

THE ROLE OF DIGITALIZATION IN THE MODERNIZATION OF TRANSLATION SERVICES IN ROMANIA

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Abstract:

In recent years, digitalization has evolved from being a competitive advantage to becoming a fundamental requirement for business survival and sustainability. The rapid advancement of technology has reshaped global markets, redefined consumer expectations, and revolutionized internal business operations. While digitalization once referred merely to the use of computers or digital files, it now encompasses a much broader transformation — a shift toward integrated systems, data-driven decision-making, online service delivery, and continuous process innovation. Although digitalization has been a gradual process in many parts of the world, the COVID-19 pandemic acted as a powerful accelerator. This paper highlights that prudent investment, combined with a clear strategic vision and rigorous planning, leads to significant transformations, turning technological potential into tangible economic advantages.

Key words: *digitalization, competitive advantage, economic advantages, translation services.*

INTRODUCTION

Digital transformation is more than the adoption of new tools; it represents a cultural, strategic, and operational shift. In countries such as Romania, where traditional business practices remain predominant, the transition toward digitalization has the potential to redefine how value is created and delivered. Cloud computing, automation, big data analytics, artificial intelligence, and e-commerce are no longer reserved for multinational corporations; they are increasingly accessible even to the smallest enterprises.

At the national level, Romania has undertaken several policy initiatives to support digitalization. The National Digital Agenda Strategy, the National Recovery and Resilience Plan (PNRR), and various EU-funded programs have allocated financial resources and technical support to help SMEs modernize their infrastructure and enhance workforce skills.

Despite these efforts, implementation has been inconsistent. Many SMEs are unaware of the available support mechanisms, while application procedures are often perceived as bureaucratic and difficult to access. As a result, the digital maturity of Romanian enterprises remains below the EU average, particularly outside major urban centers. Furthermore, the digital divide between rural and urban areas continues to represent a significant challenge.

Nevertheless, the benefits of digitalization are increasingly evident. Companies that have adopted digital solutions report higher productivity, improved customer engagement, enhanced financial oversight, and greater adaptability to market changes — advantages that are especially valuable during periods of economic uncertainty. Moreover, digital tools enable small businesses to compete in larger markets by expanding their online presence and reaching clients across multiple regions and even internationally.

Defining the Concepts: Digitization, Digitalization, and Digital Transformation

Clarifying these concepts is essential for understanding the stages through which an organization progresses in adapting to new technological realities.¹

¹ Goh, C. (2022). *Accelerating Digital Transformation of SMEs*. World Scientific Publishing Company.

↑ **Digitization** refers to the process by which analog information or documents are converted into digital format. Fundamentally, it is a technical process that transforms physical content into electronically accessible data. For instance, scanning a printed document and converting it into a PDF file constitutes digitization. This process does not alter the organization's operational model; rather, it facilitates the access, storage, and transfer of information in a digital form. Therefore, digitization represents a necessary first step, yet it remains insufficient for achieving profound organizational change.

↑ **Digitalization**, in contrast, involves the active use of digital technologies to improve and streamline existing organizational processes. This stage goes beyond mere data conversion and introduces systemic changes in the way work is performed. For example, an office that replaces handwritten registers with a digital document management system is implementing digitalization. At this stage, technology contributes directly to increased productivity, reduced errors, and time savings. While digitalization may require minimal structural adjustments, it often necessitates investment in technological infrastructure, employee training, and the adaptation of workflow processes.

↑ **Digital transformation** is the most complex of the three concepts and entails a deep strategic shift. It involves the integration of technology into all aspects of an organization, leading not only to process optimization but also to a reconfiguration of the entire business model. Digital transformation is not limited to automation or online transitions; it also encompasses changes in organizational mindset, strategic goals, and customer-value approaches. In this context, technology becomes the primary driver of innovation. For example, a retail company that eliminates physical stores and adopts a fully digital business model based on e-commerce, leveraging artificial intelligence for personalized offers and data analytics for forecasting consumer behavior, is undergoing true digital transformation.

