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## VAT and Digital Reporting: ViDA Implications for Western Balkan Businesses and a Phased Adoption Roadmap

### Abstract



The European Union's VAT in the Digital Age (ViDA) reforms represent a shift from periodic, ex post VAT reporting toward structured invoice data, digital reporting requirements, and strengthened cooperation mechanisms. Although ViDA is EU legislation, it has immediate and indirect implications for Western Balkan businesses integrated into EU value chains, cross-border B2B supply, and platform-mediated commerce. This paper evaluates the operational and compliance impacts of ViDA-like digital VAT reforms on regional firms and proposes a phased adoption roadmap that balances enforcement effectiveness, administrative capacity, and SME proportionality. Using a qualitative policy-to-controls framework, the study synthesizes EU institutional sources, comparative evidence on Hungary's real-time invoice reporting (RTIR) regime, and VAT gap benchmarking. Results present a ViDA-aligned end-to-end reporting and control loop suitable for regional businesses and administrations (Figure 1), a structured business impact matrix (Table 1), and a comparative mini-case contrasting RTIR with baseline periodic reporting across latency, validation strictness, and correction dynamics, with outcome-context evidence from official VAT gap estimates (Tables 2–3). The paper concludes that staged adoption—starting with standardization, targeted pilots, and SME support—can reduce information lags and compliance gaps while minimizing transition shocks.

**Keywords:** VAT; ViDA; digital reporting; e-invoicing; RTIR; platform economy; VAT fraud; compliance costs; SMEs; Western Balkans

## 1. Introduction

### 1. Introduction

Value-added tax (VAT) is a principal revenue source across Europe and the Western Balkans, yet it remains structurally exposed to fraud, under-reporting, and cross-border compliance failures. Traditional VAT administration is typically organized around periodic VAT returns (monthly/quarterly), with ex post audits and retroactive corrections. This architecture creates a time lag between the taxable event and administrative visibility. In cross-border trade and digital commerce, such lags are frequently exploited through schemes that include missing-trader patterns, artificial chains, undervaluation or misclassification, and invoice manipulation. As e-commerce and platform models expand, VAT compliance increasingly depends on the integrity of transaction-level data and the ability of administrations to validate and act on information quickly. Digitalization enables a different control logic: if invoice and transactional data are standardized and delivered close to the time of issuance, administrations can detect anomalies earlier, shorten the opportunity window for certain fraud vectors, and reallocate audit resources toward higher-confidence cases. The European Union's VAT in the Digital Age (ViDA) reform package formalizes this policy direction. EU institutions present ViDA as a modernization of VAT reporting and compliance mechanisms for a digital economy, emphasizing digital reporting requirements and a stronger data foundation for enforcement and cooperation. Although ViDA is EU legislation, its practical implications extend beyond the EU. Western Balkan economies are tightly integrated with EU markets through goods exports, services delivery, logistics routes, payments, and platform intermediation. Businesses that supply EU partners may be required—directly or indirectly—to produce structured invoice data, maintain consistent identifiers, and demonstrate auditable evidence (e.g., for place-of-supply logic, tax treatment, and contractual terms). Even when domestic reforms lag, firms experience “interoperability pressure” from counterparties, platforms, and service providers operating under EU compliance expectations. This creates a strategic policy question for Western Balkan administrations and a strategic readiness question for regional firms. Immediate full alignment with advanced digital reporting regimes may be unrealistic due to administrative capacity constraints, legacy systems, and SME readiness. Conversely, delaying reforms can widen compliance gaps and increase frictions for cross-border trade. A phased adoption roadmap aligned with ViDA principles may therefore offer the most feasible path: it allows administrations and firms to build data standards, validation capacity, and error-correction workflows before scaling mandates.

