SME digitalisation in 2024
Managing shocks and transitions

An OECD D4SME Survey

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ABOUT THIS PUBLICATION

SME digitalisation to manage shocks and transitions: Backed by original survey data, this OECD report sheds light on latest trends in SME digital adoption and how it can increase their resilience to external shocks. The publication provides information on digital practices, take up of Artificial Intelligence applications including Generative AI, impact of digitalisation on mental wellbeing in the workplace, awareness and take-up of government supports for digitalisation. It also provides illustration of recent policy measures to support SME digitalisation across analysed geographies.

By investigating survey results from SMEs in seven OECD countries – France, Germany, Italy, Japan, Korea, Spain and the United States - the report provides valuable insights for governments, as they take action to accelerate SME digitalisation, and thus foster SME resilience in the face of short-term shocks and long-term transformations.

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What is the issue?

Digital tools strengthen the resilience of SMEs. They support them to streamline operations, identify and exploit new markets, and access new forms of finance. In doing so, these tools played a vital role in sustaining businesses during the COVID-19 pandemic and are now supporting them to adapt to further shocks, including supply chain disruptions, inflation, and tighter credit conditions. Yet despite their many advantages, too many SMEs have yet to "go digital" and risk being left further behind with the launch and widespread adoption of generative AI models.

Key findings

Our new Survey finds that the main benefits perceived by SMEs from the adoption of digital tools are enhanced profitability – particularly through increased domestic sales (47%) and extended customer outreach (41%) – and improvements in productivity, such as through automation (40%).

Data show that a large majority (72%) of surveyed businesses leverage data that are gathered and analysed digitally to support strategic decisions. The survey also highlights different needs of SMEs across, size, sectors and levels of digital maturity. For example, while 52% of retailers declare they have digitalised most of their activities, this is only the case for 15% of businesses in the food and beverage sector.

The survey shows that SMEs are rapidly embracing "Generative AI" services with almost 1-in-5 businesses experimenting with the tool after less than a year from its release to the public. Further, 57% of respondent businesses perceive more opportunities than risks in using generative AI, in line with low barriers to entry in terms of skills and costs facilitating SMEs' uptake.

Most surveyed businesses attend to their digital skills needs internally (46% against 42% resorting to external consultants or making new hires) and digital learning is most often on-the-job or informal among surveyed businesses. However, differences can be observed in digitalisation processes and strategies with 32% self-employed respondents relying on online platforms to structure their digitalisation efforts – against, for example 9% of medium-sized businesses. Overall, respondent businesses favour top-down approaches (34%) where managers take the lead on digital strategies.

The survey also draws attention to longstanding bottlenecks to digitalisation, including lack of time for training (43%), hardware and maintenance costs (37%) and talent and skills (27%). Particularly, as digital technologies reshape workplaces, thoughtful strategies for skill development can ease the transition for workers. In addition, the uptake of cybersecurity measures is often piecemeal, with 44% of respondents having a maximum two cybersecurity measures in place. Barriers to digital adoption seem to be compounded by a limited awareness of and take-up of government supports, which pinpoints needs for improvement in policy delivery.

Box 1. Survey and Sample

Based on an OECD survey across seven countries, the report "*SME digitalisation to manage shocks and transitions*" provides new insights on SMEs' digital journey and how digital tools can empower SMEs in navigating short-term challenges and enhance their long-term resilience. The survey was designed and managed by the OECD, in co-operation with private sector partners of the D4SME Global Initiative. The link to access the online survey has been shared by Amazon, Intuit, Kakao, and Rakuten among SMEs using their platforms between July and October 2023. The D4SME Survey gathered answers from over 1 000 SMEs from Japan (561), Korea (249), Europe-4 (103, combining France (44), Germany (15), Italy (33), and Spain (21), and the United States (82).

The self-employed and micro-businesses constitute 80% of the sample with small and medium-sized businesses representing the remaining 20% of the respondents. Nearly half (47%) of respondent businesses have been in operation for more than a decade and 44% of respondent businesses indicate they operate in the retail sector. This means the retail sector is over-represented in our sample (with only around 14% of SMEs in the broader economy engaged in retail), reflecting the fact that the D4SME partners distributing the survey to their SME network

partners operate digital retail platforms. Other sectors represented in the sample include manufacturing (13%), wholesale trade (11%), food and services sector (6%), and professional services sector, encompassing technical and scientific services (4%).

This D4SME Survey, conducted annually by the OECD in collaboration with private sector partners of the D4SME Global Initiative, aims to shed light on SMEs' adoption of digital technologies, key opportunities and barriers, and essential policy measures for their integration into a more inclusive and digitalised economy. To strengthen its relevance and impact as an original data source, it will continue to evolve, to encompass additional countries and indicators.

Source: 2023 OECD D4SME Survey.

