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INFORMATION DIGITALISATION AS A KEY DRIVER TO ACHIEVE IMPROVEMENT OF SME PERFORMANCE

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Abstract

SMEs play a crucial role in the development of the national economy by contributing substantially to employment and GDP. According to the latest INSTAT data, enterprises with 1 to 250 employees represent about 98% of the total business stock and generate roughly 75% of GDP. Nearly 90% of total employment in the country depends on SMEs' economic performance. In the context of globalisation and EU integration, technology and innovation have become essential for SMEs to remain competitive in the global market. Digitalisation is emerging as a key driver of competitiveness and growth for SMEs worldwide. In Albania, the adoption of digital tools is transforming business operations, increasing efficiency, and supporting better decision-making; however, its specific impact in the Albanian setting remains insufficiently explored. By embracing digital tools and transformation strategies—including government-led digitalisation initiatives—Albanian SMEs can overcome existing barriers and accelerate their development. Despite this potential, research on IT implementation in SMEs remains limited and often treats the sector as homogeneous. This paper aims to assess the impact of digitalisation on Albanian SMEs, emphasising its role in improving productivity. Using secondary business statistics from INSTAT, the study evaluates SME productivity, economic performance, and the contribution of digitalisation to enhanced outcomes. The findings indicate that digitalisation is a key factor in ensuring the long-term sustainability and competitiveness of SMEs in Albania.

Keywords: SME, productivity, performance, digitalisation of information

I. INTRODUCTION

Digitalisation is transforming economies, public governance, and social behaviour worldwide. The UN notes that digital transformation is essential for achieving nearly 70% of the SDGs by 2030 (UNDP, 2023). The process of digitalisation accelerated significantly during the COVID-19 pandemic and continues to evolve, impacting businesses of all ages, sizes, and industries. Reflecting global trends, the Albanian government has made digitalisation a strategic priority. The Innovation-Driven Entrepreneurship Development Strategy 2024–2030 focuses on advancing SMEs, entrepreneurship, and innovation, supported by the National Strategy for Science, Technology, and Innovation and the Digital Agenda of Albania 2021–2026. Together, these policies aim to strengthen innovation, promote collaboration with research institutions, and foster a technologically driven business ecosystem. Several international studies have investigated digitalisation processes across different industries and their impact on SMEs, finding a positive relationship between the introduction of information technology (IT) and digitalisation and financial performance (Kadarova, J., Lachvajderova, L., Sukopova, D., 2023). Access to digital technologies and ICT is essential for developing competitive, high-value products and services and for enabling SMEs to enter foreign markets. Technology adoption also supports SME growth by helping enterprises scale more rapidly. Strong innovation and R&D infrastructures improve access to digital tools and generate knowledge that the education system transfers to entrepreneurs, enabling them to convert it into economic value. The broader business and innovation ecosystem integrates these elements to support entrepreneurship, particularly for start-ups and SMEs, by fostering innovation and collaboration among key actors. Mobile technologies and digital platforms help increase SME revenue and strengthen competitiveness. In Albania, the adoption of digital tools is changing how SMEs operate by improving efficiency and decision-making, yet their specific impact remains insufficiently studied. This paper examines how digitalisation of information affects Albanian SMEs, with a focus on its role in enhancing productivity.

I. LITERATURE REVIEW

According to the literature, there is no single international definition of an SME, as definitions vary by country and are generally based on the number of employees or annual turnover. Typically, both quantitative and qualitative indicators, such as profits, capital, market position, number of employees, and turnover, are used to determine enterprise size. Some researchers categorise a company as an SME by combining the "number of employees" criterion with an additional measure. In contrast, in rarer cases, the employee criterion is entirely replaced by other indicators depending on the study's focus. For example, financially oriented research may rely on annual turnover or balance sheet data to define SMEs (Piller, 2000). Despite these variations, the most widely used definition in contemporary studies is that of the European Union:

enterprises are classified as SMEs if they have fewer than 250 employees, an annual turnover of less than €50 million, or a balance sheet total of not more than €43 million (EC, 2020).

In Albania, SME definitions follow similar criteria. Albanian legislation classifies micro, small, and medium-sized enterprises as those with fewer than 250 employees and an annual turnover and/or balance sheet not exceeding 250 million LEK (Hoxholli, 2021). SMEs are central to the Albanian economy. According to the Business Development and Investment Strategy drafted by the Ministry of Finance and Economy (MFE) for 2021–2027, SMEs represent approximately 99.8% of all active enterprises, with 43.4% operating in the trade sector. These enterprises are predominantly domestic but have increasingly expanded into international markets. SMEs account for 73% of GDP and 71% of total employment, contributing relatively more to employment and value added than their EU counterparts, underscoring their critical importance for economic development, job creation, and competitiveness.