### Research Questions

- **RQ1:** Which ViDA-like components are most relevant to Western Balkan businesses, and how do they change compliance expectations in cross-border contexts?
- **RQ2:** Through which channels do digital reporting and structured invoicing affect compliance costs, cash flow, and competitiveness?
- **RQ3:** How can a phased adoption roadmap maximize benefits while minimizing disruption, especially for SMEs?

## 2. Materials and Methods

### 2.1 Research design

This study uses a qualitative, policy-oriented analytical design. A “policy-to-controls” method is applied to translate regulatory objectives into operational requirements for businesses and administrations. The analysis focuses on implementable processes, measurable compliance KPIs, and sequencing choices under capacity constraints.

## 2.2 Materials (sources and benchmarks)

The study draws on:

1. **EU VAT gap institutional materials**, including the European Commission's VAT gap portal and official VAT gap reporting outputs that provide compliance-gap context and emphasize the relevance of benchmarking for candidate and neighboring economies.
2. **Comparative operational evidence** on Hungary's real-time invoice reporting regime (RTIR/Online Számla), including European Commission eInvoicing country materials and NAV publications identifying the 1 July 2018 start date and the progressive expansion of scope.
3. **Implementation guidance and practitioner summaries** describing RTIR compliance obligations and reporting characteristics (useful for operational details), including Avalara's country guide.
4. **Baseline periodic reporting logic** in VAT administration (return-cycle-based reporting with retrospective audit corrections), used as a comparator model.

## 2.3 Analytical framework

The analysis is structured along three dimensions:

### A) Regulatory design

- Scope: B2B vs B2C; domestic vs cross-border
- Granularity and timing: periodic returns vs transaction-level reporting
- Platform role: reporting support, seller governance, and potential deemed-supplier logic

### B) Business impact channels

- Compliance and IT costs (integration, mapping, training)
- Process redesign (invoicing governance, master data, reconciliation)
- Cash-flow effects (refund speed, correction cycles, dispute frequency)

### C) Adoption sequencing

- Pilot vs mandate phases
- Sector prioritization (risk-based)
- SME proportionality mechanisms (simplified schemas, subsidized tools)

## 2.4 Limitations and bias-control

The paper does not conduct econometric identification of the causal effect of digital reporting on VAT gap outcomes. VAT gap metrics are used as **outcome context**, while operational regime characteristics (latency reduction, validation strictness, correction loop shortening) are analyzed as **mechanisms**. This design aims to maintain neutrality and avoid over-claiming attribution.

### 3. Results

#### 3.0 Overview of findings

Three findings emerge:

1. Digital VAT reforms primarily improve compliance by **reducing information latency** between invoice issuance and administrative visibility.
2. Business impacts depend heavily on **sequencing, specification stability, and SME proportionality**.
3. A phased roadmap aligned with ViDA principles can deliver benefits without excessive disruption if it includes **testing environments, stable technical rules, and explicit correction-loop governance**.

#### 3.1 Digital reporting and business compliance effects

Digital reporting requirements shift VAT compliance from periodic summary obligations to transaction-level reporting. Operationally, this implies that (i) invoicing becomes a controlled data production process, (ii) accounting systems must produce standardized fields, and (iii) businesses must maintain consistent identifiers and reconciliations across invoices, orders, payments, and logistics. When these controls are implemented, administrations can detect anomalies earlier, and businesses can experience lower audit uncertainty over time due to stronger data consistency. However, digital reporting also changes the cost structure of compliance. In the short term, firms incur integration costs, staff training costs, and process redesign costs (e.g., invoice governance, approval workflows, master data remediation). Over time, if specifications remain stable and validation feedback is predictable, automation can reduce manual reconciliation effort and reduce the size and frequency of retroactive adjustments. SMEs face disproportionate burdens when compliance requires complex integration with unstable data schemas. This is the main justification for a phased approach: large taxpayers and high-risk sectors can be onboarded first, while SMEs receive simplified interfaces (templates, certified software, subsidized connectors) and longer transition periods.

