Policy)

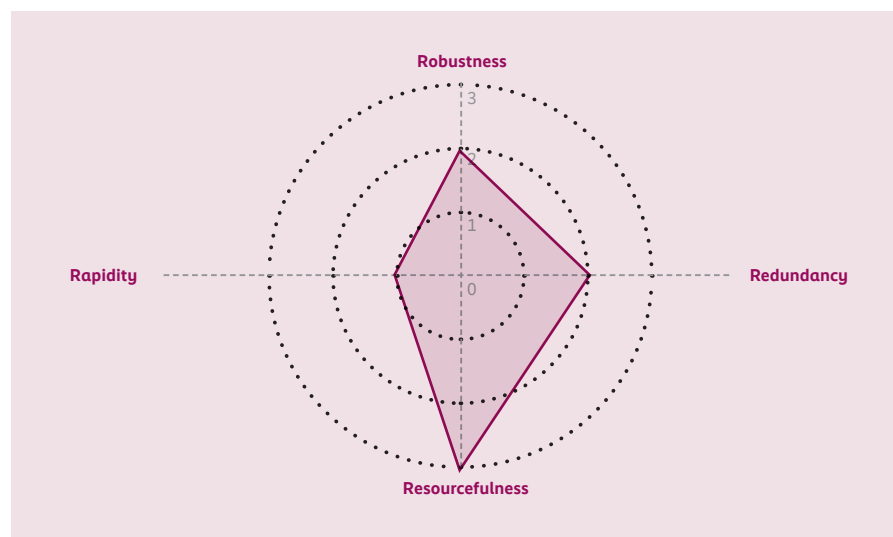


Figure 8: 4Rs Framework Assessment of Industrial Policy 2030. (Source: Own creation)

The strategy is an important policy for Kosovo. The strategy focuses on increasing industrial competitiveness by supporting the digital transition of businesses, and generally addresses the digital divide through an economic lens. The strategy received a score of 67%, demonstrating moderate resilience.

The strategy's robustness is moderate (score 2) as it successfully ties digitalisation to the broader development of the manufacturing sector. However, the enforcement capacity and institutional safeguards for digital infrastructure, especially in rural contexts and small firms, are only moderately addressed. The resourcefulness is high (score 3) due to the active engagement of a wide range of actors, including the private and financial sectors, to implement innovative solutions. The strategy uses public-private partnerships, upskilling programmes and blended finance to foster digital adaptation within businesses. The redundancy is moderate (score 2) because while it promotes a shift to digital tools and services for businesses, it lacks clear backup plans or alternative pathways should digital adoption falter among certain groups or regions. Lastly, its rapidity is low (score 1) because the interventions foreseen are not designed for short-term crisis responses; they are generally linked to long-term structural reforms aimed at businesses.

The strategy is moderately resilient, although it focuses mainly on the digital divide within Kosovo's business sector. However, the progress made in closing the digital divide in this sector also contributes to the overall closing of the digital divide at the societal level too.

