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A Time of Crisis and Opportunity: Digitizing SMEs in Turkey

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Introduction

On average, Turkish medium-sized businesses (MEs) are digital laggards compared to their counterparts in Europe. The statistics reveal a striking gap – Turkey ranks the lowest among OECD-member European countries regarding the share of MEs that have an online presence (see Figure 1). One- quarter of Turkish MEs don't even have a website. This digital gap is further illustrated by the available data on the use of cloud services – as only around one-fifth of Turkish MEs employ cloud services for their operations, that share corresponds to as high as 85% in Finland, 66% in Italy, and 42% in Spain (see Figure 2). Turkish MEs fall behind their counterparts in Europe in several other digital domains, such as the share of businesses that employ an ICT specialist (appx. 9%), receive orders over computer networks (appx. 10%), or conduct big data analysis (appx. 10%).

The digitalization performance of Turkish small-sized enterprises (SEs) is discouragingly worse than their counterparts in Europe, too. Turkey ranks the lowest among OECD-member European countries in terms of the share of SEs with an online presence – only less than half of the Turkish SEs have a website. While only 12% of Turkish SEs use cloud services for their operations, that share can reach as high as 73% in Nordic political economies such as Finland.

This unfortunate digital trend is concerning, as SMEs constitute the backbone of the Turkish economy. 99.8 % of Turkish enterprises are SMEs. They generate around ¾ of the total employment and account for more than half of turnover [1]. What is more worrisome is that most SMEs work in sectors that are quite compatible with and can easily thrive on digitalization. Based on recent statistics, 36.3%, 14.3 %, and 12.4% of SMEs operate in the wholesale and retail trade, transportation and storage, and manufacturing sectors, respectively [2]. Despite this dismal performance, the COVID-19 pandemic has incentivized SMEs to turn digital to survive this crisis.

The pandemic has presented an opportunity for digitizing SMEs. Across the Global South, SMEs have devised several digitalization strategies to cope with the COVID-related lockdowns and restrictions. One typical SME response to the pandemic has been the intensification of e-commerce: SMEs started to move their sales online either through social media, apps, or specific websites. Banking apps got more famous for processing payments. Some SMEs have also facilitated remote working [3]. However, first, these digitalization efforts have been ad-hoc and patchy without a coherent and consistent strategy. Secondly, these half measures constitute only the first steps to full-scale digitalization, a total transformation of data collection, flow, and management at various levels of the supply chain, production, customer management, and organizational structure using emerging technologies.

1 Turkish Statistical Institute. 2020. "Küçük ve Orta Büyüklükteki Girişim İstatistikleri, 2019." https://data.tuik.gov.tr/Bulten/Index?p=Kucuk-ve-Orta-Buyuklukteki-Girisim-Istatistikleri-2019-37548
2 Ibid. See also TURKONFED. Resilient SMEs Strong Tomorrows - Needs Analysis Report. Istanbul.
3 Klein, Vinícius Barreto, and José Leomar Todesco. 2021. "COVID-19 Crisis and SMEs Responses: The Role of Digital Transformation." Knowledge and Process Management 28(2): 122.