SMEs digitalise to reach more customers, increase sales and automate functions

Increasing domestic sales, improving customer reach, and achieving automation are the main drivers of SME digital adoption, with differences observed depending on firms' operational practices. Increasing domestic sales and expanding the customer base are primary objectives for integrating digital tools for around 47% and 41% of respondents respectively (Figure 1). Automation represents a key objective for 40% of businesses, especially within the professional services (48%) sector and more digitally mature businesses which are digitalising most of their activities (48%)[1].

Reducing operational costs is a more frequent priority

1   Businesses were asked to self-assess their level of digital maturity by responding to the question "How does your business use digital tools", respondents that indicate "We are digitalising most of our activities" are regarded as exhibiting higher digital maturity, contrasting with those indicating "We are digitalising some of our activities".

Meanwhile, reducing operational costs tends to be more a priority for businesses that operate exclusively online (29%) or solely in-person (25%) than for hybrid businesses (19%).

On the other hand, hybrid businesses are more inclined to leverage digital tools to discover new revenue opportunities. These results are in line with findings from an earlier study, the 2022 "Hybrid retail D4SME survey", which highlighted that hybrid businesses were less likely to agree that operating online enabled them to bring down operational costs compared to online businesses (OECD, 2023[1]).

Figure 1. **Businesses' objectives for digitalisation**
As a percentage of responses

Note : Based on respondents that indicated their business is digitalised. Respondents were given the possibility to select multiple answers.
Source: 2023 OECD D4SME Survey.

Most SMEs are using data to guide their strategies and operations

A large majority of respondents (72%) use data to support decision making, underscoring the pivotal role of data-driven insights in modern business strategies. There is some variation in responses across levels of self-reported digital maturity, with 77% of mostly digitalised businesses indicating use of data against 63% of somewhat digitalised businesses. While most respondent businesses (34%) adopt a top-down approach when digitalising – with the upper hierarchy (managers,

CEOs or business owners) taking the lead on digital strategies – a significant segment (29%), predominantly composed by self-employed respondents, rely on online platforms. In fact, while 32% self-employed respondents indicate they rely on online platforms to structure their digitalisation efforts, this is only the case for 9% of medium-sized businesses.

Figure 2. **Businesses using data for decision making**
As an average percentage of responses from the surveyed geographies
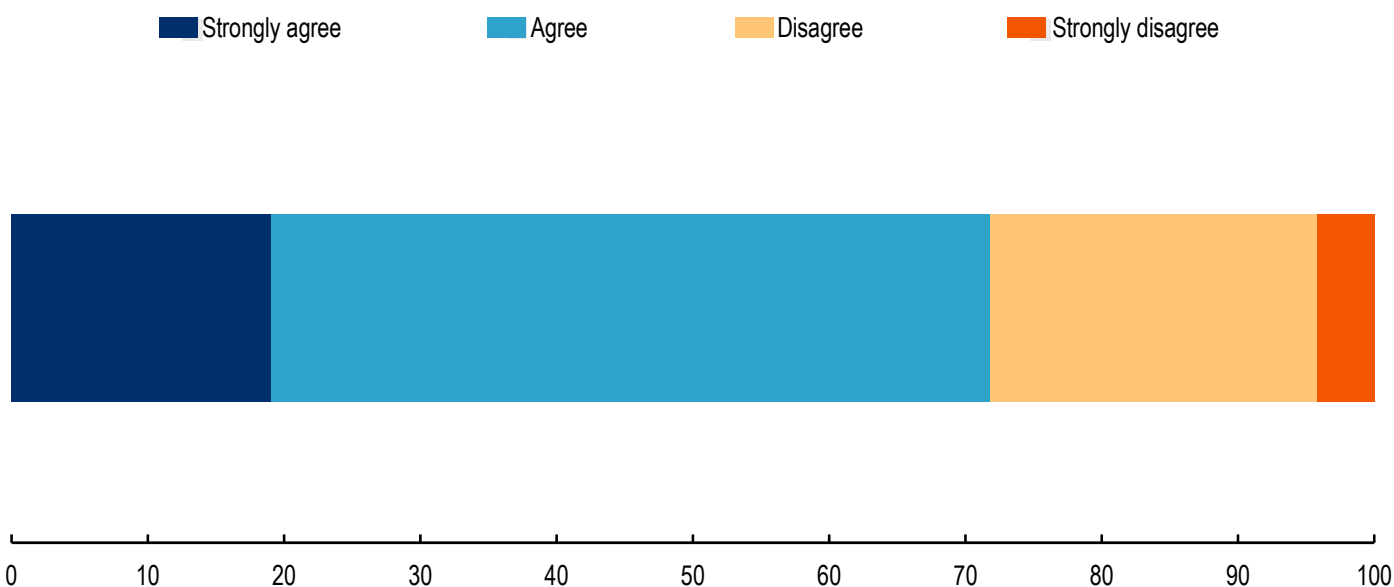
Note: Based on respondents that indicated their business is digitalised. Surveyed geographies include Europe-4 (Germany, France, Italy, Spain), Japan, Korea, and the United States.
Source: 2023 OECD D4SME Survey.