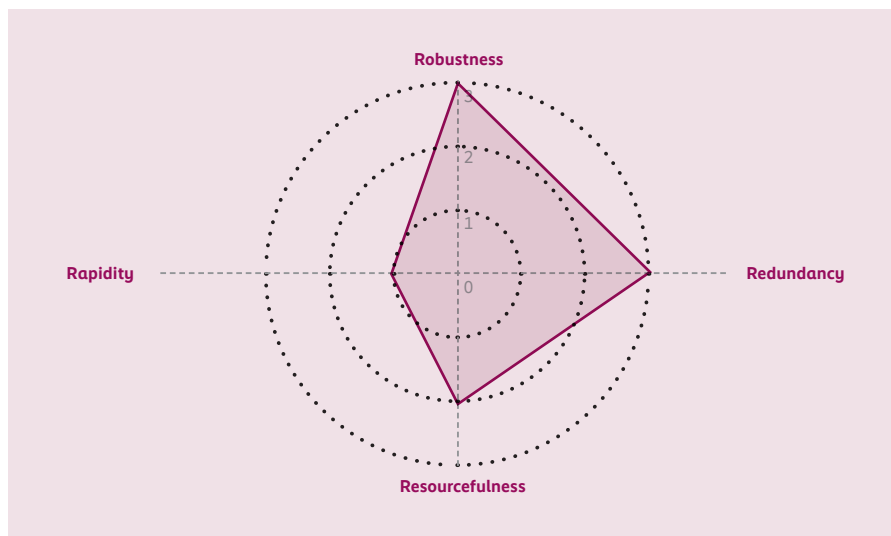
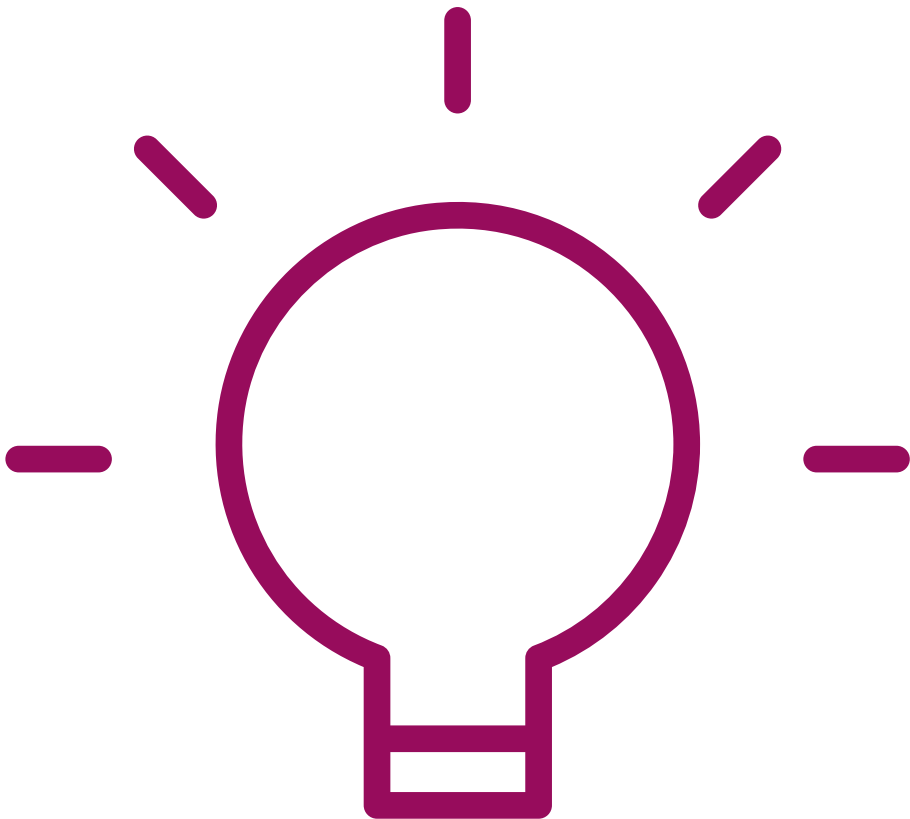


Figure 9: 4Rs Framework Assessment of e-Government Strategy Kosovo 2023 - 2027. (Source: Own creation)

This is a central strategy for bridging the ‘usage divide’ in public services, aiming to deliver fully digitalised administrative processes through a user-centric approach, particularly through the e-Kosova platform. The strategy demonstrates a high level of resilience, scoring at 83%.

Its key strengths are its high robustness (score 3) and high redundancy (score 3). The strategy establishes a strong and stable system through its well-enforced, user-centric design and enhances cybersecurity. Further, its commitment to a multi-channel approach provides a good integrated redundancy, ensuring continuity of service through reliable fallback measures like in-person support and trained officials. The strategy shows a moderate resourcefulness (score 2) with ambitious plans to build the public sector’s digital skills, as well as encouraging innovation through public-private partnerships. Its rapidity is moderate (score 2) as it lacks a clear rapid-response mechanism in relation to the digital divide issues. While coordination bodies like the digital transformation unit are established for implementation, they are not designed for emergency intervention.

The strength of this strategy is its vision for a user-centric digital government. The high robustness and redundancy create a powerful foundation that ensures stability, inclusion and continuity of services. However, there is still room for improvement in terms of rapidity and response times.



Discussing the findings

The 4Rs assessment of Kosovo’s regulatory framework reveals a system with moderate resilience, achieving an overall score of 68%. This score indicates that while a reasonable foundation for preparedness exists, critical gaps remain that expose Kosovo’s society to the shock of the digital divide.

Table 5: Total Score of Assessed Policies

| # | Policy | Score | Max points |
|-------|---|-------|------------|
| 1 | Law No. 05/L-021 on the Protection from Discrimination | 5 | 96 |
| 2 | Law No. 04/L-109 on Electronic Communications | 7 | |
| 3 | Kosovo Digital Economy (KODE) Project | 11 | |
| 4 | Education Strategy 2022 - 2026 | 6 | |
| 5 | Digital Agenda of Kosovo 2030 | 9 | |
| 6 | National Development Strategy and Plan 2030 | 10 | |
| 7 | Strategy for Industrial Development and Business Support 2030 | 8 | |
| 8 | e-Government Strategy Kosovo 2023 - 2027 | 9 | |
| Total | | 65 | 68% |

In general, the regulatory framework shows considerable robustness in its high-level strategic planning, with strategies like the National Development Strategy and Plan 2030 and the e-Government Strategy 2023 - 2027 scoring high by embedding digital transformation and inclusion into the core national policy and institutional design. However, this strategic strength is not consistently reflected across the board. The Education strategy 2022 - 2026, for instance, is only moderately robust because it lacks concrete enforcement mechanisms to guarantee access for all students regardless of their background. This shows a general disconnect between high-level ambition and the reality on the ground, leading to a coverage paradox: while strategies aim for inclusion, the lack of robust implementation for rural and marginalised communities means that impressive national statistics on internet penetration hide deep and persistent inequalities in quality and meaningful use.