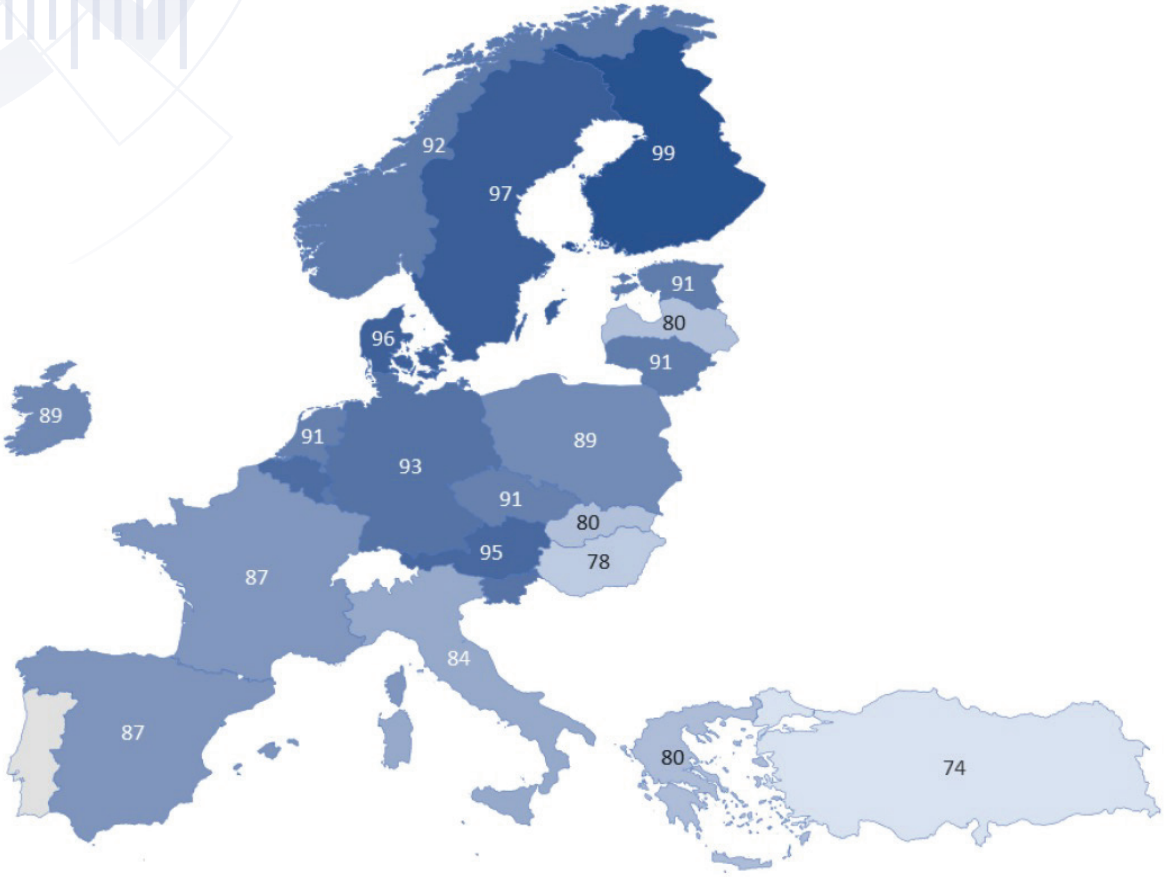

Figure 1 Medium-sized businesses with a website (%). Source: OECD, 2020.

