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Reframing Accountability through Digital Transformation in Non-Governmental Organizations

Abstract

This study examines how digital transformation influences accountability in non-governmental organizations (NGOs) in the Western Balkans, focusing on the key dimensions of accountability: transparency, legitimacy, and effectiveness. Digital transformation is conceptualized in three stages: digitisation, digitalisation, and digital transformation, each representing a distinct level of technological integration and organizational change. To evaluate the effects of digitisation, digitalisation, and digital transformation on transparency, legitimacy, and effectiveness, we collected primary data from a representative sample of NGOs and applied a range of statistical techniques, including Pearson's correlation, linear regression, ANOVA, and cluster analysis. The findings indicate that digitalisation and digital transformation significantly enhance accountability mechanisms, whereas more basic forms of digitisation tend to have a limited or inconsistent effect. The significance of intentional and well-managed digital transformation is highlighted as a pathway for NGOs to build trust, demonstrate responsible stewardship, and strengthen their contribution to social and economic development in transitional contexts such as the Western Balkans. This study contributes to the literature on organizational accountability by providing insights into how different levels of digital transformation, digitisation, digitalisation, and digital transformation, affect transparency, legitimacy, and effectiveness in NGOs in the Western Balkans, thereby enhancing understanding of how digital initiatives can reinforce organizational capacity and performance.

Keywords: Digital transformation, NGOs, Accountability, Transparency, Legitimacy, Effectiveness

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1. INTRODUCTION

Digital transformation is a comprehensive strategic process that integrates people, technology, and organizational operations across all levels. It facilitates real-time information exchange and promotes an innovation-oriented culture, thereby supporting long-term organizational change and enhancing the social impact of nonprofit institutions.

Digital transformation fundamentally restructures organizational policies, workflows, and stakeholder expectations, driving the renewal of traditional services and the creation of innovative digital solutions (Cordery, Goncharenko, Polzer, McConville, & Belal, 2023).

Digital transformation entails a profound rethinking of organizational structures, policies, workflows, and stakeholder expectations, driving the renewal of traditional services and the creation of innovative digital solutions (Fitzgerald, Kruschwitz, Bonnet, & Welch, 2013).

Digital transformation has reshaped organizational operations by enabling the generation and use of real-time data to support evidence-based decision-making. It has also strengthened communication and collaboration with a wide range of stakeholders and fostered new forms of dialogic accountability that move beyond traditional models toward more inclusive and interactive approaches to reporting and accountability (Cordery et al., 2023).

Non-governmental organizations (NGOs) have become key actors in economic and social development, particularly through the delivery of basic services, the protection of human rights, and the advocacy for marginalized groups (Banks, Hulme, & Edwards, 2015). By often operating in contexts where state capacity is weak or absent, NGOs fill critical social gaps and improve community well-being. In these contexts, they frequently deliver vital services that traditionally fall within the purview of the public sector. Beyond service provision, NGOs also contribute to legal and policy development and engage in data collection and policy input for various institutions and decision-making bodies (Garciandia, 2023).

NGO accountability is one of the most discussed topics in the literature and encompasses the moral and legal obligation to account for actions and decisions taken (Edwards & Hulme, 1996). However, to provide accountability and transparency, NGOs must develop standards and practices that are essential for protecting the trust of the public and donors (Ebrahim, 2019). Consequently, accountability is not merely an outcome of a connection but rather a fundamental component of that connection (Abou Assi & Trent, 2015). Given the important role that NGOs play in social and economic development, it is essential that they remain accountable. In this context, digital transformation has played an increasingly significant role in facilitating and strengthening accountability mechanisms.

Kuruppu, Dissanayake, & de Villiers (2022), explore the potential of digital transformation in reshaping accounting and accountability practices, providing valuable contributions to the existing literature. Their work identifies concrete mechanisms to increase NGO accountability using blockchain technology and triple-entry accounting systems, effectively addressing upward, downward, and horizontal stakeholder relationships.

According to Cordery et al. (2023), the review of contemporary accounting literature on the performance, governance, and accountability of nonprofit organizations within the context of digital transformation reveals that, in developing economies, realizing the transformative potential of technology is accompanied by significant challenges. These challenges arise largely from power imbalances between NGOs, donors and beneficiaries, and are intensified in countries with limited resources and weak institutional infrastructure.

However, organizations across sectors continue to face various challenges in implementing and managing digital transformation, often arising from structural, strategic, cultural, or managerial complexities. This paper examines these challenges within the context of several Western Balkan countries.

2. LITERATURE REVIEW

Digital transformation represents a strategic reimagining of the role of technology in enhancing

user experience, optimizing operational workflows, and reshaping organizational structures to meet the demands of an increasingly dynamic and interconnected world (Westerman, Bonnet, & McAfee, 2014).