Around half of SMEs are investing in digital skills

Around half of SMEs (54%) report they have some type of skills programme for the development of digital skills in the workplace. However, learning is often on-the-job or informal (Figure 3). The most widespread form of training consists of workplace peer learning (22%), followed by informal learning and online courses provided by platforms (10%). Only 8% of SMEs provide internal training to develop digital kills and an even lower proportion (6%) get their employees participate in external training.

A lack of awareness about available training and skills gaps, as well as time-related and financial barriers typically explain their limited engagement in such training (OECD, 2021[2]). In fact, survey findings reveal that 47% of respondent businesses, who expressed dissatisfaction with their digital maturity due to time constraints for training, did not participate in any training activities. This underscores the importance of providing training programs with flexible schedules to accommodate the needs of time-constrained SMEs.

Figure 3. **Types of skills programme implemented to foster digital skills within workplace**
As a percentage of respondents
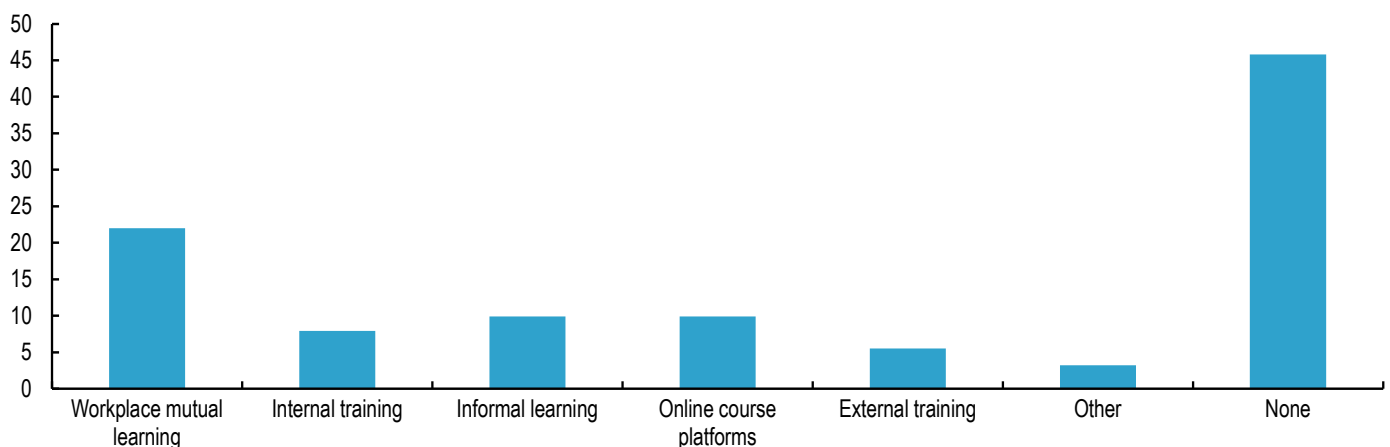
Note: Based on respondents that indicated their business is digitalised. Excluding "I don't know" answers. Informal learning includes self-learning and using generative AI. Respondents were given the possibility to select multiple answers.
Source: 2023 OECD D4SME Survey.
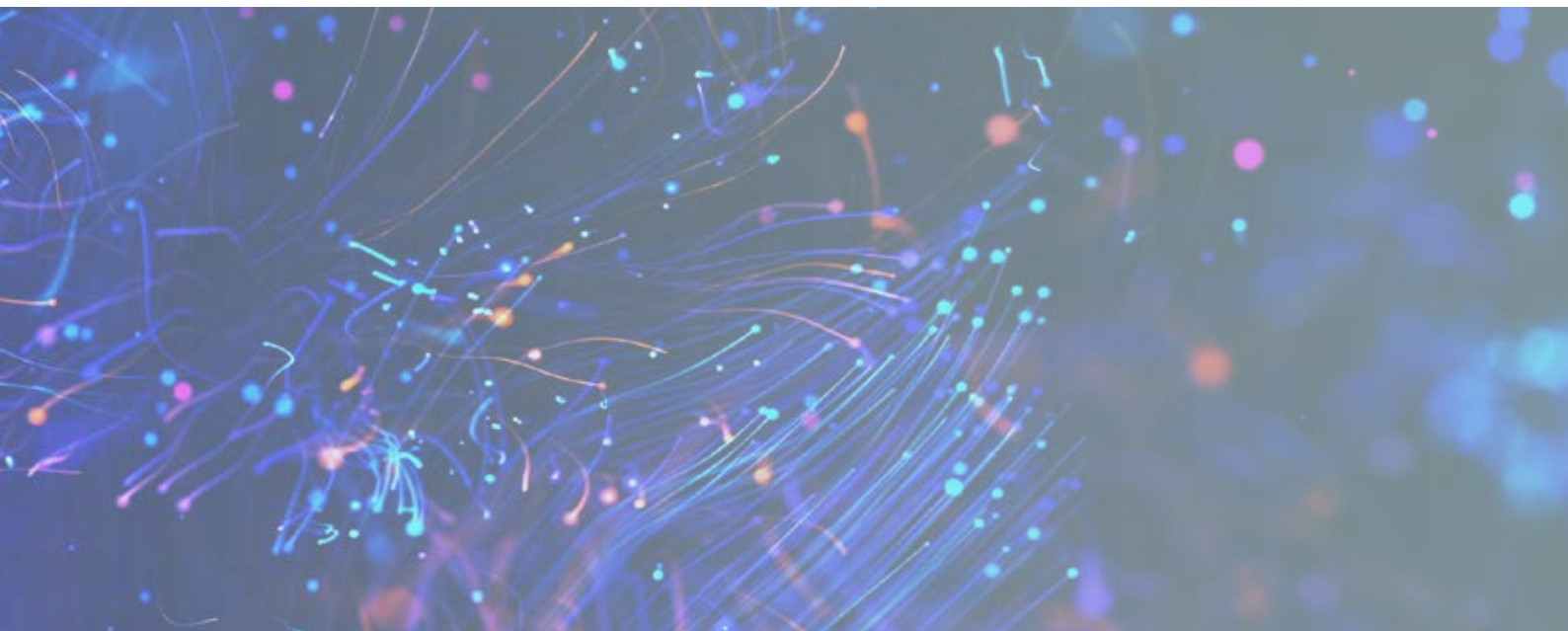
# Many SMEs have made limited progress in embedding digital security