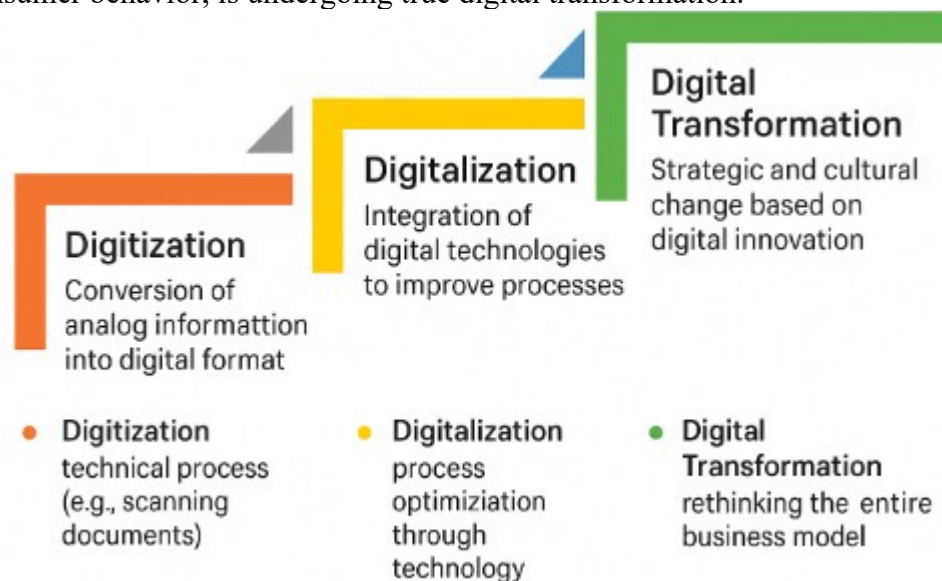


Figure 1. The Relationship among the Three Concepts

Source: author's own projection

It is important to note that, in practice, the boundaries between the three concepts are not always clearly defined. Many organizations go through all three stages either simultaneously or gradually, depending on their level of digital maturity.

Theoretical Frameworks of Digital Transformation in Business

One of the most widely used frameworks is the “three dimensions” model of digital transformation, which focuses on the customer experience, operational processes, and the business model. This model is based on the premise that true digital transformation must simultaneously

manifest in how a company interacts with its customers (e.g., through personalized online channels), in the efficiency of its internal operations (automation, digital workflow management), and in how it generates value (e.g., through online sales, subscription models, or digital platforms). This approach enables a comprehensive analysis and helps establish strategic priorities in the transformation process.

Another important theoretical approach is the digital maturity model, which assesses the extent to which an organization is prepared to adopt and leverage digital technology. This model categorizes firms into different levels, ranging from “incipient” ones—just beginning to use digital tools—to “advanced” organizations that fully integrate digital systems into all processes and base decisions on data-driven insights. Such a framework is useful for identifying an organization’s strengths and weaknesses in relation to digital transformation and for developing stepwise improvement strategies.

Beyond these frameworks, several approaches view digital transformation through the lens of organizational change. These perspectives emphasize that digitalization is not merely a technical issue but also a deeply human and organizational one. Transformation involves changing mindsets, behaviors, and collaboration patterns within teams. In this context, leadership plays a central role: management must set a clear direction, communicate the benefits of change, and create an environment in which employees feel supported and engaged throughout the transition process.

A commonly applied framework in this area is based on the concept of agile transformation. According to this view, organizations must be able to respond rapidly to external changes through continuous adaptation of their processes and strategies. Instead of rigid, long-term plans, digital transformation is seen as a sequence of flexible, experimental steps, where learning and adjustment are constant. This approach is particularly relevant for small and medium-sized enterprises (SMEs), which benefit from less bureaucratic structures and can react more swiftly to emerging challenges.²