From 2010 to 2023, the number of SMEs in Albania grew steadily, with more than 40,388 new enterprises established. Employment in the sector rose correspondingly, with 283,891 individuals employed over this period. Annual turnover nearly doubled, from 1.29 billion ALL in 2010 to 3.45 billion ALL in 2023, highlighting SMEs as a key driver of employment and economic growth. Regarding investments, secondary data from INSTAT shows the proportion of equipment investment relative to total investment and annual growth rates. The highest growth occurred in 2011, linked to increased government incentives during the 2010 electoral campaign. Conversely, 2020 experienced negative growth due to the COVID-19 pandemic, which continued into 2021. In 2022, total investment growth rebounded, supported by economic expansion and rising SME revenues, although the war in Ukraine contributed to a downturn, affecting revenue growth and total investment. Between 2010 and 2023, the Albanian SME sector expanded significantly, doubling its workforce and achieving record value added. While the post-pandemic period temporarily boosted revenues, growth stagnated in 2023, and capital investments—particularly in equipment—fell below levels seen a decade earlier.

The Information and Communication Technology (ICT) sector is pivotal to digital transformation (OECD, 2025). Enterprises must adapt to the digital era by leveraging digital tools to manage growing volumes of data and support decision-making (Marcysiak & Pleskacz, 2021). For SMEs, digitalisation refers to the adoption and use of digital technologies in business activities to enhance operational efficiency, customer engagement, and market reach (Bouwman et al., 2019; Mandviwalla & Flanagan, 2021; Zhao, Honigsberg & Mandviwalla, 2025). It is important to distinguish between digitalisation and digital transformation. Digitalisation is primarily technology-driven, involving the integration of digital tools into business processes (Marcysiak & Pleskacz, 2021). In contrast, digital transformation leverages new technologies to fundamentally enhance production, expand enterprise scope, and drive strategic change (Emara & Zhang, 2021; Brozzi et

al., 2021). Different studies show that digital transformation offers growth and competitiveness opportunities for companies of all sizes (Teplická, Hurná & Seňová, 2019). For SMEs, strategic and appropriate adoption of digital technologies can stimulate productivity, competitiveness, and overall performance (Ardito, Raby, Albino & Bertoldi, 2021). Effective implementation of digital tools significantly improves SME performance (Mushtaq, Gull & Usman, 2022).

II. METHODOLOGY

As previously mentioned, the paper examines the impact of digitalisation on Albanian SMEs, highlighting its role in enhancing productivity. At the European level, the model used for that purpose is called the 'SBA Fact Sheets' (The Small Business Act for Europe). Introduced in 2011, it is a valuable tool for facilitating SME policy assessments. This document is published annually and prepared using the latest statistics and data. It is important to underline that this document should be considered as an additional source. Information that helps policymakers to improve the policy process and conduct evidence-informed governance. The concept of 'SME performance' used in this document refers to a broader set of criteria, including entrepreneurship, second-chance responsive administration, state aid and public procurement, access to finance, the single market, skills and innovation, and the environment. Another model to evaluate SME performance is the one proposed by the Asian Productivity Organisation, which includes a large number of indicators, as described in the following table.

1. Sales per employee	15. Labour cost per employee
2. Customer satisfaction index	16. Labour cost competitiveness
3. Complaint ratio	17. Employee turnover rate
4. Compliment ratio	18. Employee satisfaction index
5. Customer retention	19. Employee participation rate in team activity
6. Sales growth	20. Employee participation rate in the suggestion scheme
7. Value Added to sales ratio	21. Cost savings from employee involvement activities
8. Profit margin	22. Training hours per employee
9. Annual inventory turns	23. Training expenditure/sales
10. Defect rate	24. Absenteeism rate
11. Customer rejects/return	25. Capital productivity
12. Scrap/rework level	26. Sales per dollar of capital
13. On-time delivery commitment	27. R&D investment ratio
14 Labour productivity	28. Capacity utilisation rate
	29. Labour productivity