Digital transformation within an organization can be driven by a variety of factors, including regulatory changes, legal and reporting obligations, technological advancements, expanded financing opportunities, and evolving socio-economic conditions that require greater adaptability and innovation (Bag, Rahman, Srivastava, Giannakis, & Foropon, 2023).

Digital transformation aims to address evolving user needs, introduce innovative methods of service delivery, and expand organizational reach to broader and more diverse audiences (Mergel, Edelmann, & Haug, 2019).

Digital transformation also involves a strategic reconfiguration of organizational models to more effectively respond to evolving user needs by harnessing the potential of emerging technologies (Berman, 2012).

Digital transformation goes beyond the simple deployment of advanced technologies and is fundamentally a human-centric process that underscores the critical importance of human capital, organizational culture, and well-structured strategic planning in enabling the successful adoption and integration of digital transformation initiatives (Kane, Palmer, Phillips, Kiron, & Buckley, 2015). Berghaus and Back (2016), emphasize that digital transformation includes not only digital innovation, but also the improvement of traditional products and services through the integration of digital capabilities. Demirkan, Spohrer, & Welsch (2016) similarly conceptualize digital transformation as a strategic reinvention of business models, organizational competencies, and operational processes aimed at fully harnessing the transformative potential of digital technologies across all sectors of society. Digital transformation is an essential foundation for realizing its full potential, requiring organizations to develop internal capacities to manage emerging technologies and align them with institutional objectives (Dremel, Wulf, Herterich, Waizmann, & Brenner, 2017).

The adoption of digital technologies to replace or enhance traditional operational processes and transform services and businesses has emerged as a significant global trend that presents both opportunities and challenges for the public sector, using the power of digital transformation (Priyono, Moin, & Putri, 2020). Digital transformation can be harnessed in various ways, the most effective methods being through innovative technologies which enhance the organization's overall efficiency and productivity. The successes of digital transformation stem from a collaborative and reciprocal environment that fosters innovation, built on the transparency of NGOs and citizen trust, rather than from technology alone (Polzer & Oner, 2025).

A recent study by Leitonienė, Waniak-Michalak & Perica (2025), emphasizes that the digitalization of non-governmental organizations (NGOs) is driven not only by legal requirements but also by technological advancements and the increasing expectations of external stakeholders.

Digital transformation is increasingly recognized as a strategic priority essential to the sustainability and advancement of modern organizations. It fosters innovation, enhances operational efficiency, and ensures resilience in times of disruption (Klein & Todesco, 2021). To ensure an effective digital transformation, NGOs should be evaluated based on scalability, compatibility, and relevance to the organization's purpose (Ahmet, Azim, Jafor, Shayed, & Khan, 2024).

The development and expansion of digital infrastructure is expected to bring about significant transformations by reducing inequalities in digital access, improving the quality of social services, strengthening resilience to shocks, and creating broader economic opportunities (Shao, et al., 2023). Furthermore, a digitalized environment with strong internal capacities increases funding opportunities for NGOs (Matić, Bukvić, & Novaković, 2025).

Digital transformation refers to the modernization and adaptation of digital technologies or online platforms aimed at reshaping business processes or enhancing performance models to strengthen accountability (Rana & Cordery, 2024). Leitonienė et al. (2025), identified a statis-

tically significant relationship between the level of digitalization and factors such as the scope of activity, type of beneficiaries, and the size of the organization (measured by the logarithm of revenue and assets). However, these findings cannot be generalized, as the degree of digitalization is highly influenced by the institutional context, including legal frameworks, cultural factors, technological infrastructure, and economic development. By embracing innovation, NGOs can maximize their impact and develop sustainable funding models that drive meaningful societal change, particularly in response to extraordinary situations (Acintya, Goncharenko, Smith, & Matilal, 2025).

In their study, Adhikari, Upadhaya, & Dhakal Adhikari (2023) concluded that digital transformation has transformed the way NGOs operate by reshaping their identity and strengthening their relationships with beneficiaries. Digital transformation supports project scheduling, enhances innovation, improves data flow efficiency, and contributes to overall project success (Saidoun, 2025). Although technology has enabled broader participation and community empowerment, its impact depends on social practices and contextual factors. Digital transformation in NGOs, supported by marketing, enables them to raise funds more effectively and sustain their missions (Jong & Ganzaroli, 2024).

Adopting new technologies can enhance transparency and community engagement, but it also presents challenges, including limited technological infrastructure, low digital capacity among staff, and data security risks. Addressing these challenges requires capacity building, strategic partnerships with corporations, and policies that ensure data security and transparency (Singh & Dubey, 2025). Ensuring high-quality digital infrastructure is important and should be accompanied by increased investment in education and digital skills (Bucevska & Bucevska).