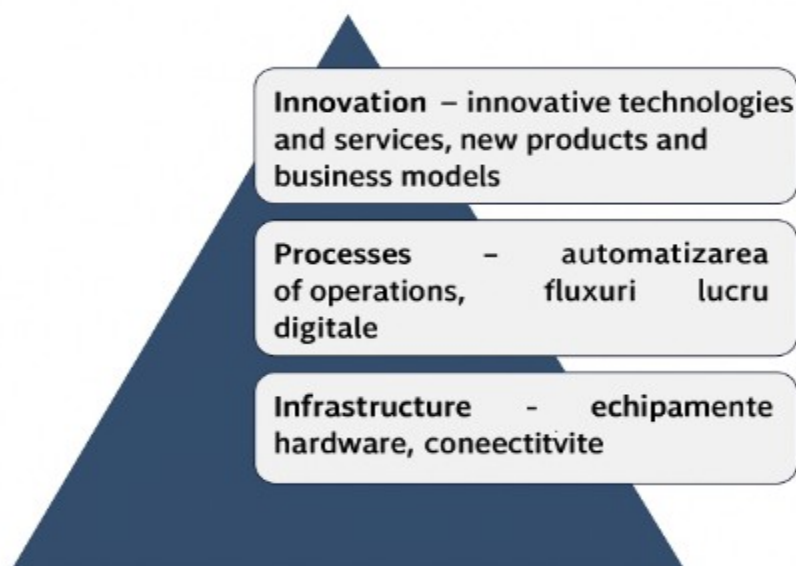


Figure 2. Priorities in Digitalization
Source: author's own projection

² Dospinescu, N., Scarlat, C., & Chiriță, N. (2022). *The digital transformation of organizations: Between opportunity and pressure. Romanian Journal of Economics and Technology*, 10(1), 11–26.

Technological Factors

- ✓ The digital transformation of small and medium-sized enterprises (SMEs) in Romania is primarily driven by three key technologies: cloud computing, big data, and artificial intelligence (AI). Cloud computing enables companies to access flexible and cost-efficient IT infrastructures, a critical advantage for firms with limited resources, especially those located in rural areas. However, adoption rates remain below the EU average due to low levels of digital literacy and bureaucratic obstacles related to funding programs.
- ✓ Big data facilitates a deeper understanding of markets and improves decision-making processes, yet the lack of digital competencies restricts the effective use of data generated through online activities. Moreover, disparities in access to technology and training continue to widen the digital divide between urban and rural regions.
- ✓ Artificial intelligence offers the greatest transformative potential through automation, predictive analytics, and enhanced customer interaction. Nevertheless, adoption remains limited because of high implementation costs, technological complexity, and cultural resistance.
- ✓ To fully leverage these technologies, stronger public–private collaboration, expanded training programs, and increased awareness among SMEs are essential. The strategic integration of cloud computing, big data, and AI can significantly enhance the modernization, innovation capacity, and competitiveness of Romanian SMEs within the digital economy.

Economic Factors

- The economic environment in which Romanian SMEs operate has evolved significantly over the past decade, with digital transformation becoming a cornerstone of competitiveness and sustainable growth. The pressures of globalization, access to new markets, and the need for operational efficiency are driving the adoption of digital technologies. SMEs that implement digital solutions for sales, customer relationship management, or supply chain coordination become more agile and better equipped to respond to market fluctuations.
- However, a substantial gap persists between urban and rural areas in terms of digital infrastructure, competencies, and resource accessibility, which limits the adoption of transformative technologies. At the same time, international expansion has become increasingly important, with digitalization facilitating access to foreign markets through e-commerce, digital marketing, and online services—though many SMEs are still hindered by a lack of skills and insufficient awareness of cybersecurity.
- Digitalization also contributes to cost reduction through automation, online collaboration, and the diminished need for physical infrastructure. Nevertheless, the initial investments and bureaucratic procedures associated with available funding programs remain significant barriers, particularly for small enterprises and those in rural areas.
- In conclusion, digital transformation simultaneously addresses the competitiveness, internationalization, and operational efficiency needs of Romanian SMEs. With strategic support and equitable access to resources, digitalization represents a major opportunity for strengthening their resilience and enhancing their position in an increasingly competitive global economy.

Social Factors

- The digital transformation of Romanian SMEs is strongly influenced by social factors, particularly changes in consumer behavior and the development of digital culture.

Romanian consumers have rapidly embraced digital services such as e-commerce, online payments, and mobile applications—a trend accelerated by the COVID-19 pandemic. This shift has created expectations for greater transparency, personalization, and digital availability from businesses. SMEs that fail to adapt risk losing competitiveness, especially among younger generations.