Table 1. SME Performance Indicators

Source: Author's processing

The advantages of this model include simplicity in application, clarity, and transparency in the compilation methods. Given these advantages and the lack of a technical guide or handbook explaining what, why, and how to compile performance indicators in Albania, the above-mentioned handbook should be considered in conducting a preliminary analysis of Albanian SMEs. Given this model and the availability of annual business statistics, it is possible to establish a national model for SME performance indicators in Albania. However, applying the model in the Albanian context is only possible by selecting a subset of the recommended performance indicators, mostly those related to quantitative data. The remaining performance indicators are missing due to insufficient information on qualitative surveys of SMEs in the country (Rembeci, 2017). Based on the literature review, SMEs' performance has been measured using a comprehensive set of financial and non-financial indicators to capture multiple dimensions of performance. Regarding financial indicators, the authors have included revenue, sales, operational efficiency, customer acquisition, and related metrics.[2] Secondary data on business statistics published by INSTAT are used to measure SME productivity, economic performance, and the role of digitalisation in improving SME performance.

III. RESULTS

Based on the analysis of secondary data published by INSTAT, we present below the relationship between digitalisation and SMEs. The table below shows the structure of SMEs based on two main dimensions: the absolute number of enterprises and the year-over-year percentage change for the period 2018-2023.

Sector	Enterprises (no), total economy						Index of chain in %				
	2018	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Production	13,560	13,220	12,925	13,734	14,738	15,606	***-2.5%***	***-2.2%***	***6.3%***	***7.3%***	***5.9%***
1 - 4	9,396	8,932	8,366	9,222	10,091	10,641	-4.9%	-6.3%	10.2%	9.4%	5.5%
5 - 9	1,626	1,612	1,834	1,836	1,876	2,134	-0.9%	13.8%	0.1%	2.2%	13.8%
10 - 49	1,817	1,911	2,010	1,969	2,021	2,106	5.2%	5.2%	-2.0%	2.6%	4.2%
50 +	720	765	715	706	750	725	6.3%	-6.5%	-1.3%	6.2%	-3.3%
Services	93,890	90,870	89,649	90,297	98,721	101,685	***-3.2%***	***-1.3%***	***0.7%***	***9.3%***	***3.0%***
1 - 4	84,599	79,983	79,717	80,174	87,948	90,389	-5.5%	-0.3%	0.6%	9.7%	2.8%
5 - 9	5,254	6,397	5,642	5,790	6,217	6,497	21.8%	-11.8%	2.6%	7.4%	4.5%

[2] https://ec.europa.eu/eurostat/documents/3859598/12453409/KS-GQ-21-001-EN-N.pdf

10 - 49	3,429	3,825	3,664	3,639	3,821	4,070	11.5%	-4.2%	-0.7%	5.0%	6.5%
50 +	608	665	627	695	736	729	9.4%	-5.7%	10.8%	5.9%	-1.0%

Table 1. Indicator 1, number of enterprises in production and service sectors (2018–2023)

Source: Authors' processing based on INSTAT data

Looking at the data by sector, we see that in the production sector, the total number of SMEs decreased from 13,560 in 2018 to a low of 12,925 in 2020. It then recovered and grew to 15,606 by 2023. The vast majority of these are small companies (size 1-4), accounting for over 10,000 units by 2023. The sector saw negative growth in 2019 (-2.5%) and 2020 (-2.2%), followed by a strong recovery with 6.3% growth in 2021, 7.3% in 2022, and 5.9% in 2023. On the other hand, the service sector is significantly larger than the production sector. It started with 93,890 enterprises in 2018, dipped slightly in 2019 and 2020, and rose to 101,685 by 2023. As with production, the smallest companies (sizes 1-4) dominate, numbering 90,389 in 2023. The sector contracted in 2019 (-3.2%) and 2020 (-1.3%). It returned to growth in 2021 (0.7%), followed by a significant jump in 2022 (9.3%) and continued growth in 2023 (3.0%). The data illustrate a general "U-shaped" economic trend for SMEs in Albania. There was a contraction in the economy during 2019 and 2020, which coincided with the global COVID-19 pandemic, followed by a robust recovery and expansion phase from 2021 through 2023 across both production and service sectors.