SMEs remain vulnerable to cyberattacks, with few adopting strong digital security practices. Across all geographies, 19% of respondent businesses report they do not implement any cybersecurity measures and 44% respondents have only one or two cybersecurity measures in place (Figure 4, Panel A). There are also striking differences between countries with 41% of Korean respondent businesses indicating they do not have any measures in place, against 17% in the US, 11% in Japan and 4% in the EU.

On the other hand, 54% of US respondent businesses indicate they implement 3 or more cybersecurity measures as do over 60% of businesses across Europe-4 countries. The most implemented cybersecurity measures are anti-virus or anti-malware software (67%) and two-factor authentication (48%) (Figure 4, Panel B). Worryingly, given that a majority of security breaches are caused by human error, only 11% of respondent businesses engage in cybersecurity trainings and 6% perform regular cybersecurity assessment.

Figure 4. **Number and type of cybersecurity measures implemented by businesses**

Panel A. Number of cybersecurity measures, as a percentage of responses
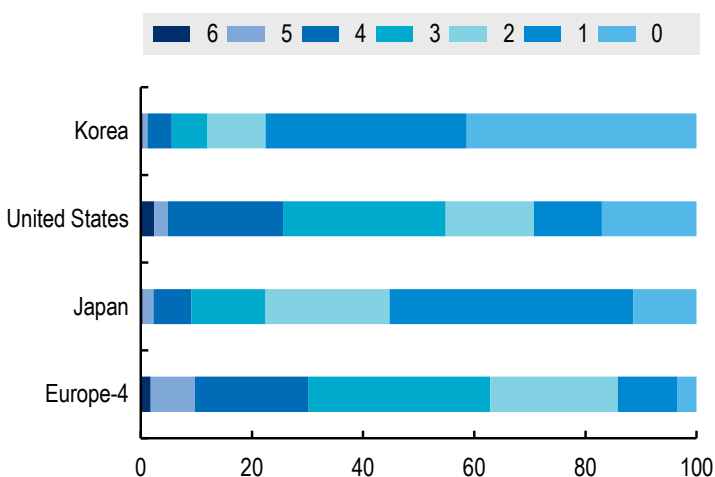
Panel B. Type of cybersecurity measures as a percentage of responses
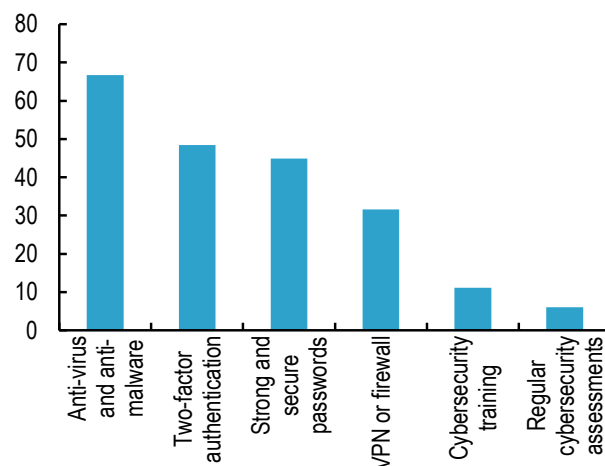
Note: On the left panel, Europe-4 includes Germany, France, Italy, and Spain. On the right panel, results are based on responses by businesses indicating that their business implements at least one cybersecurity measures. Respondents were given the possibility to select multiple answers.
Source: 2023 OECD D4SME Survey.