- Meanwhile, digital participation is expanding into rural areas through mobile technologies, increasing the pressure on SMEs to adopt digital tools regardless of their location. However, the level of digital culture remains uneven across society and the business sector: while young professionals are open to innovation, many older entrepreneurs and employees remain reluctant due to limited skills and low confidence in technology.
- The success of digital transformation thus depends on cultivating an organizational mindset oriented toward change, continuous learning, and experimentation. Digital education, professional training, and visionary leadership are essential for reducing internal resistance. Additionally, success stories and effective communication of technology's benefits can help overcome skepticism fueled by concerns about cybersecurity risks.
- In conclusion, the social dimension is a central component of digital transformation in Romanian SMEs. Adapting to the needs of digitally literate consumers and strengthening digital culture at the organizational level are essential conditions for sustainable and inclusive development within Romania's digital economy.

Barriers to Digital Transformation in Romanian SMEs

- ⇓ The digital transformation of Romanian SMEs is hindered by a complex set of financial, technical, and skill-related barriers.
- ⇓ First, financial constraints limit firms' ability to invest in modern technologies. High initial costs for hardware, software, cybersecurity, and training, combined with limited access to European and national funding, discourage digital adoption. Bureaucracy, lack of experience in applying for funds, and banks' reluctance to finance intangible assets disproportionately affect microenterprises and rural businesses.
- ⇓ Second, many SMEs operate with outdated technical infrastructure and suffer from poor connectivity, especially outside urban centers. The absence of in-house IT departments and the use of incompatible systems result in fragmented implementations and increased cybersecurity vulnerabilities. Integrating digital solutions often requires technical and financial resources that exceed the capacities of small enterprises.
- ⇓ Third, deficiencies in digital skills among employees and managers represent a major barrier. Many workers in traditional industries lack basic digital competencies, and SMEs often lack structured training programs. The absence of digital leadership can further delay technology adoption or lead to misguided strategic decisions.
- ⇓ In conclusion, without easier access to financing, improved infrastructure, and enhanced digital competencies, digital transformation risks remaining uneven across Romanian SMEs. Overcoming these barriers is essential for strengthening their long-term competitiveness, resilience, and capacity for innovation.

Deficiencies in Employees' Digital Skills

- ☞ Employee digital competence is a key determinant of successful digital transformation in SMEs. In Romania, the low level of digital skills represents a significant barrier, particularly in traditional industries where manual processes prevail and formal digital training is limited.

- ☛ A large share of the workforce—comprising middle-aged or older employees—faces difficulties in using basic digital tools, while gaps are even wider in advanced areas such as data analytics and cybersecurity. SMEs thus face the challenge of investing in training without compromising productivity.
- ☛ The absence of continuous training programs and digital leadership at the managerial level exacerbates these issues. To bridge these gaps, a national digital education strategy for SMEs is needed—one that includes subsidized training programs and regional competence centers. Developing digital skills forms the foundation for resilience, competitiveness, and long-term innovation.

Digitalization within LANGUAGE SUPPORT SRL

Legal and Fiscal Profile

LANGUAGE SUPPORT SRL (J2/204/2017, CUI 37056817, EUID ROONRC.J2/204/2017) is a microenterprise established on February 16, 2017, headquartered in Arad, Romania (Ludovic Szantay St. no. 5, 1st floor, ap. 3). The company operates as a limited liability company (SRL) with a single shareholder and sole administrator (Munteanu Valentina). The share capital amounts to 200 RON, divided into 20 equal shares. The main activity according to the CAEN classification is 7430 – Translation and interpretation activities, with several secondary authorizations covering agriculture, construction, education, and administrative or commercial services, which provide operational flexibility and diversification potential.

Accounting and Fiscal Regime

The company operates under the microenterprise taxation regime (1%), is not registered for VAT, and maintains accounting records through a certified CECCAR expert. All declarations are submitted digitally, and there is no audit or censoring obligation. The firm has no outstanding debts, no loans or credit lines, and no commitments toward third parties. Management is unipersonal, ensuring centralized and efficient decision-making.

Analysis of Key Economic–Financial Indicators

Table 1. Evolution of Revenues, Expenses, and Net Result (RON)

Year	Total Revenues	Total Expenses	Net Result
2022	293,678	129,313	+164,365 (profit)
2023	292,832	321,694	–28,862 (loss)
2024	277,022	247,222	+29,800 (profit)

Source: author’s own projection

The company’s financial results show moderate fluctuations in revenues but an effective cost-adjustment capacity, which allowed a return to profitability in 2024 after a temporary loss in 2023. This trend demonstrates financial resilience and strong budgetary control.