Sector	**Employees (no), total economy**						**Index of chain in %**				
	2018	**2019**	**2020**	**2021**	**2022**	**2023**	**2019**	**2020**	**2021**	**2022**	**2023**
Production	184,850	190,636	185,434	186,720	192,926	196,167	***3.1%***	***-2.7%***	***0.7%***	***3.3%***	***1.7%***
1 - 4	17,848	17,158	16,086	17,690	18,377	19,299	-3.9%	-6.2%	10.0%	3.9%	5.0%
5 - 9	10,391	10,540	11,803	11,717	12,283	13,999	1.4%	12.0%	-0.7%	4.8%	14.0%
10 - 49	38,198	41,098	42,878	41,868	42,440	43,924	7.6%	4.3%	-2.4%	1.4%	3.5%
50 +	118,413	121,839	114,666	115,444	119,827	118,945	2.9%	-5.9%	0.7%	3.8%	-0.7%
Services	330,856	340,218	318,552	332,520	355,015	363,756	***2.8%***	***-6.4%***	***4.4%***	***6.8%***	***2.5%***
1 - 4	133,729	127,362	123,068	125,067	136,917	137,598	-4.8%	-3.4%	1.6%	9.5%	0.5%
5 - 9	32,898	41,343	35,442	36,776	39,021	41,316	25.7%	-14.3%	3.8%	6.1%	5.9%
10 - 49	64,752	73,353	68,469	69,450	72,567	76,640	13.3%	-6.7%	1.4%	4.5%	5.6%
50 +	99,476	98,160	91,573	101,227	106,511	108,201	-1.3%	-6.7%	10.5%	5.2%	1.6%

Table 2. Indicator 2, employment dynamics by company size and sector (2018–2023)

Source: Authors' processing based on INSTAT data

While the previous table showed a U-shaped pattern in the count of businesses, Table 2 shows a different picture for the number of employees. In 2019, while the number of production businesses was falling (previous table), employment was still rising (3.1%). Companies were likely to try to hold onto staff until the situation became untenable. Between the two sectors, roughly 26,000 jobs were lost in 2020 (dropping from approx. 530,000 total to 504,000). There is an interesting divergence in how differently sized companies recovered after the 2020 crash. Micro Companies (1-4 employees): In the production sector, they had a massive hiring boom in 2021 (+10.0%). While Large Companies (50+ employees): In the service sector, they had a massive boom in 2021 (+10.5%). The employment data confirms the U-shaped economic trend but highlights that the Service sector was the primary driver of both the crash and the subsequent recovery. By 2023, the economy (in terms of employment) will be significantly larger than in 2018, indicating a full recovery and a transition into a growth phase.

	2015	**2016**	**2017**	**2018**	**2019**
Total	95.0	95.6	96.0	97.3	97.5
10-49 employees	94.1	95.0	95.6	96.7	96.9
50-249 employees	100.0	98.7	97.6	99.7	99.9
250+ employees	97.8	100.0	100.0	100.0	100.0

Table 3. Percentage of enterprises using computers by size and year (2015–2019)

Source: Authors' processing based on INSTAT data

INSTAT data show that computer use has become a near-universal standard for businesses in Albania, regardless of size. Between 2015 and 2019, the total percentage of enterprises using computers rose steadily from 95.0% to 97.5%, indicating a mature level of digitalisation. Smaller enterprises (10–49 employees) have historically trailed slightly behind their larger counterparts; however, they have shown consistent growth, rising from 94.1% to 96.9%. This indicates that the "digital divide" between small and large businesses is narrowing significantly. Medium-sized businesses (50–249 employees) have maintained near-perfect usage rates, ending the period at 99.9%, despite a minor statistical fluctuation in 2016–2017. Large firms (250+ employees) have effectively reached a saturation point. Since 2016, 100% of these entities have reported using computers, suggesting that digital infrastructure is a non-negotiable requirement for large-scale operations. By 2019, computer usage in Albanian enterprises had shifted from being a distinct advantage to a fundamental operational baseline. The data suggests that the lack of computer access is now extremely rare, found in only a very small fraction (less than 3.1%) of the smallest businesses.

	2015	2016	2017	2018	2019
Total	96.2	96.8	96.9	97.5	97.8

10-49 employees	95.5	96.1	96.6	97.5	97.3
50-249 employees	98.6	100.0	98.1	99.5	99.9
250+ employees	100.0	100.0	100.0	100.0	100.0

Table 4. Percentage of enterprises with internet access by size (2015–2019)

Source: Authors' processing based on INSTAT data

This table closely parallels the previous "Computer Usage" data, but with slightly higher starting percentages, suggesting that for modern Albanian businesses, internet connectivity is as essential—if not more so—than a traditional computer workstation. It is worth noting that in 2015, "Internet Access" (96.2%) exceeded "Computer Usage" (95.0%). This implies that, as early as 2015, a small segment of businesses utilised the internet (perhaps via mobile phones or POS systems) without reporting the use of a standard desktop/laptop computer. By 2019, the numbers align almost perfectly (97.8% internet vs 97.5% computer). Small businesses (10-49 employees) exhibit a high level of connectivity, peaking at 97.5% in 2018, then dropping slightly to 97.3% in 2019. Interestingly, medium-sized enterprises (50-249 employees) exhibit fluctuations similar to those in the computer usage table. They hit 100% in 2016, dropped to 98.1% in 2017, and recovered to 99.9% by 2019. This recurrence suggests a specific characteristic of the sample group or economic conditions for medium businesses in 2017 rather than a data error. As with computer usage, large enterprises (250+ employees) show perfect saturation (100%) across the entire 5-year period. The historical disparity between large corporations and small businesses regarding basic connectivity has effectively vanished. Since basic access is achieved, the focus for these businesses likely shifts from *getting* online to *optimising* digital tools (e-commerce, cloud computing, and cybersecurity)