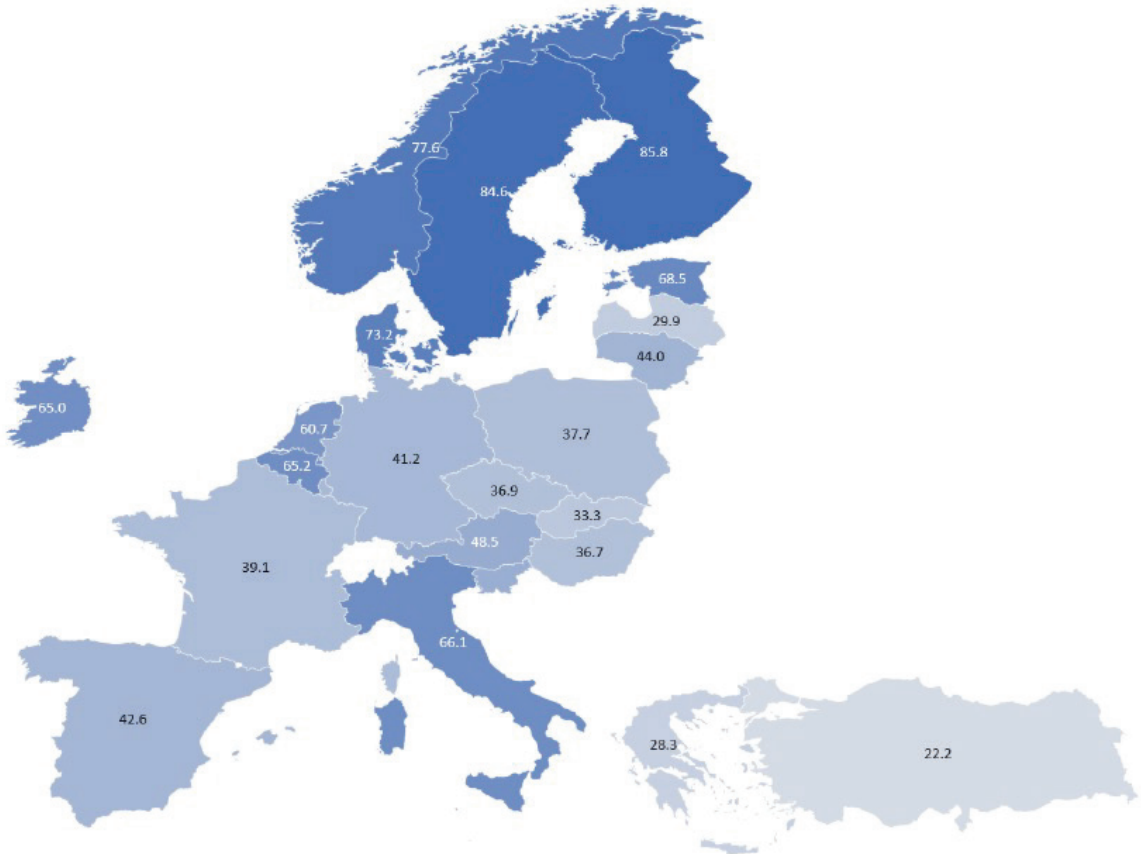

Figure 2 Medium-sized businesses purchasing cloud computing services (%). Source: OECD, 2020.

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Digital Maturity

There are different ways in which a company's digital maturity can be assessed and [4]. It's more than just establishing an online presence. Digitalization implies collecting meaningful data at different stages of operation, converting these into actionable intel, and utilizing that information at various levels of a company's organizational structure for strategic planning.

Dijital açıdan olgun bir işletme, diğerlerinin yanı sıra,

- Uses business management and productivity tools such as enterprise resource planning (ERP) to keep track of its inventory real-time; shares these data with relevant departments; and optimizes the sales, production, and storage accordingly by conducting predictive analytics,
- Employs a customer relationship management (CRM) software to centralize and manage customer interactions; takes advantage of communication and digital marketing tools such as social media, mobile apps, and email automation; leverages every bit of data from these customer interactions for predictive analytics; and most importantly, re-imagine the whole customer experience from a digital standpoint,
- Stores data effectively and securely through the cloud and online backup services,
- Utilizes emerging technologies such as the Internet of Things (IoT), artificial intelligence (AI), 3D-printing, blockchain, advanced robotics, and other automation strategies, if applicable,
- Invests in the digital skills of its employees and broadens their knowledge of emerging technologies; allows them to have access to online collaboration tools,
- Crafts a strategic plan for digitalization to be distributed across departments.

Why digitize? First, digitally mature enterprises in different countries have been able to sustain higher revenues and employment levels during the pandemic. According to recent research, digitalization is positively associated with SMEs' overall performance in coping with the crisis [5]. The SMEs which have applied various digital tools so far can partially weather the storm. To cite a few examples, chat robots, online auctions, and social media have increased sales amidst restrictions and improved customer experience. The application of predictive analytics for customer preferences has rendered SMEs more adaptable to the shifting landscape. SMEs with access to digital learning platforms have been one jump ahead of others concerning employees' digital skills [6].