Table 2. Equity and Capital Structure

Year	Share Capital (RON)	Equity (RON)	Capitalization Rate (%)
2022	200	164,605	99.88%
2023	200	135,743	99.85%
2024	200	165,543	99.88%

Source: author’s own projection

Return on Equity (ROE): 2022 $\approx$ 99.7%; 2023 – negative; 2024 $\approx$ 18%. Exceptional peak in 2022 (minimal expenses), stabilization in 2024.

Cost Efficiency: Expenses/Revenues ratio – 44% (2022), ~110% (2023), ~89% (2024) → cost elasticity.

Liquidity/Solvency (qualitative): No outstanding debts, loans, or guarantees → excellent solvency in a low-scale operational context.

Fiscal Compliance: Microenterprise regime (1%), at least one employee; non-VAT payer; all obligations paid on time.

Degree of Digitalization

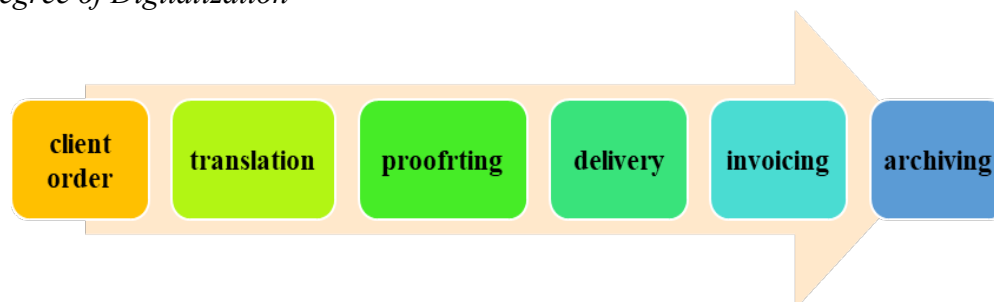


Figure 3. Workflow Diagram
Source: author's own projection

A gradual, well-adapted digitalization process was implemented, appropriate for a **remote microenterprise** operating without a physical infrastructure.

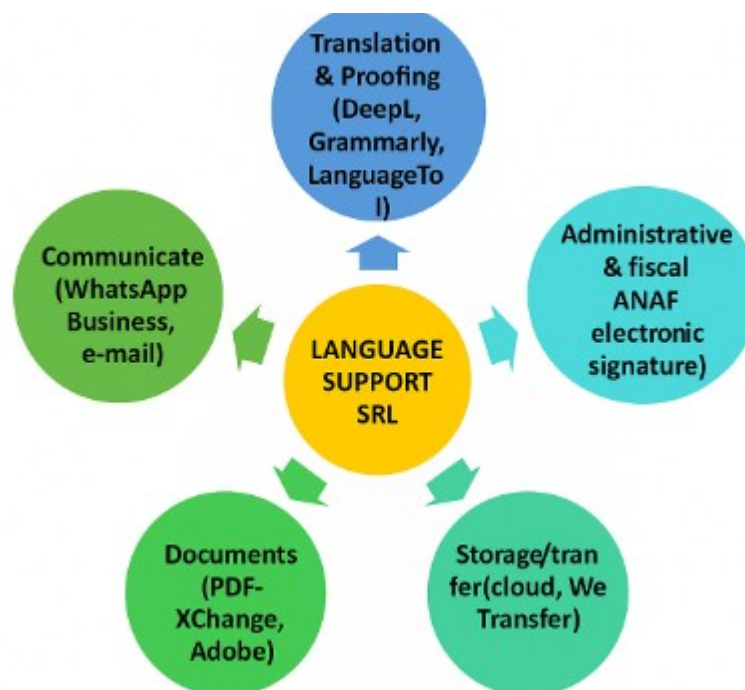


Figure 4. The Digital Ecosystem
Source: author's own projection

a) Accounting and Administrative Processes

Full electronic management of records and declarations (via the Private Virtual Space – SPV), computerized balance sheets, PDF archiving, qualified electronic signature, and exclusive e-invoicing with transmission through email/cloud platforms.