The results of our assessments indicate that redundancy of the regulatory framework is a critical and systemic weakness. The regulatory framework sources constantly rely on single-track solutions without adequate fallback mechanisms. The Education Strategy's dependence on digital platforms without providing the means and ability to access them is a prime example of this fragility, leaving students with poor connectivity or a lack of technology tools behind. The redundancy is especially pronounced within the laws assessed as part of this regulatory framework, as they offer very low redundancy, offering no alternative pathways for citizens who lack the means and access to pursue legal actions, particularly in the case of digital discrimination. Although the discrimination laws are helpful in this regard, as we have seen in the case of Slovakia in the EU, they are generally very slow and costly. This failure to build in safety nets means that when a primary system - be it a digital service, a learning platform, or a legal process - fails, there is no institutional capacity to absorb the shock and ensure continuity.

In terms of resourcefulness, the regulatory framework shows a high resilience. Partially driven by the innovative models of the KODE project and the NDSP. The involvement of multiple stakeholders and decentralised planning are clear strengths that foster institutional flexibility when dealing with shocks. Nonetheless, resourcefulness is not systemic. This appears concentrated in specific projects or high-level strategies, while other foundational areas, like education, show a moderate resourcefulness. This points to the fact that innovation is currently happening in project-based silos rather than being an inherent, systematic feature, creating a risk that progress is not sustained once specific project funding ends.

Lastly, the framework demonstrates critically low rapidity. Most policies and strategies are designed for long-term, gradual reform and operation on multi-year cycles, making them structurally slow. This institutional inertia can be attributed to the fragmented governance and bottlenecks identified throughout Kosovo's digital ecosystem. With no fast-track mechanism or emergency protocols built into legal or strategic frameworks to address the digital divide and ensure inclusive digital transformation, the system is inherently ill-equipped to handle disruptions, leaving citizens vulnerable when they need support.

“This failure to build in safety nets means that when a primary system - be it a digital service, a learning platform, or a legal process - fails, there is no institutional capacity to absorb the shock and ensure continuity.”

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Conclusions and recommendations

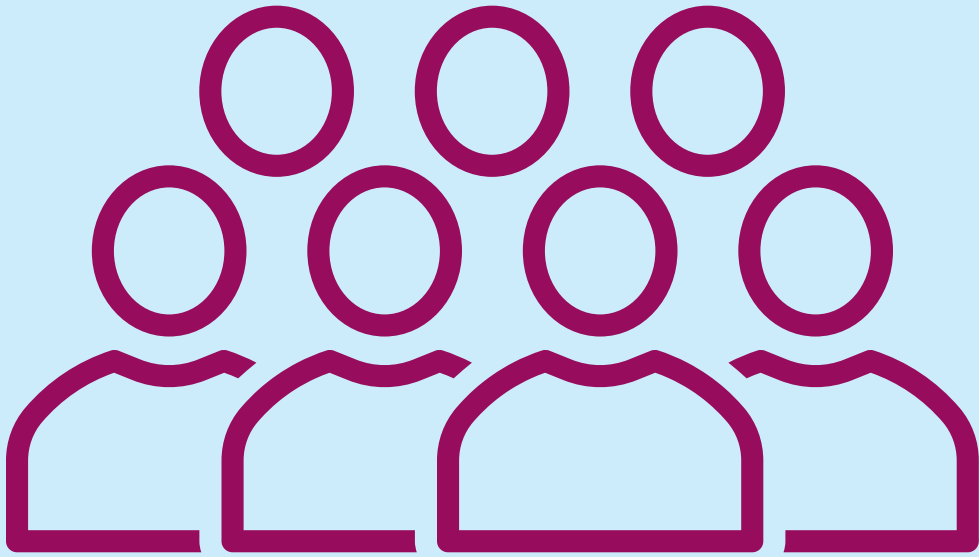
Building an inclusive and resilient digital society is a complex, long-term endeavour. For Kosovo, the journey requires a shift from only extending the technology infrastructure, towards a more human-centric vision where skills, critical thinking and lifelong learning are the cornerstone of every national policy related to digital transformation. The country's central challenge, the 'coverage paradox', is the clearest evidence of this need.

Overcoming this requires moving beyond short-term, project-based training to embed digital competence into the very fabric of society, from the earliest school years to the daily interactions between citizens and the state.