Successful digital transformation in non-profits requires planning strategically, overcoming financial and cultural barriers, building technical capacity, and leveraging partnerships to enhance efficiency, outreach, and service delivery Ahmet et al. (2024).

Nonprofit organizations play a crucial role in fostering community well-being, not only through their social impact but also through their economic contributions. In order to remain relevant in an increasingly dynamic environment, they must adopt digital transformation as a strategic enabler of innovation, sustainability, and more importantly, enhanced accountability. Accountability entails the clear articulation of goals and objectives, as well as the fulfillment of predefined performance standards, accompanied by transparent decision-making processes and relationships. It also involves accurate and timely reporting to both internal and external stakeholders regarding resource utilization and the outcomes achieved. Recent accounting research has shown growing interest in how NGOs address the complex demands of accountability Cordery et al. (2023).

NGOs must develop more responsive, adaptive, and contextually grounded approaches to strengthen their accountability to the communities they are intended to serve (Agyemang, O'Dwyer, & Unerman, 2019). The digital transformation of NGO services has redefined accountability practices by bringing them closer to beneficiaries. Downward accountability exemplifies this approach, serving as a crucial mechanism for achieving intended outcomes across NGO operations (Noble, et al., 2025). Digital transformation is arguably reinforcing ongoing trends by enhancing NGOs' ability to demonstrate accountability to beneficiaries and reshaping how they communicate with funders Cordery et al. (2023). Accountability through digital transformation has been established to increase resources, enhance performance, and ensure reporting to all stakeholders, thereby making organizations accountable to a diverse range of forums (Ahearn, Mai, & Marston, 2025).

Digital transformation, influence multiple areas of accounting, including financial accounting, reporting, management accounting and control, auditing, and taxation (Agustino, Saliterer, & Steccolini, 2022). Cavicchi and Vagnoni (2023), demonstrate that digital transformation enables NGOs and their stakeholders to effectively collect, process, analyze, and share data related to performance and social impact, thereby fostering ongoing accountability dialogues grounded in

concrete and actionable evidence. Their research also demonstrate how digital networks and procedural routines contribute to strengthening relationships between NGOs and both public and private sector donors. As a result, NGOs should prioritize investments in digital competencies, including training and cybersecurity, to protect sensitive data and build an innovation-oriented culture that supports collaborative practices and the redesign of services that respond to needs (Cipriano & Za, 2025).

Digital transformation is increasingly regarded as a promising avenue for enhancing transparency and accountability in governance. Yet, its effectiveness remains closely tied to the presence of robust technological infrastructure. In contexts where such infrastructure is lacking, the potential of digital innovation is significantly limited, highlighting the necessity of aligning digital reforms with broader institutional and infrastructural development efforts (Shenkoya, 2023). The diverse forms and sizes of NGOs significantly influence their strategic priorities, operational capacities, funding approaches, regulatory requirements, and accounting processes, and all of them directly influence their performance, governance structure, and level of accountability Agyemang et al. (2019).

3. METHODOLOGY

To assess and understand the extent of digital transformation in non-governmental organizations (NGOs) in Kosovo, Albania, Montenegro, and North Macedonia, we employed the convenience sampling method. The selected NGOs were legally registered and had been active for at least five years. They focused on governance, transparency, and initiatives promoting social development and general well-being. The selected NGOs have diverse funding sources and employ more than ten staff members. They were identified through national NGO registries and civil society networks.

However, dependence on funding consistently determines NGOs' annual turnover, staffing levels, daily operations, and the achievement of their objectives. Out of 120 questionnaires distributed, 100 responses were collected from participants who were contacted to confirm their willingness

to contribute. This high participation, representing a response rate of 83.3%, demonstrates considerable interest and commitment from organizations and enhances the credibility and representativeness of the study findings. Moreover, the sample is considered representative of NGOs in the Western Balkans, encompassing both small community-based organizations and larger national NGOs.

This study adopted a mixed-methods approach, combining both qualitative and quantitative methods. Primary data were collected through structured interviews using a questionnaire that included both closed- and open-ended questions. Before each interview, the study's purpose and objectives were explained to the participants, informed consent was obtained, and confidentiality and anonymity were ensured. The interviews, conducted either face-to-face or via online platforms, lasted between 25 and 43 minutes. During the interviews, we provided clarifications and adapted the wording of questions to ensure full comprehension. Detailed notes and recordings were securely stored for the study. For each variable, ten questions were developed, and two example questions for each variable are presented below:

Digitisation: Does the NGO submit financial and narrative reports via email or digital platforms instead of hard copy? Are donor-approved reports signed using a digital signature?