b) Core Activity – Translation Services. Combined use of digital tools:

- ⬆ DeepL Translator – computer-assisted translation, particularly efficient for repetitive technical texts;
- ⬆ Microsoft Word – drafting, formatting, and revision (track changes);
- ⬆ Grammarly / LanguageTool – stylistic and grammatical verification;
- ⬆ Microsoft Excel – terminology glossaries, project and pricing management;
- ⬆ PDF-XChange / Adobe Acrobat Reader – fixed-layout file processing;
- ⬆ Google Drive / Dropbox / WeTransfer – secure file transfer and storage.

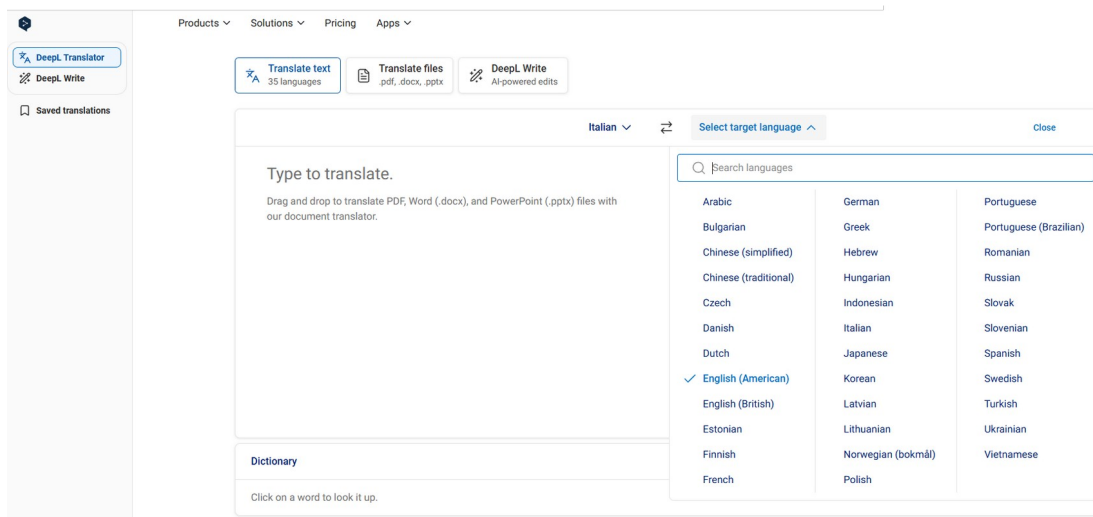


Figure 5. DeepL Translator Interface
Source: author's own projection

c) Digital Collaboration

End-to-end online communication with clients (email, WhatsApp Business, cloud), fast delivery times, and no physical contact or courier use. The company maintains a stable portfolio based on rapid response time and consistent service quality. Functional digitalization with low costs, focused on quality and delivery speed.

Impact of Digitalization on Performance

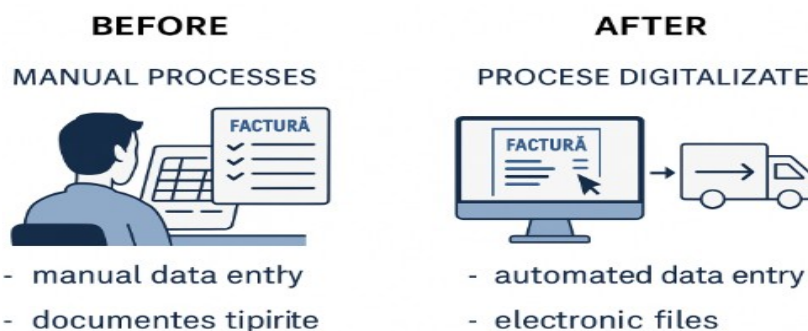


Figure 6. Before and After Digitalization
Source: author's own projection

Figure 6 illustrates the transition from manual data entry and printed documentation to automated digital workflows and electronic file management.

Cost Optimization: Elimination of physical workspace and related costs; digital fiscal and administrative processes → reduced fixed expenses.