There is no going back. If Turkish SMEs fail to seize the opportunity and catch up with their counterparts in Europe, they will be disadvantaged in the recovery phase. For example, the findings of a McKinsey survey indicate that 75 percent of people using digital tools for the first time suggest that they will continue to use them in the post-pandemic era [7]. Digitalization has not just transformed the demand side but also production lines and supply chains too.

4 See Akarun, Lale et al. 2020. Türkiye'de Dijital Dönüşüm Değerlendirme Aracı (D3A) 2019-2020 Sonuç Raporu. Istanbul.
5 Guo, Hai, Zhuen Yang, Ran Huang, and Anqi Guo. 2020. "The Digitalization and Public Crisis Responses of Small and Medium Enterprises: Implications from a COVID-19 Survey." Frontiers of Business Research in China 14(1): 1–25.
6 Bai, Chunguang, Matthew Quayson, and Joseph Sarkis. 2021. "COVID-19 Pandemic Digitization Lessons for Sustainable Development of Micro-and Small- Enterprises." Sustainable Production and Consumption 27: 1989–2001.
7 Baig, Aamer et al. 2020. "The COVID-19 Recovery Will Be Digital: A Plan for the First 90 Days." McKinsey Digital. https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/the-covid-19-recovery-will-be-digital-a-plan-for-the- first-90-days.

The widening application of emerging technologies such as 3D printers or sensors decreases the costs, streamlines production processes, and opens new markets. Take the example of a company that produces stainless steel valves for a machine. The cost to make it out of stainless steel is close to $100, but with 3D printers, the company has started to produce it in carbon fiber only at $1[8]. In addition to cost reduction, 3D printers also allow mass customization through additive manufacturing. Primarily SMEs operating in the manufacturing sector need to catch up fast with 3D printers not to lose their competitive edge. Another case is a traditional rain gutter business that installed sensors to collect data on the rainfall. The very collection of data by itself may create opportunities for further services such as installing smart tanks for rainwater harvesting that also keeps track of the quality of water[9].
The sky is the limit, but there are several challenges ahead.

Challenges

SMEs pursue digitalization against staggering odds. Recently, in a survey conducted with Turkish business professionals, 60% of respondents feel that their companies are not ready for digital transformation[10]. And for a good reason. Compared to larger firms, SMEs are more vulnerable to external shocks. They lack human capital and expertise for carrying out digitalization projects. The lack of digital skills prevents them from acknowledging the full potential of technological applications in their sector

SMEs have limited capital resources. An exaggerated and unrealistic assessment of their digital needs only discourages them from pursuing digitalization because of high costs. Also, out of fear of potential cyber threats and security compromises, SMEs either refrain from taking full advantage of digital solutions or are not well-equipped technically and financially to deal with such crises.

In addition, the digital divide is a significant obstacle to their digital maturity. The lack of access to high-speed internet connectivity and low latency, especially in peripheral cities, impedes digital maturity[11]. According to OECD statistics, only 30% of MEs in Turkey secure access to broadband download speed at 100 Mbit/s[12]. In a similar vein, according to an OECD report, there are more small firms with high-speed broadband in Nordic countries such as Denmark and Sweden than large firms connected in Turk [13].

8 Vinoski, Jim. 2021. "This CARES Act Project Gives 3D Printers To Michigan Manufacturers To Make Medical Devices And A Whole Lot More." Forbes, April 29.
9 Ranjan, Vardhman, et al. 2020. "The Internet of Things (IOT) Based Smart Rainwater Harvesting System." 6th International Conference on Signal Processing and Communication (ICSC). https://ieeexplore.ieee.org/document/9182767
10 DijitalBiz. "Profesyonellerin Yüzde 60'ı Kurumum Dijital Dönüşüme Hazır Değil Diyor." https://www.dijitalbiz.com/profesyonellerin-yuzde-60i-kurumum-dijital-donusume-hazir-degil-diyor/
11 Goldsmith, Thomas. 2021. Picking up the Speed: Digital Maturity in Canadian SMEs - and Why Increasing It Matters. Toronto: Brookfield Institute.
12 OECD. 2020. "ICT Access and Usage by Businesses." https://stats.oecd.org/Index.aspx?DataSetCode=ICT_BUS#
13 OECD. 2021. The Digital Transformation of SMEs. Paris. https://doi.org/10.1787/bdb9256a-en.