##### 3.1.1 Platform economy and compliance concentration

Platforms concentrate transaction data and seller access controls, which creates a practical enforcement point. Even without broad legal “deemed-supplier” mandates in the Western Balkans, platform-driven compliance can be operationally important: onboarding controls, identity checks, invoice data requirements, and payout rules can influence compliance behavior at scale. For regional sellers using EU-based platforms, these pressures can apply immediately. For regional platforms, the strategic challenge is interoperability: the ability to generate structured invoice fields, validate seller data, and produce auditable evidence for cross-border transactions.

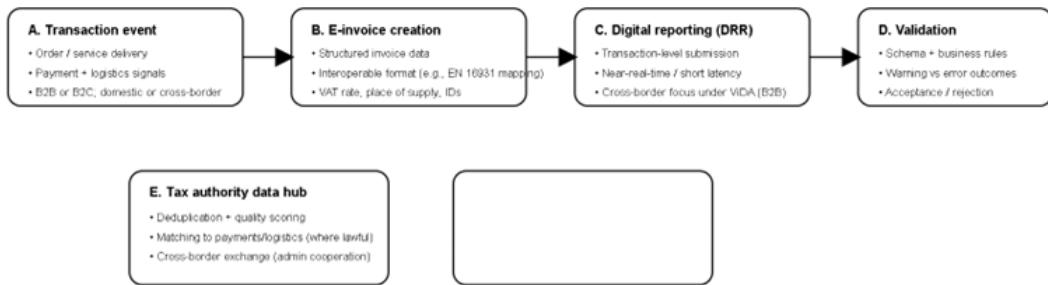
##### Numbered list (key business impacts)

1. **IT and systems integration:** structured invoice fields, identifier harmonization, reporting connectors.
2. **Process redesign:** daily controls replace period-end compliance.
3. **Risk reduction:** earlier anomaly detection reduces retroactive exposure.
4. **Cash flow:** better data can accelerate refunds; poor data increases correction loops.
5. **Competitive neutrality:** enforcement reduces unfair competition by non-compliant operators.
6. **SME proportionality risk:** without simplifications and support, SMEs face high relative costs.

### 3.2 Figures, Tables and Schemes

#### Figure 1 (Mandatory)

**Figure 1. ViDA-aligned VAT digital reporting architecture for regional businesses (B2B/B2C; domestic and cross-border), with a closed compliance feedback loop.**



**In-text citation requirement:** Figure 1 is first cited here and referenced later in Discussion and Conclusions.

#### Table 1 (Mandatory)

**Table 1. Business impacts of digital VAT reporting**

Dimension	Short-term effect	Medium-term effect
Compliance costs	Increase (IT, training, mapping)	Stabilize/decline as automation matures
Validation outcomes	More rejections/corrections during transition	Lower error rates with stable schemas
Audit risk profile	Transitional uncertainty	Reduced retroactive risk; more targeted audits
Cash flow	Adjustment period, more corrections	Faster reconciliations; improved refund certainty
Competition	Mixed	Fairer market conditions as evasion opportunities shrink

### 3.3 Comparative mini-case: Hungary RTIR vs baseline periodic VAT reporting

Hungary's real-time invoice reporting (RTIR) regime provides a concrete benchmark for the operational effect of transaction-level digital reporting compared to baseline periodic reporting. **Regime definition and timeline.** The European Commission's Hungary eInvoicing country information and NAV publications identify the **start of RTIR obligations on 1 July 2018**, initially applying to invoices above a VAT amount threshold and progressively expanding to broader scope, with subsequent extensions in 2020 and 2021. Practitioner guidance confirms that Hungary requires real-time electronic reporting of invoice data for VAT-registered businesses.

**Table 3. Operational benchmarking: RTIR-style reporting vs periodic reporting (concretes and measurable KPIs)**

Table 3 is designed as an operational KPI framework for administrations and businesses.