Operational Efficiency: Integration of DeepL + Word + Grammarly/LanguageTool + Excel ensures faster processing and terminological consistency.

Table 3. Impact of Digitalization

Indicator	Before (actual values)	After (actual values)
Delivery speed	3 days/project	12 hours/project
Initial accuracy	85%	99%
Average cost/project	1,000 RON	700 RON
Flexibility	Physical/email delivery only	Multi-format (cloud, email, client portal)

Source: author's own projection

- **Delivery speed:** 3 days/project → 12 hours/project
- **Initial accuracy:** 85% → 99%
- **Average cost/project:** 1,000 RON → 700 RON
- **Flexibility:** From physical/email delivery to multi-format (cloud, client portal)

These results demonstrate clear financial and operational benefits, with high profit in 2022 (due to digital cost control), a temporary loss in 2023 (one-off administrative costs), and a recovery in 2024 without external financing.

Transparency and Compliance: Complete digital transmission of fiscal obligations, CECCAR-certified accounting partnership, avoidance of penalties, and a professional reputation built on responsibility and transparency.

Challenges and Limitations

- 👉 **Limited financial resources:** difficulty sustaining advanced CAT-tool licenses or premium subscriptions; EU/PNRR funding access requires consultancy expertise.
- 👉 **Dependence on a single individual:** operational and IT continuity risk.
- 👉 **Fragmented digital workflows:** absence of ERP/CRM/DMS systems → repeated exports/imports and potential human errors.
- 👉 **Lack of advanced competencies:** ad-hoc training, underutilized features (translation memories, templates, reports).
- 👉 **Basic IT infrastructure:** occasional limitations in hardware and connectivity.
- 👉 **External resistance to change:** some clients still prefer printed documents or in-person meetings → hybrid procedures.
- 👉 **Security and compliance:** encryption, back-up, and access control policies require improvement.
- 👉 **Legislative dynamics:** frequent fiscal changes (e-Invoicing updates) generate adaptation costs.

Digital Development Perspectives

- 👉 **Integration and Automation**
- 👉 Implementation of a “light” CRM system (client/project centralization, automatic notifications, reporting).
- 👉 Professional website with specialized content (case studies, technical blog).
- 👉 Full e-Invoice automation (SmartBill/SAGA) with digital signature and direct transmission to ANAF.
- 👉 Adoption of professional CAT tools (*SDL Trados*, *memoQ*) with AI modules → standardized glossaries and translation memories.
- 👉 Deployment of a *Document Management System (DMS)* such as *Nextcloud* or *Alfresco* for version control, access management, back-up, and GDPR compliance.

- 👉 Online interpretation services (*Zoom Business, Microsoft Teams*) as a premium offering.
- 👉 **Financing & Competence Development-** Accessing **microgrants / PNRR funding** and implementing an **annual training plan** (Udemy, Coursera, CECCAR workshops) to build digital proficiency.
- 👉 **Transformation Governance-** A **3–5-year digital transformation plan** structured around measurable **KPI (Key Performance Indicators)**, such as:
 - ✓ –25% reduction in processing time,
 - ✓ +10% increase in lead conversion rate,
 - ✓ <2% manual error rate, combined with periodic monitoring and performance evaluation.

CONCLUSION

LANGUAGE SUPPORT SRL exemplifies the pragmatic digitalization of a microenterprise focused on linguistic services: 100% remote workflows, reduced operational costs, strong budgetary control, and impeccable compliance. The impact is reflected in efficiency, quality, and financial resilience, with clear growth potential through integration (CRM/DMS), professionalization (advanced CAT tools, automated e-invoicing), enhanced security, and access to targeted funding.

Digital transformation is a strategic and continuous process that transcends the technological dimension and redefines how enterprises create, deliver, and capture economic value. The case study of LANGUAGE SUPPORT SRL confirms that, through rigorous planning, appropriate digital tools, and organizational adaptability, even a microenterprise with limited resources can achieve operational efficiency, financial resilience, and long-term competitiveness.

Digitalization should not be viewed as a one-time project but as an ongoing process of cultural, organizational, and technological adaptation. Only through continuous learning, strategic adjustment, and collaboration between the business, academic, and institutional sectors can Romanian microenterprises fully harness the economic, financial, and competitive advantages of digital transformation.

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