	2015	2016	2017	2018	2019
Total	8.8	7.1	7.7	5.6	5.8
10-49 employees	9.2	6.7	6.4	4.6	5.0
50-249 employees	7.3	6.4	13.3	9.0	8.2
250+ employees	7.4	9.7	12.9	16.9	15.1

Table 5. E-commerce adoption rates by enterprise size in Albania (2015–2019)

Source: Authors' processing based on INSTAT data

The data, sourced from INSTAT (Albania), reveal a fascinating and contradictory trend in e-commerce adoption between 2015 and 2019. While the overall total suggests a decline in businesses selling online (from 8.8% in 2015 to 5.8% in 2019), these averages mask a significant

divide between large and small companies. Small businesses show the opposite trend. In 2015, they were the leaders in online sales (9.2%). By 2019, this number had nearly halved to 5.0%. Since small businesses make up most companies in an economy, their decline is dragging down the "Total" average, making the national e-commerce landscape look worse than it is for larger players. Medium-sized businesses have seen fluctuating results. They experienced a massive spike in 2017 (13.3%), significantly outperforming their 2015 numbers, but settled back down to 8.2% by 2019. Large corporations show the most positive trend. In 2015, they had one of the lowest adoption rates at 7.4%. However, they steadily increased their online presence year over year, peaking at 16.9% in 2018 before settling at 15.1% in 2019. This suggests that large Albanian companies have successfully invested in digital transformation over this period. The data illustrates a widening "Digital Divide" based on company size. In 2015, small companies were more likely to sell online than large ones (9.2% vs 7.4%). By 2019, the situation had completely reversed: large companies were three times more likely to sell online than small ones (15.1% vs 5.0%). This suggests that while large enterprises in Albania are finding value and resources to sell online, small businesses may face barriers—such as technical costs, logistics challenges, or competition—that force them to abandon online sales channels.

IV. CONCLUSIONS AND FOLLOW-UP

The comprehensive analysis of INSTAT data on Albanian SMEs reveals a complex economic landscape marked by resilience in employment but a growing digital competitiveness gap. The structural data (Tables 1 and 2) confirm that the Albanian SME sector follows a distinct "U-shaped" trajectory. Despite the contraction in enterprise numbers and employment during the 2019–2020 period, driven largely by the shocks associated with the global pandemic, the economy demonstrated robust resilience. By 2023, both the production and service sectors had not only recovered but expanded beyond their 2018 baselines. The service sector remains the dominant engine of employment, while the production sector has seen a specific resurgence in micro-enterprises. In terms of digital infrastructure, the data (Tables 3 and 4) indicates a significant victory for digitalisation efforts in Albania. The historical gap in access to basic technology has effectively closed. With computer usage and internet access rates nearing saturation (97%+) for businesses of all sizes, the "First Digital Divide" defined by the lack of hardware or connectivity, is no longer a primary barrier to entry for Albanian SMEs. However, a critical paradox emerges when contrasting connectivity with e-commerce adoption (Table 5). While small businesses are just as connected to the internet as large corporations, they are failing to leverage this connectivity for commercial gain. The sharp decline in online sales among small enterprises (from 9.2% to 5.0%) stands in stark contrast to the surge among large enterprises (from 7.8% to 15.1%). Consequently, the challenge for stakeholders and policymakers in Albania has shifted. The focus cannot be solely on providing

internet access or hardware. Instead, to ensure that the economic recovery observed in 2021–2023 is sustainable and inclusive, future support must focus on digital transformation: helping small SMEs bridge the gap between simply having the internet and successfully selling on it. To deepen our understanding of the link between the 'digital' and the 'economic' trends identified above, we now turn to a statistical analysis of the data. This section presents the calculation of performance indicators and examines the correlations between digital intensity and key growth metrics such as employment and turnover. This step is essential to move from simply observing the presence of technology to quantifying its impact on SMEs' actual operational success.

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