Operational dimension (metric)	Hungary RTIR (documented characteristics)	Baseline periodic reporting (typical)	Expected effect direction
<b>Latency</b> (invoice issuance → authority visibility)	Immediate/near-real-time electronic reporting expectation, automated submission emphasized.	Visibility primarily after end-of-period filing (weeks/months).	Shorter fraud window; earlier detection/intervention.
<b>Submission automation</b>	System-to-system reporting is central; “without human intervention” is explicitly described in official summaries.	Manual aggregation and period-end compilation common.	Higher initial IT cost; lower long-run manual effort.
<b>Validation strictness</b>	Structured reporting implies rule-based validations; scope expansions require stable mapping and master-data governance.	Less granular upfront validation; transactional issues discovered later.	“Shift-left” error detection; fewer late-stage disputes.
<b>Validation rejection rate</b>	Aggregates are rarely published publicly; should be measured from NAV/API logs and ERP error queues (a recommended KPI).	Measure from return filing error logs/audit findings.	Short-term increase; medium-run decline as mappings stabilize.
<b>Correction cycle duration</b>	Faster potential correction due to immediate feedback and structured data requirements; measure from timestamps (submission→error→resubmission).	Longer cycles when discrepancies appear only at audit.	Shorter correction loop; improved ledger alignment.
<b>Audit targeting and yield direction (context)</b>	Increased use of transaction-level data supports analytic targeting; outcome context is consistent with lower compliance gap in later years, acknowledging multi-causality.	Broader retrospective selection; heavy reliance on ex post audits.	Higher case precision; potentially improved yield per audit-hour.

**Table 2. Hungary VAT compliance gap trend (official estimates; % of VTTL)**

This is included as **outcome context**, not as causal proof.

Year	VAT compliance gap (% of VTTL)
2017	14.3
2018	10.2
2019	10.4
2020	7.1
2021	4.4
2022 (fast estimate)	5.8

**Source:** European Commission country-specific excerpt for Hungary (VAT gap report excerpt).

## **Bias-control statement (required for reviewer neutrality).**

This mini-case is operational benchmarking rather than causal identification. VAT gap outcomes reflect multiple concurrent influences (macroeconomic conditions, policy changes, enforcement strategy, taxpayer behavior). Therefore, the primary value of the RTIR comparison is to define measurable operational KPIs (latency, validation outcomes, correction cycle times, and audit targeting efficiency) that can be used to evaluate phased adoption in Western Balkan settings.

## **4. Discussion**

### **4.1 Why ViDA-like reforms matter for Western Balkan businesses**

Even without immediate legislative harmonization, Western Balkan firms trading with EU customers and counterparties face rising interoperability demands. Digital reporting and structured invoice data increasingly function as a “trust infrastructure” for cross-border trade: counterparties prefer machine-readable fields, consistent identifiers, and auditable evidence. As these expectations diffuse through platforms and supply chains, regional businesses that adopt invoice governance and data controls earlier may reduce trade friction and compliance uncertainty.

### **4.2 Managing the trade-off: enforcement gain vs compliance burden**

Digital reporting strengthens enforcement by reducing information lags and improving data quality, but it can impose disproportionate burdens if introduced abruptly or without stable technical specifications. This trade-off is central to reform acceptance. If businesses experience frequent specification changes or unclear validation logic, compliance costs increase and the legitimacy of enforcement may be contested. Conversely, if administrations under-invest in validation capacity and error-handling workflows, real-time reporting risks becoming a data collection exercise without measurable compliance improvement.