SMEs have rapidly embraced Generative AI tools and have a positive view about them

There is a rapid uptake of "Generative AI" services, the main application of AI implemented by respondents with close to 1 in 5 (18%) of surveyed businesses reporting use less than a year after the services became publicly available.

While all surveyed businesses engage with AI at a basic level, through embedded machine-learning algorithms in commonly used platforms (by construction of the sample, as all respondents are SMEs using online platforms), only 1 in 4 (26%) are embedding the use of AI in their main operations or products, with generative AI being the main reported application (Figure 5, Panel A). Take up of AI appears to be influenced by business' level of digital maturity with 35% of mostly digitalised businesses reporting use of AI applications. Generative AI is the most widespread application of this technology among respondent business, and the majority (57%) have a positive view of the impact that this application can have on their business operations (Figure 5, Panel B). Interestingly, 62% of respondents in managerial positions consider the benefits of using generative AI outweigh risks against 48% of employees.

Figure 5. **Types of AI used by businesses and opinion on the impact of generative AI on their business**

Panel A. Types of AI used by respondants, as a percentage of responses
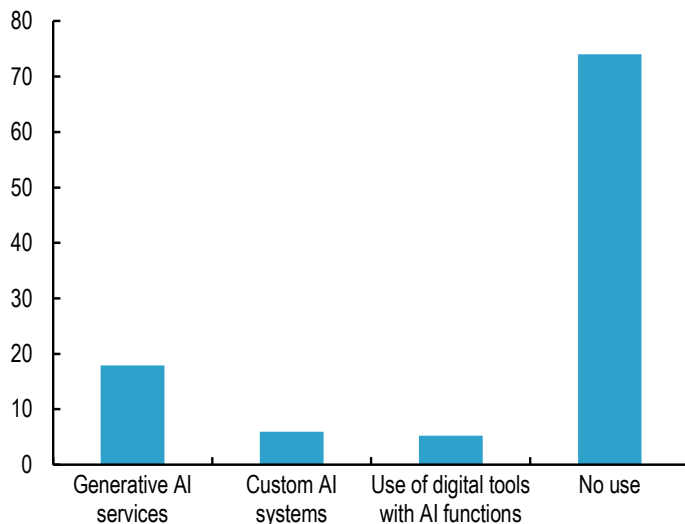
Panel B. Respondents' opinion on the impact of generative AI on their business, as a percentage of respondents across surveyed geographies
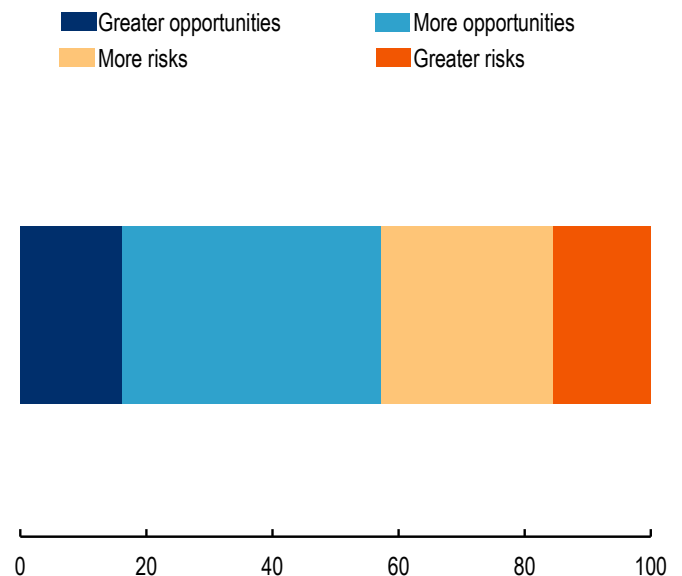
Note: On panel A, results are based on responses by businesses that indicated their business is digitalised. Respondents were given the possibility to select multiple answers. In panel B, results reflect average percentages across surveyed geographies, including Europe-4 (Germany, France, Italy, Spain), Japan, Korea, and the United States.
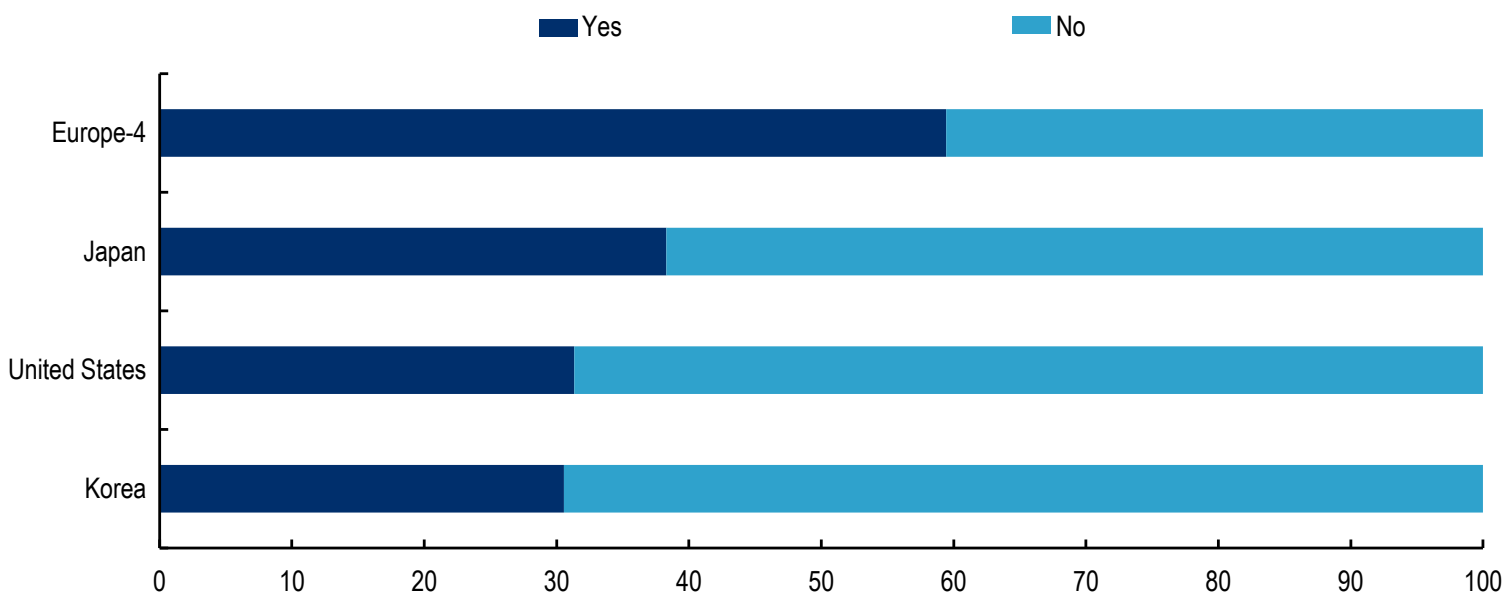*Source: 2023 OECD D4SME Survey.*