Digitalisation: Does the NGO apply for funding from donors through digital platforms? Does the NGO monitor projects through a digital platform?

Digital Transformation: Does the NGO manage strategic and operational development through digital platforms? Does the NGO conduct staff performance evaluations and procurement processes digitally?

Transparency: Are financial reports publicly accessible? Does the NGO ensure internal and external transparency with staff, board members, and stakeholders?

Legitimacy: Does the NGO comply with relevant legal and regulatory requirements? Does the NGO adapt or incorporate the requirements of donors

Table 1: Linear Regression - The Relationship Between Dependent and Independent Variables

| Predictor Transparency | Coefficient (β) | p-value | Results- Interpretation |
|--------------------------|-----------------|---------|---|
| Digitisation | -0.149 | 0.013 | Negative and statistically significant |
| Digitalisation | 0.245 | 0.003 | Positive and statistically significant |
| Digital Transformation | 0.197 | 0.013 | Positive and statistically significant |
| Predictor- Legitimacy | | | |
| Digitisation | -0.128 | 0.027 | Negative and statistically significant |
| Digitalisation | 0.225 | 0.005 | Positive and statistically significant |
| Digital Transformation | 0.222 | 0.004 | Positive and statistically significant |
| Predictor- Effectiveness | | | |
| Digitisation | 0.044 | 0.425 | Not statistically significant |
| Digitalisation | 0.169 | 0.026 | Positive and statistically significant |
| Digital Transformation | 0.384 | <0.001 | Positive and highly statistically significant |

Source: Compiled and interpreted by the author

or regulators, including relevant regulations, policies, and practices?

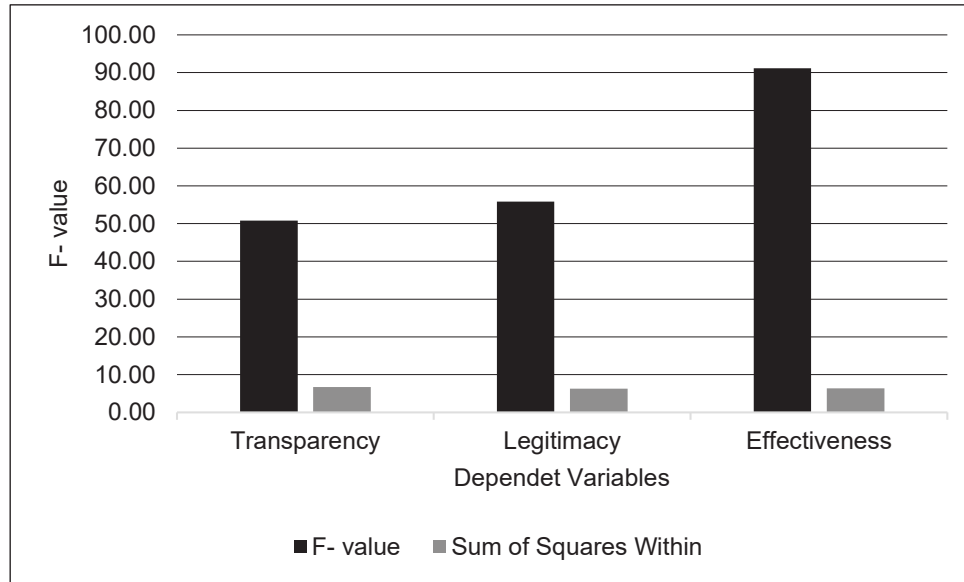
Effectiveness: Does the NGO achieve its objectives and meet beneficiary needs? Does the NGO adapt strategies based on monitoring, evaluation, and feedback?

After gathering the responses, they were coded using a Likert scale ranging from 1 to 5, where 1 indicated very poor or not at all, and 5 represented very good or fully implemented. The respondents included Program Managers, responsible for implementing projects and programs and utilizing digital platforms for activity management, reporting, donor communication, and other strategic organizational decisions; Finance Managers and Officers, responsible for overseeing budgeting, financial management, monitoring, and reporting via digital platforms; Information Technology Officers, responsible for ensuring the efficient use of digital platforms within the organization; Human Resources Managers; Logistics Managers; Legal Officers; and other staff, depending on the organizational structure, responsible for tasked with managing human resources,

procurement processes, inventory, fixed assets, internal procedures, and compliance with national regulations using digital platforms. All respondents were directly involved in key functions related to organizational accountability and digital transformation, ensuring that their responses accurately reflect actual practices and experiences.