Moving Forward

The representative organizations of SMEs, municipalities and other enterprise support organizations can adopt several good practices to assist SMEs with their digitalization efforts. We outline three potential pathways:

1) Securing collaboration with big companies to launch public-private partnership programs,
2) Creating digital hubs and networks with ICT SMEs,
3) Designing capacity development programs for raising awareness around cybersecurity and enabling SMEs to develop a cybersecurity strategy.

1) Bring out the big guns

DIGITAL MAIN ST.™

Started as a local initiative launched by the Toronto Association of Business Improvement Areas (TABIA) in Toronto in 2016 to improve the online presence of small businesses, the Digital Main Street has quickly expanded. Now it's a multi-stakeholder initiative that has spread to multiple provinces across Canada with a total federal investment of over $70 million, in addition to $10 million provided by the Government of Ontario.

One of the initiative programs, ShopHERE, powered by Google, has assisted small businesses to launch their online stores with the help of trained students and offered comprehensive pieces of training and resources on a variety of topics such as inventory management and digital marketing. The program is estimated to empower over 30,000 businesses to digitize their operations. The program has also generated jobs for around 1500 students so far, allowed them to earn new skills and gain experience, and presented networking opportunities for better prospects of future employment[14]. In addition, more than 40,000 businesses in Ontario were supported with relief funds during the pandemic through the Digital Transformation Grant Program[15].

Moreover, the Future Proof Program helps small business owners to develop long-term strategic digital transformation plans. This strategic and realistic assessment of the digital needs of the enterprise is crucial for making feasible investments and figuring out the best pathway forward[16]. This type of program can help business owners to determine how much of their budget should be allocated for digitalization endeavors or answer questions like whether their customer base has access to reliable ICT infrastructure to tap into digital services. Indeed, not all SMEs require fully customized digital tools; they can easily adapt already available digital solutions. The point is that instead of a one-size-fits-all approach, this mentoring/one-on-one program can offer tailor-made solutions based on the specific needs and characteristics of an SME.

14 Google. 2021. "Our work to help get 25,000 Canadian small businesses online over the past year." Digital Main Street. https://digitalmainstreet.ca/our-work-to-help-get-25000-canadian-small-businesses-online-over-the-past-year/
15 KGovernment of Canada. 2021. "FedDev Ontario extends funding for Digital Main Street initiative and Recovery Activation Program," https://www.canada.ca/en/economic-development-southern-ontario/news/2021/08/feddev-ontario-extends-funding- for-digital-main-street-initiative-and-recovery-activation-program.html
16 See Argidius Foundation. 2021. Digital Delivery: A Digitalization Guidebook for Enterprise Support Organizations.

One of the main reasons the initiative has been successful is that strategic collaboration with Google Canada has been secured together with a $1 million investment from the get-go. Though modest in size, Google's involvement with the initiative has encouraged other companies to follow suit. The ShopHERE program can now match small-business owners with dozens of vendors, which can help them with their digitalization efforts. Program participants may be eligible for a wide range of benefits offered by major corporations such as Shopify, Facebook, and eBay.

The initiative has thrived on financial support by the federal, provincial, and municipal governments, but its success hinges on its collaboration with major corporations like Google.

Main insights

- Secure partnerships with big-tech companies to leverage their market position to further collaborate with the private sector
- Start at the local level but with scalable ideas
- Target the youth for potential spillover impacts such as skill acquisition and employment

2) SME solutions to SME problems?

Another potential strategy to boost the digitalization efforts of SMEs is to create an environment conducive to collaborative learning and networked effects among SMEs. To that aim, ICT SMEs may play a leading role in the digital transformation of other SMEs. Even though big-tech companies can offer solutions at more extensive scalability, ICT SMEs may be better equipped to fully capture different SMEs' needs.