There is a need to accelerate the uptake of digital tools to monitor environmental impact

In Europe-4 most businesses (59%) have some form of environmental performance monitoring while the percentage is lower in other geographies.

Across Europe-4 countries, 59% of businesses collect data on their environmental performance, followed by

Japanese businesses (38%) and, to a similar degree (31%) US and Korean businesses (Figure 6). The most popular applications are energy monitoring systems or smart meters, facilitating the gathering of data on energy consumption and automated resource optimisation. (OECD, Forthcoming[3]).

Figure 6. **Businesses monitoring their environment impact**
As a percentage of responses in each geography

Note: Europe-4 includes Germany, France, Italy, and Spain.
Source: 2023 OECD D4SME Survey.

Digital tools allow for more flexibility in working hours, but many feel the pressure of being always connected

The use of digital tools and services enables respondent businesses to work more flexibly, but 1 in 3 reports feeling burned out by the pressure to stay connected.

87% of respondent businesses find digital tools beneficial for enhancing workplace flexibility and 66% report that they have no difficulties setting boundaries between their personal and professional lives (Figure 7). However, a significant number of respondents express concerns about the negative impact of digital tools on their mental well-being. 36% indicate feeling more isolated as a result of the deployment of digital tools in the workplace, often entailing more limited in-person work-place interactions and 34% report feeling stressed to adapt to use digital tools or feel burned out by the pressure to stay connected.

The self-employed, respondents in managerial positions and women are more likely to report experiencing the negative effects of digitalisation.

Specifically, 36% of self-employed respondents and 30% of respondents in managerial positions (CEOs, managers or owners) report feeling burned out by the pressure to stay connected against 19% of employees. More than a third (34%) of women report experiencing burn out as a result of the introduction of digital tools in the workplace compared to 28% of men. The use of digital tools and services has the potential to enhance workplace wellbeing through increased flexibility as largely recognised by respondents, but also through improvements in transparency, and communication, amongst other benefits. However, recognising and addressing potential pitfalls in their implementation is equally important to ensure a balanced digital work environment.