The concept of digital transformation was operationalized through three key dimensions, based on the framework of Mergel et al. (2019):

- **Digitisation**, referring to the conversion of data or documents from physical to digital form without altering the core operational structure of the organization.
- **Digitalisation** refers to the enhancement of operational processes through the use of technology, including the delivery and management of services via digital platforms.
- **Digital transformation**, referring to a strategic and profound shift, in which the core functions of the organization are restructured to meet user needs in a fully digital environment.

Figure 1: ANOVA - The Relationship Between Dependent and Independent Variables

Note: the Figure illustrates the F- values for Transparency, Legitimacy, and Effectiveness. All results are statistically significant ($p < 0.001$)

Source: Compiled and interpreted by the author

To assess NGO accountability, three main dimensions were used: transparency, legitimacy, and effectiveness. The questions for each dependent and independent variable were consolidated to guide the analytical process and address the main research question of the paper: "Does digital transformation affect organizational accountability?". This research question gives rise to the following hypotheses:

H1: Digitisation affects organizational accountability.

H2: Digitalisation affects organizational accountability.

H3: Digital transformation affects organizational accountability.

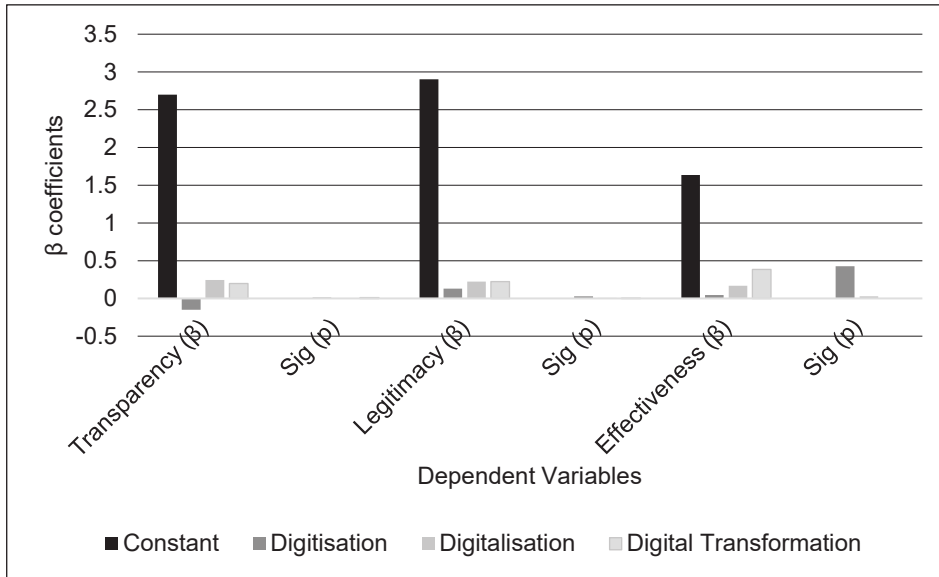
To conduct a comprehensive analysis of digital transformation within non-governmental organizations, a range statistical techniques was employed, including descriptive statistics, Pearson's correlation, linear and logistic regression, ANO-

VA, and cluster analysis. These methods allowed for a thorough examination of the relationships between digital transformation and organizational accountability.

To assess the individual impact of each organizational accounting dependent variable on the independent digital transformation variables, three separate linear regression analyses were conducted to provide specific insights into their relationships.

The regression results indicate that digitalisation and digital transformation have a positive and statistically significant impact on all three dimensions of accountability: transparency, legitimacy, and effectiveness. Digitisation, however, shows a negative effect on transparency and legitimacy, both important, but without significant effect on effectiveness. However, digital transformation demonstrates the strongest impact on effectiveness, underscoring its critical role in improving overall organizational performance.

Figure 2: Linear Regression - The Relationship Between Dependent and Independent Variables



Note: the Figure illustrates the β - coefficients values for Transparency, Legitimacy, and Effectiveness