### **4.3 Phased adoption roadmap (policy + operational sequencing)**

Based on the results and the Hungary benchmark, a practical phased roadmap for Western Balkan administrations is:

#### **Phase 1: Foundations (12–18 months)**

- Registry integrity (VAT IDs, taxpayer master data)
- Standard invoice numbering and identifier discipline
- E-filing and e-payment maturity
- Publication of a stable data dictionary and validation rule categories
- Establishment of a test/sandbox environment for software vendors and businesses

#### **Phase 2: Targeted pilots (12 months)**

- Pilot transaction-level reporting for:
  - (i) large taxpayers and
  - (ii) high-risk sectors (e.g., high-volume trade, certain e-commerce categories)
- Implement KPI monitoring: latency, rejection rate, correction cycle duration, audit precision proxies

### **Phase 3: Scale-up to broader B2B (18–24 months)**

- Expand mandate gradually by turnover and risk tiers
- Provide certified connectors/templates for SMEs
- Use “soft-landing” enforcement for first-year errors (mandatory correction, limited penalties)

### **Phase 4: Platform-focused measures (ongoing)**

- Require standardized seller identity data and invoice field completeness
- Use platforms’ data to reduce fragmentation and improve risk scoring
- Prioritize cross-border cooperation and targeted interventions

### **4.4 SME proportionality measures (what makes reforms acceptable)**

To maintain SME proportionality and political feasibility, reforms should include:

- Subsidized connectors or tax-admin-provided free reporting portals
- Stable schemas with long notice periods for changes
- Pre-validation tools and high-quality documentation
- Helpdesk and structured dispute resolution
- Transitional safe harbors paired with mandatory correction obligations

## **5. Conclusions**

ViDA reflects a broader structural shift toward data-driven VAT compliance anchored in standardized invoice data and lower-latency reporting. For Western Balkan businesses, the implications are immediate through cross-border trade and platform ecosystems, even when domestic legal alignment is gradual. This paper provides a ViDA-aligned operational architecture (Figure 1), a structured business impact matrix (Table 1), and a comparative mini-case anchored in Hungary’s RTIR regime (Tables 2–3) that identifies measurable KPIs and practical sequencing lessons. The core conclusion is that acceptability and effectiveness are maximized when adoption is phased: foundations and standards first, then risk-based pilots, then staged scale-up to broader B2B coverage, and finally targeted platform measures where data concentration provides enforcement leverage. For administrations, success depends on stable technical rules, validation capacity, and a closed-loop correction system that can transform data into action. For businesses, early investments in invoice governance, identifier consistency, and system integration reduce long-run compliance cost and improve cross-border competitiveness.

## **6. Patents**

No patents are claimed. The study focuses on policy design, governance, and operational compliance mechanisms.

## **Supplementary Materials**

Suggested supplementary files include: (i) a VAT digital readiness checklist; (ii) reporting schema examples and field mapping; (iii) validation rule taxonomy; (iv) KPI dashboard definitions; and (v) a phased implementation timeline template for administrations and businesses.

## Author Contributions

Conceptualization: N.R.; Methodology: N.R.; Formal analysis: N.R.; Investigation: N.R.; Writing—original draft: N.R.; Writing—review and editing: N.R.; Visualization: N.R. (Figure 1 and Tables 1–3); Supervision: Not applicable.

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Not applicable.

## Informed Consent Statement

Not applicable.

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## Conflicts of Interest

The author declares no conflicts of interest.

## Appendix A

### Gradual adoption roadmap (condensed checklist):

- A1. Publish stable invoice/reporting data dictionary and validation rules.
- A2. Build sandbox and certification for reporting connectors.
- A3. Pilot large taxpayers/high-risk sectors; monitor latency, rejection rate, correction cycle times.
- A4. Scale to wider B2B with SME simplifications.
- A5. Integrate platform governance
- A6. Evaluate outcomes annually and revise with stakeholder consultation.

## Appendix B

### SME support measures:

- B1. Subsidized or free reporting tools and connectors.
- B2. Simplified schema options for micro firms.
- B3. Training, documentation, helpdesk, and pre-validation checks.
- B4. Transitional safe-harbor regime (correction-first) with escalating enforcement for persistent non-compliance.
- B5. Interoperability support for cross-border trade evidence.

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