Figure 7. **Impact of digitalisation on respondents' mental well-being**
As an average percentage of responses from the surveyed geographies
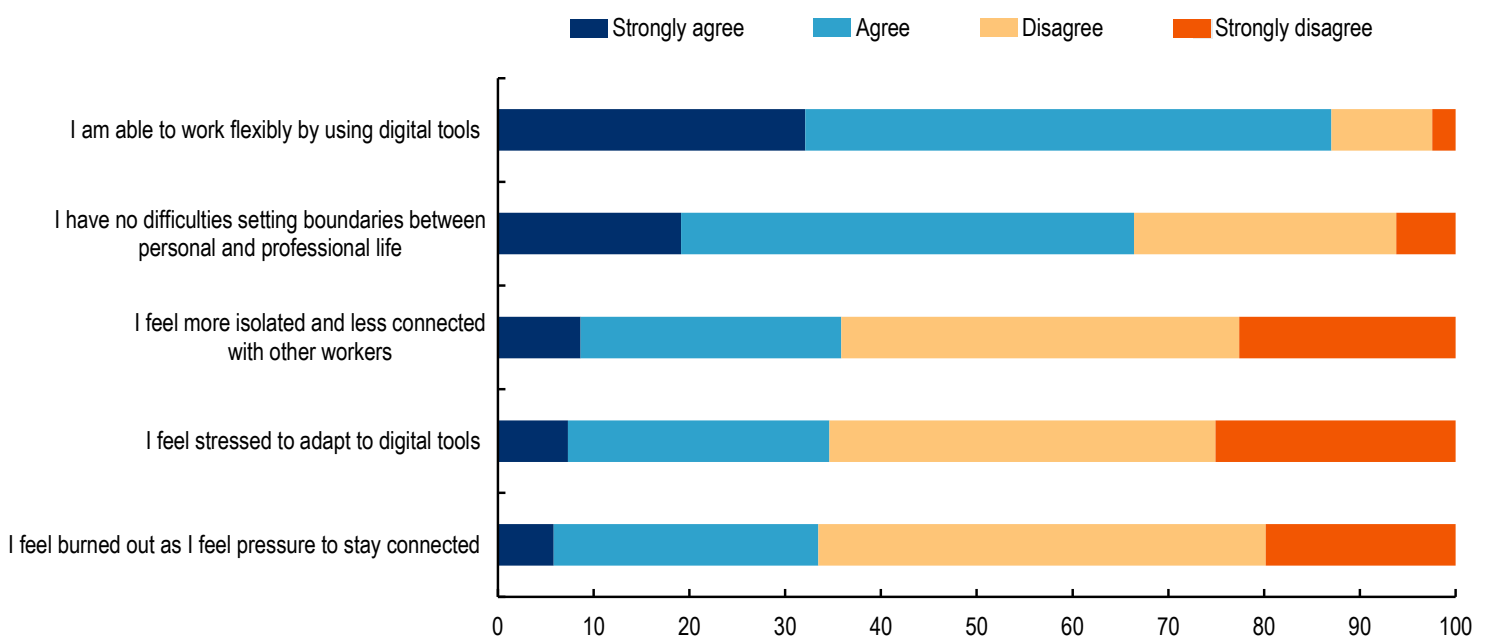
Note: Surveyed geographies include Europe-4 (Germany, France, Italy, Spain), Japan, Korea, and the United States.
Source: 2023 OECD D4SME Survey.

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Few SMEs are aware of government support for the adoption of digital tools

Only 18% of reporting SMEs say they are knowledgeable about the type of support offered by government in adopting digital tools.

Around a quarter (27%) of respondent businesses from Europe-4 countries report they are aware of available government support for digitalisation (Figure 8, Panel A). This is also the case for 26% of Korean and 14% of Japanese respondent businesses. In the US, only 5% of respondent businesses indicate knowledge about government supports for digitalisation.

Among respondent businesses that are aware of government support, the uptake of measures is relatively low: fewer than 1 in 3 (31%) in Korea and 1 in 4 Japan (Figure 8, Panel B). These results suggest that the support might not be meeting their specific needs, or may be difficult to access (e.g. burdensome application processes). In addition, some businesses express concern about their capacity to maintain digital tools and systems after the completion of the support programme, for example due to a lack of skills to operate and maintain such solutions.

Figure 8. **Awareness and uptake of government supports for digitalisation**

Panel A. Awareness of government supports for digitalisation, as a percentage of responses in each geography.
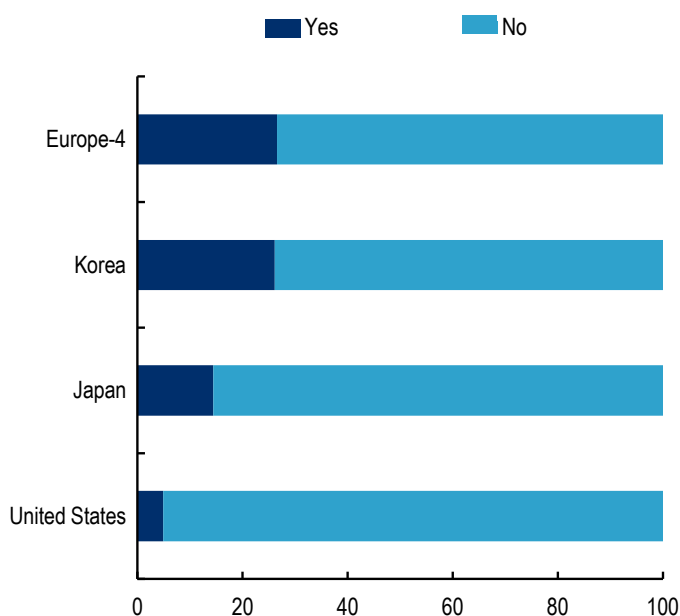
Panel B. Awareness and uptake of government support for digitalisation, as a percentage of responses in Japan and Korea
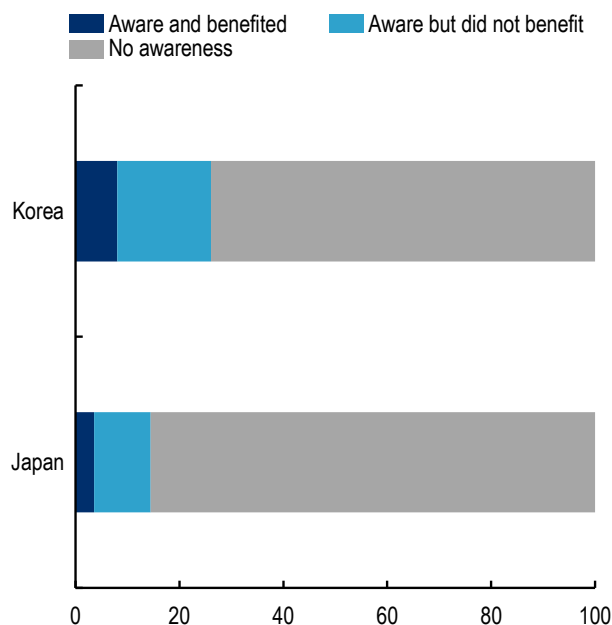
Note: Europe-4 includes Germany, France, Italy, and Spain.
Source: 2023 OECD D4SME Survey.