Source: Compiled and interpreted by the author

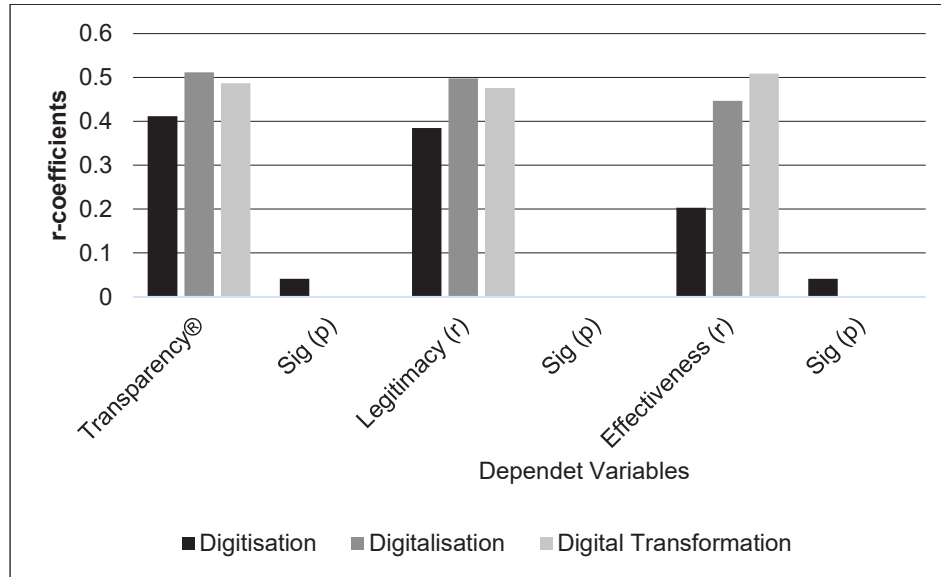
Following the above analysis, we continued with further analysis, based on the study's main research question, to examine how accountability is influenced by key dimensions of digital transformation. The analysis was conducted using an ANOVA test, which served to assess whether there are statistically significant differences in the levels of transparency, legitimacy, and effectiveness based on different levels of digital transformation. This approach allowed us to identify the individual contribution of each digital transformation variable: digitisation, digitalisation, and digital transformation to key accountability dimensions within NGOs, providing a clearer understanding of how technological advancements affect governance outcomes in the non-profit sector.

The ANOVA results indicate that digital transformation has a statistically significant effect on all three dimensions of accountability within NGOs. For transparency, the F-value of 50.82 and a p-value well below 0.001 suggest a strong and significant difference in transparency levels between groups with different degrees of digital trans-

formation. Similarly, for legitimacy, the analysis shows a significant variation, with an F-value of 55.83 and a p-value below 0.001, indicating that higher digital transformation is associated with greater organizational legitimacy. Effectiveness shows the strongest relationship, with an F-value of 91.16 and a p-value also below 0.001, implying that digital transformation significantly enhances operational effectiveness. These findings highlight the importance of technological advancement in strengthening the core dimensions of NGO accountability.

The analysis continued with linear regression to examine the impact of digital transformation in non-governmental organizations on the level of accountability, specifically in terms of transparency, legitimacy, and effectiveness.

The regression results show that digitisation has a negative and statistically significant effect on transparency ($\beta = -0.149, p = 0.013$) and legitimacy ($\beta = -0.128, p = 0.027$), but no significant impact on effectiveness ($\beta = 0.044, p = 0.425$). Digital-

Figure 3: Correlation - The Relationship Between Dependent and Independent Variables

Note: The Figure illustrates the r - coefficients values for Transparency, Legitimacy, and Effectiveness

Source: Compiled and interpreted by the author

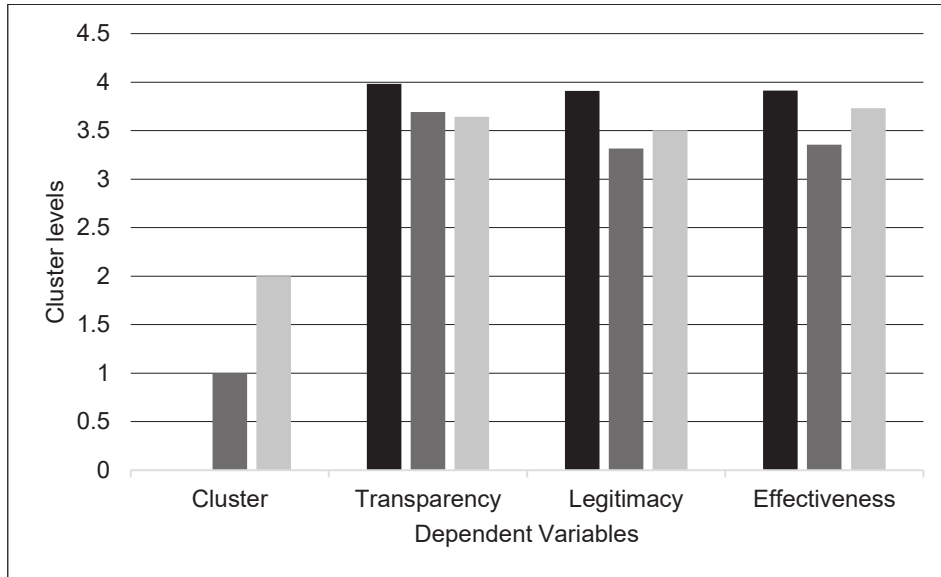
isation has a positive and statistically significant effect on transparency ($\beta = 0.245$, $p = 0.003$), legitimacy ($\beta = 0.225$, $p = 0.005$), and effectiveness ($\beta = 0.169$, $p = 0.026$). Likewise, digital transformation shows a positive and significant impact on transparency ($\beta = 0.197$, $p = 0.013$), legitimacy ($\beta = 0.222$, $p = 0.004$), and has the strongest influence on effectiveness ($\beta = 0.384$, $p < 0.001$). The model fit coefficients (R^2) indicate that 18.4% of the variance in transparency, 15.7% in legitimacy, and 27.2% in effectiveness are explained by these three digital transformation variables. These results highlight the importance of digital transformation in improving accountability within non-governmental organizations.