The most critical and transformative intervention, therefore, lies in the heavy reforms of the national education system. While the current Education Strategy 2022 - 2026 focuses on building digital skills and the digitalisation of the education system, its resilience remains rather low. With the education system moving towards digital tools, it remains crucial that education strategies address issues related to the digital divide. Kosovo should adopt a national 'multiliteracy' strategy, mirroring the systemic approach of Finland.⁴⁰ This would not be about merely adding another ICT class to the curriculum; it would be a fundamental pedagogical reform that integrates digital and media literacy as a transversal competence across all subjects and all levels of education. In practice, this means students, among other things, would learn to analyse data in mathematics class, create digital historical narratives in history

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⁴⁰ See more: Finish National Agency for Education - Multiliteracy and Media Literacy



class, and evaluate online health information in physical education. The goal of this reform is to develop sophisticated critical thinking, ethical understanding and the ability not just to consume but to produce, create and influence in a digital world. This systemic reform is one of the most important long-term investments Kosovo can make to cultivate a generation of empowered, resilient and adaptive citizens, prepared for the digital transformation envisaged.

Beyond formal education, the framework's most critical failure- its lack of redundancy- must be addressed by creating a multi-channel, 'no wrong door' public service ecosystem that guarantees access for all. A digital-only approach inherently excludes citizens with limited skills, access, or trust, undermining the very purpose of public e-services. A potential way to address this issue could be the establishment of a national network of "Citizens Spots", modelled on Portugal's highly successful "Espaço Cidadão".⁴¹ These physical centres, housed within existing municipal infrastructure, would be staffed by trained digital mentors who would provide hands-on, assisted digital support. This intervention, should be complemented by a legally mandated "Assisted Digital" requirement for all public e-services - something similar to the UK's "Digital by Default, not Digital Only"⁴² framework, ensuring that well-staffed telephone line and in-person support are always available as alternatives, especially for people in rural areas or those with no mobility, who would not be able to make use of the citizens spots.

⁴¹ See more: Portuguese Online Portal - Service at Citizens Spots

⁴² See more: UK Government - Assisted Digital Support

In terms of enhancing economic resourcefulness and competitiveness, Kosovo should aim to foster an innovative ecosystem that supports small and medium enterprises (SMEs), which currently lag in digital adaptation. Simply providing grants for technology is not enough, or generally a good practice. A more strategic approach is required; for instance, linking financial incentives to strategic guidance. Eligibility for any government digitalisation subsidy should be conditional on the SMEs first developing a formal digitalisation plan (including both access to technology, as well as skills building), aligned with the national digital transformation strategies. This would ensure that public funds are used for genuine business transformation, covering both technology and employee upskilling, and directly address the market failures that hinder SME growth. A similar approach is applied by Germany in their path towards digital transformation.⁴³

“The current system is not equipped to handle sudden shocks that disrupt access to services, be they digital or physical, such as a pandemic or natural disaster.”

At the same time, the current regulatory framework is low in terms of rapidity, which requires an improvement. This should be done by creating a more agile emergency response mechanism. The current system is not equipped to handle sudden shocks that disrupt access to services, be they digital or physical, such as a pandemic or natural disaster. To address this, Kosovo should establish a National Digital Emergency Fund, modelled on the US Emergency Connectivity Fund⁴⁴, with sufficient funds for the rapid procurement of devices and connectivity for vulnerable groups in a crisis. This is crucial, especially for young students who lack proper technology to access their digital educational tools. Further, the fund should be followed with a Rapid Response Digital Inclusion Protocol, co-designed with all stakeholders, that includes a pre-designed Social Voucher Scheme (modelled by the EU crisis response measures⁴⁵) to immediately provide connectivity to those in need.

Finally, all these interventions must be underpinned by stronger legal and governance robustness. Reforms, such as the amendment of the Law on Protection from Discrimination, is crucial, especially in explicitly including and defining ‘digital exclusion’ and the legislation of a ‘Digital Inclusion by Design’ mandate based on the European Accessibility Act⁴⁶, are vital for establishing clear rights and preventing new barriers from being created.

The journey from digital presence to digital maturity requires an integrated strategy that combines systemic educational reforms with robust public services, a dynamic economy, and resilient institutions. By embracing this comprehensive, human-centric approach, Kosovo can move beyond the coverage paradox and build an equitable, competitive and secure digital society fully aligned with its European future.

⁴³ See more - German Federal Ministry of Economic Affairs and Energy - “Digital Now” Funding for the Digitalisation of SMEs

⁴⁴ See more - USAC Emergency Connectivity Fund

⁴⁵ See more - European Commission (n.d) Social Vouchers to Support Connectivity for Refugees from Ukraine.

⁴⁶ See more: European Commission - The European Accessibility Act