Box 2. **What is a Large Language Model (LLM) and why is it relevant to SMEs?**

Large Language Models as a flexible and easily accessible tool

Large Language Models (LLMs), such as GPT (Generative Pre-trained Transformer), are advanced artificial intelligence tools designed to understand, generate, and interact with human language. Developed through the processing of extensive textual data, these models are trained to predict the likelihood of a sequence of words, thereby enabling them to compose coherent and contextually relevant text responses. The core mechanism behind LLMs involves the analysis of word patterns and relationships within a vast corpus of text, which allows them to generate responses that can mimic human-like understanding.

The versatility of LLMs is evident in their wide range of applications, including but not limited to language translation, content creation, customer service automation, and educational tools. Their ability to process and generate language in a human-like manner has significant implications for improving efficiency and accessibility in communication technologies, education, and information retrieval systems. Furthermore, LLMs play a pivotal role in advancing natural language processing technologies, contributing to more intuitive human-computer interactions.

However, the deployment of LLMs also raises important considerations regarding ethical use, bias mitigation, and data privacy. The data used to train these models can reflect existing societal biases, which necessitates ongoing efforts to ensure that LLM outputs are equitable and do not perpetuate harmful stereotypes. Additionally, the transparency and accountability in the development and deployment of these models are crucial to address potential implications for data privacy and security.

In summary, Large Language Models are a cornerstone of contemporary AI research, offering promising advancements in natural language processing. Their development and application, while beneficial, require careful consideration of ethical, social, and technical challenges to maximise their positive impact on society.

LLMs for SMEs

LLMs are particularly suited for the needs of SMEs in key areas such as customer relations, marketing, and strategy. For basic use (i.e., image and text generation based on direct prompts) advanced LLM (both private and open source) are accessible either for free or for relatively low fixed monthly subscriptions. This makes them well within the reach of interested SMEs, and the fact that they can process queries formulated in "natural language" means that SME managers and employees alike do not need any formal training to use the software for their specific needs. Of course, more advanced uses leveraging APIs of such models would require additional understanding and capabilities, but that is not necessary for most basic uses.

Note: Please note that the "Large Language Models as a flexible and easily accessible tool" section, has been generated by an LLM itself (ChatGPT4) – as a dynamic and direct way to show what such models can produce in terms of text.
Source: ChatGPT4 (co-author); (Bianchini, 2023[4])

Conclusions and the way forward

The digitalisation of SMEs across all sectors of the economy is crucial for boosting productivity, inclusion, and achieving environmental goals. Most SMEs already use data gathered and analysed through software in their decision-making processes, and are increasingly embracing digital technologies, including cutting-edge Generative AI, to reach new customers and improve productivity. Many SMEs are also starting to use digital tools and data to measure their environmental performance.

Considerable barriers must be overcome. Limited access to digital skills and training, as well as lack of time and financial resources to invest and maintain hardware and software solutions lower potential uptake of digital technologies by SMEs across OECD countries. And while basic security practices (e.g., use of passwords, two-step identification) are rather common among SMEs, proper digital security assessments and training are still relatively rare.

The potential health and mental well-being implications of constant connectivity should not be underestimated, particularly for women and the self-employed.

Often these barriers are very specific to the sector or firm type, which suggests that policy makers need to carefully balance structural and targeted policies to support SMEs, while boosting awareness of available government programmes to enhance uptake.

Co-operation between governments, large and small digital service providers, SMEs and entrepreneurs is essential to ensure the continued digital transformation of SMEs and their fundamental contribution towards a more productive and sustainable economy.

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