Correlation analysis was conducted as the next step to assess the strength and direction of the relationships between the key variables: transparency, legitimacy, effectiveness, and digital transformation. The results revealed moderate to strong and statistically significant correlations between the governance dimensions and digital transformation. These findings suggest that

higher levels of transparency, legitimacy, and effectiveness are positively associated with the increased adoption of digital transformation practices among NGOs.

The correlation analysis revealed a positive and statistically significant relationship between the dimensions of digital transformation and the elements of organizational accountability. More specifically, digitisation showed a moderate correlation with transparency ($r = 0.412$, $p = 0.041$), legitimacy ($r = 0.385$, $p = 0.000$), and effectiveness ($r = 0.203$, $p = 0.041$), suggesting that improvements in basic technological aspects are significantly associated with better governance in NGOs. Digitalisation demonstrated stronger correlations with transparency ($r = 0.521$), legitimacy ($r = 0.498$), and effectiveness ($r = 0.447$), all with $p = 0.000$, reflecting a greater impact of digital processes on accountability. Digital transformation also showed a positive relationship with transparency ($r = 0.487$), legitimacy ($r = 0.476$), and effectiveness ($r = 0.509$), with all correlations being highly statistically significant (p

Figure 4: Cluster Analysis - The Relationship Between Dependent and Independent Variables



Source: Compiled and interpreted by the author

= 0.000), indicating that the strategic application of advanced technologies substantially enhances accountability mechanisms within non-profit organizations.

Cluster analysis was conducted to group NGOs based on their levels of digital transformation, with the aim of examining how different digital profiles correspond to variations in accountability dimensions namely: transparency, legitimacy, and effectiveness. This approach enabled the identification of organizational patterns in how digital transformation is embraced and how it relates to internal governance practices. The resulting clusters provide a foundation for targeted interventions, allowing NGOs and policymakers to align accountability strategies with the specific digital transformation status of each group.

The cluster analysis identified three groups of NGOs based on their level of digital transformation. Cluster 0 showed the highest levels of transparency (3.98), legitimacy (3.91), and effectiveness (3.91), indicating stronger internal gover-

nance. Cluster 1 had the lowest scores across all dimensions, while Cluster 2 ranked in the middle. These results suggest that greater engagement in digital transformation is associated with higher levels of accountability.

4. RESULTS AND DISCUSSION

This study aimed to evaluate the impact of digitalisation, digitalisation, and digital transformation on accountability in non-governmental organizations in the Western Balkans, specifically through the dimensions of transparency, legitimacy, and effectiveness. In our study, digitalization refers to cases where documents for monitoring, inspections or reporting can be submitted electronically through signatures, confirmation emails or other digital formats without submitting a hard copy; digitalization refers to the improvement of operational processes using technology, such as payments, applications for funds and monitoring or reporting through digital platforms; digital transformation refers to a strategic and deep change,

where key organizational functions are restructured within a fully digital environment, including procurement, human resource management, performance management and other processes. The dependent variables are defined as follows: transparency includes both the internal and external transparency of the NGO; legitimacy refers to the presence of regulations, guidelines, and functional procedures that govern the organization's operations; and effectiveness refers to the achievement of the NGO's short-term and long-term objectives.

The analysis began with separate linear regression models for each accountability dimension, examining the individual effects of the three independent variables. The results indicated that digitisation had a negative and statistically significant effect on both transparency and legitimacy, but without any significant influence on effectiveness. However, digitalization and digital transformation showed positive and statistically significant effects on all three dimensions, with digital transformation in particular generally having the strongest impact on effectiveness. These findings suggest that fundamental digital changes can disorder traditional governance structures, while more advanced and strategic digital reforms tend to increase organizational accountability.

Following this, a general model was applied to determine whether accountability, as a whole, is significantly influenced by the core elements of digital transformation. The ANOVA results demonstrated statistically significant differences in the levels of transparency, legitimacy, and effectiveness depending on the degree of digital transformation. These findings support the notion that organizations with higher levels of digital advancement experience better accountability outcomes, particularly in terms of operational effectiveness.