European Digital SME Alliance suggests establishing grassroots digital hubs[17] where ICT SMEs can provide customized solutions to non-digital SMEs. These hubs would help non-digital SMEs assess their current level of digital maturity and devise a strategic plan for transforming their business models feasibly. This collaboration is also a win-win situation for ICT SMEs, as they will broaden their customer base and execute marketing strategies accordingly.

In these hubs, the representatives of ICT SMEs can also offer training modules to teach basic ICT skills and empower the owners and workers of non-digital SMEs to engage with various technologies critically.

17 European Digital SME Alliance. 2020. Sustainable Digitalisation: Strengthening Europe's Digital Sovereignty. Brussels.

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3) Cybersecurity is not a boogeyman, but an opportunity

As SMEs start to adopt cloud technology, IoT, and other internet-enabled solutions, they become more vulnerable to cyberattacks[18]. According to one estimate[19], companies risk losing around $5.2 trillion in value creation opportunities from the digital economy to cybersecurity attacks in less than a couple of years. From January to June 2020, there has been a 32% growth in bot volume targeting e-commerce[20]. Just in the first half of 2021, there have been 44 million cyberattacks targeting Turkey [21].

Cybercrimes pose a particular risk to medium-sized enterprises (MEs) that are traditionally less resilient. MEs are either not fully aware of potential vulnerabilities they are exposed to, such as the loss of sensitive information, or do not act upon this awareness. First, a capacity development program should raise MEs' awareness of ICT standards for customized cybersecurity solutions. Secondly, instead of figuring it out on the way, MEs should adopt an architectural vision to mitigate their cybersecurity risks by thinking about security end-to-end from the network to the cloud to the customer endpoints. Such vision includes anti- malicious system processes, prognostics and recovery plans, supply chain risk management, cloud integration, and software assurance.

Most importantly, SMEs are not necessarily aware of the potential multiplier effects of cybersecurity. SMEs can ensure customer retention by signaling to their customer base that they prioritize data security. They will also be better equipped to innovate. In addition, a digitally secure and mature SME may stand out among its competitors to enjoy business opportunities in major supply chains.

Concluding Remarks

Turkish SMEs are falling behind their counterparts in Europe in terms of digital maturity. From having access to ICT infrastructure to the wide use of emerging technologies, Turkish SMEs perform poorly in several digital domains. That said, the COVID-19 crisis has presented an opportunity for digitizing SMEs' operations and offered them incentives to take digitalization more seriously.

know-how, financial capital, and infrastructure to transform digitally. They require technical guidance, economic resources, and solidarity networks to meet the challenge. To that aim, we present three potential programs and ideas to enable SMEs to digitize their operations in a secure, feasible, and customized fashion: a multi-stakeholder initiative for digital transformation, powered by big tech companies; a digital hub that connects ICT SMEs with other SMEs; and finally, a capacity development program targeting MEs for raising awareness around cybersecurity.

18 IDC. 2020. Small Business Digital Transformation: A Snapshot of Eight of the World's Leading Markets. https://www.cisco.com/c/dam/en_us/solutions/small-business/resource-center/small-business-digital-transformation.pdf
19 Accenture. Reinventing the Internet to Secure the Digital Economy. https://www.accenture.com/us- en/insights/cybersecurity/reinventing-the-internet-digital-economy
20 HelpNet Security. 2020. "Tracking global cybercrime activity and the impact on the digital economy," September 16. https://www.helpnetsecurity.com/2020/09/16/tracking-global-cybercrime-activity/
21 Hurriyet, 2021. "Türkiye'ye altı ayda 44 milyon kötü amaçlı yazılım saldırısı," August 23. https://www.hurriyet.com.tr/teknoloji/turkiyeye-alti-ayda-44-milyon-kotu-amacli-yazilim-saldirisi-41879078

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