Further analysis using multiple linear regression confirmed the earlier findings by simultaneously assessing the influence of all three independent variables on each accountability dimension. Digitisation remained negatively associated with transparency and legitimacy but not with effectiveness, while digitalisation and digital transformation continued to demonstrate a positive and significant relationship with all three dependent

variables. This suggests that NGOs which adopt comprehensive and strategic technological reforms are more likely to achieve greater levels of internal accountability.

Correlation analysis was conducted to further explore the strength and direction of these relationships. The results revealed moderate to strong and statistically significant correlations between each digital transformation dimension and the accountability indicators. Digitalisation and digital transformation exhibited particularly strong associations, reinforcing their central role in promoting transparency, legitimacy, and effectiveness in non-profit governance structures.

To enrich the analysis, cluster analysis was employed to categorize NGOs based on their accountability scores. The organizations were grouped into three distinct clusters. The first cluster demonstrated the highest levels of transparency, legitimacy, and effectiveness and was characterized by greater digital transformation readiness. The second and third clusters showed comparatively lower levels of accountability, indicating a weaker integration of digital tools and processes.

These findings confirm the study's objective and support the hypotheses, highlighting that NGOs with stronger governance performance are also those that have made more significant strides in digital transformation, supporting the broader conclusion that technological advancement and accountability are closely linked in the non-profit sector. Overall, the analyses clearly demonstrate the positive and consistent impact of digitalisation and digital transformation on enhancing transparency, legitimacy, and effectiveness within NGOs, whereas digitisation appears to be less relevant in this regard.

5. CONCLUSION

Digital transformation is widely recognized as a mechanism for enhancing efficiency, enabling greater customization, and fostering automation by streamlining and standardizing operational processes. The digital transformation of NGO services has redefined accountability practices by shifting them closer to beneficiaries Cordery et al.

(2023). This research provides that digital transformation plays a crucial role in strengthening accountability within non-governmental organizations. Digital transformation was conceptualized in three stages: digitisation, digitalisation, and digital transformation (Mergel et al., 2019), each representing a distinct level of technological integration and organizational change. The findings indicate that basic digitisation alone does not always enhance accountability, whereas digitalisation and digital transformation significantly strengthen accountability mechanisms. The study emphasizes that NGOs cannot rely solely on superficial technological changes; they must implement a comprehensive and strategic digital transformation that integrates technology with sound governance principles. Consequently, investments in digital infrastructure, capacity-building, and strategic alignment are essential to ensure that digital transformation acts as a promoter of more transparent, legitimate, and effective organizational behavior.

This study presents certain limitations in the study sample and the variables related to digital transformation and organizational accountability, due to the inability to obtain additional data. However, the sample could be expanded to include other regions, and other relevant factors could be explored in future research.

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Preoblikovanje odgovornosti kroz digitalnu transformaciju u nevladinim organizacijama

Sažetak

Ovaj rad ispituje kako digitalna transformacija utječe na odgovornost u nevladinim organizacijama (NVO) na Zapadnom Balkanu, s naglaskom na ključne dimenzije odgovornosti: transparentnost, legitimnost i učinkovitost. Digitalna transformacija konceptualizirana je u tri faze: digitalizacija, digitalizacija i digitalna transformacija, pri čemu svaka predstavlja zasebnu razinu tehnološke integracije i organizacijske promjene. Kako bismo procijenili učinke digitalizacije, digitalizacije i digitalne transformacije na transparentnost, legitimnost i učinkovitost, prikupili smo primarne podatke od reprezentativnog uzorka nevladinih organizacija i primijenili niz statističkih tehnika, uključujući Pearsonovu korelaciju, linearnu regresiju, ANOVA i klastersku analizu. Nalazi pokazuju da digitalizacija i digitalna transformacija značajno poboljšavaju mehanizme odgovornosti, dok osnovniji oblici digitalizacije imaju tendenciju imati ograničen ili nedosljedan učinak. Važnost namjerne i dobro upravljane digitalne transformacije ističe se kao put za nevladine organizacije da izgrade povjerenje, pokažu odgovorno upravljanje i ojačaju svoj doprinos društvenom i ekonomskom razvoju u tranzicijskim kontekstima poput Zapadnog Balkana. Ova studija doprinosi literaturi o organizacijskoj odgovornosti pružajući uvid u to kako različite razine digitalne transformacije, digitalizacije, digitalizacije i digitalne transformacije utječu na transparentnost, legitimnost i učinkovitost nevladinih organizacija na Zapadnom Balkanu, čime se poboljšava razumijevanje kako digitalne inicijative mogu ojačati organizacijske kapacitete i učinkovitost.

Ključne riječi: Digitalna transformacija, nevladine organizacije, odgovornost, transparentnost, legitimnost, učinkovitost