Introduction: opportunities and challenges of the digital single market

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A book on small and medium-sized enterprises (SMEs) cannot start without mention of a few significant data: SMEs stand for 99% of European Union companies, and they employ 50–70% of the workforce (Garzoni et al., 2020; Kääriäinen et al., 2020). Based on this, SMEs are major players in the European market, and this fact per se would account for any attention to this type of business. This need is intensified by the reality that SMEs are still struggling to participate in the data-driven economy and are less sensitive to data protection issues, making them more vulnerable in supply chains (OECD, 2017). This book intends to explore how SMEs can handle digital processes and thrive in an environment that—following the 2020 Covid outbreak—is becoming more and more digital.

This book’s title refers to the core of digital processes for SMEs, i.e., both the unparalleled opportunities and the heightened challenges related to the digital single market. The European Commission has defined the digital single market as “one in which the free movement of goods, persons, services, and capital is ensured and where individuals and businesses can seamlessly access and exercise online activities under conditions of fair competition and a high level of consumer and personal data protection, irrespective of their nationality or place of residence” (COM(2015) 192, 6.5.2015, p. 3).

THE EVOLUTION OF ORGANIZATIONS IN THE DIGITAL ERA

Becoming digital is rooted in the continuous exploration and adoption of new digital infrastructures, which can be intended as “digital technology tools and systems (e.g., cloud computing, data analytics, online communities, social media, 3D printing, digital makerspaces, etc.) that offer communication, collaboration, and computing capabilities to support innovation and entrepreneurship” (Nambisan, 2017, 1032). SMEs can resort to digital infrastructures with different intensity, pervasiveness, and objectives. A renowned model maintains that SMEs embark on the digitalization journey through subsequent
stages that are not necessarily all executed and that imply increasing organizational impact: digitization, digitalization, and digital transformation (Eller et al., 2020; Verhoef et al., 2021). While digitization calls for a limited effect on organizational processes because it entails a switch from analog to digital signals, and digitalization requires enhanced integration among organizational units, digital transformation dramatically affects the products, services, and markets covered by the SME. This categorization of digital processes is useful as it conveys the different possibilities that undergird the matching of digital infrastructures with SMEs. Even though SME flexibility and ability to adapt have often been praised (e.g., Smallbone et al., 2022; Fachrunnisa et al., 2020), becoming truly digital is, for these firms, replete with promises as well as full of drawbacks (Hervé et al., 2020), and therefore, an in-depth analysis of the opportunities and challenges is appreciated by managers, entrepreneurs, and academics who are involved or interested in this type of organization.

Access to the digital single market requires SMEs to reinforce their digitalization, ideally undertaking a digital transformation that increases their overall attractiveness in the market. Entering the digital single market offers SMEs the valuable opportunity to increase their internationalization and innovation. “Liability of foreignness” and “outsidership” are said to be major obstacles that hamper SME operation in the international arena (Brouthers et al., 2016; Hervé et al., 2020). Traditionally, SMEs have, in fact, faced the difficulty of securing their operations abroad due to a lack of intangible resources such as managerial competencies (Schwens et al., 2018) and network-building capabilities (Karami and Tang, 2019); they also lack tangible resources, mostly funding (Favoretto et al., 2021). Under these constraints, SMEs have mostly had a local orientation, manufacturing and selling their products within a limited area. Access to the digital market enables a decoupling of the place where products are produced and the place where the customers are located. Many products can in fact be shipped to customers who have placed their orders online or can just be made available online. Consequently, the decoupling of production and consumption makes internationalization strategies more viable; thus, the SME’s local focus is counterbalanced.

Small and medium-sized enterprise innovation is also expected to increase when digital infrastructures are harnessed. On one hand, the architecture of digital infrastructures allows firms to take advantage of both the efficiency stemming from a concentration of information otherwise scattered across different organizational units and the generativity due to the possibility to experiment with new features of the products and/or services offered—for instance, adapting products to different market requirements, acquiring new clients, or establishing new communication channels with customers (Ardito et al., 2021; Oliveira et al., 2021). The relationship with customers takes center stage in order to spark and sustain innovation in the digital market: customers
are sources of requests, suggestions, and feedback that inspire changes (Hatch, 2014). In this regard, digital platforms deserve a special mention. They primarily act as intermediaries between SMEs and clients, and they allow a large amount of data storage, retrieval, and analysis, thereby allowing entrepreneurs and management to learn more about their company’s performance (De Reuver et al., 2018; Vial, 2019). Digital platforms combine a fixed component, which cannot be modified, with a variable one, which can fit different organizations’ characteristics and expectations (Wareham et al., 2014; Schad et al., 2016). Owing to this matching of consistency and change, SMEs gain flexibility, thus increasing the chances of success in the international market, although platform usage is, of course, costly, as will be explained below.

Despite the alleged benefits ensuing from an extensive adoption of digital technologies, SMEs still struggle to embark upon a real digital transformation, rather limiting their usage to specific organizational units, like sales or accounting, or to improved information exchange among organizational units. The literature on SME digitalization has underlined the main hindrances that may get in the way. Access to financial resources, the lack of updated competencies, and the capability to effectively revise relationships with clients rank among the highest.

Access to external funding to acquire new assets and develop needed competencies appears to be particularly demanding for SMEs compared with larger firms, which enjoy stronger bargaining power and greater visibility in the financial market (Bouwman et al., 2019; Favoreto et al., 2021). SMEs tend to finance their projects—digitalization included—by means of sales revenues, rather than through bank loans, thus jeopardizing long-term, innovative projects’ chances of success (Bigelow et al., 2014; Becker and Schmid, 2020). This tendency is emphasized when women entrepreneurs lead SMEs (Brush et al., 2019). This is a particularly sensitive topic because most companies owned and run by women are small and medium sized (Shalizi, 2021). Analyzing the population of start-ups registered in California and Massachusetts between 1995 and 2011, Guzman and Kacperczyk (2019) extended the gender gap issue in business to funding and showed how female entrepreneurs were 63 percentage points less likely than male-led ventures to obtain external funding for their businesses, venture capital in particular. Remarkably, female-led companies are claimed to seek funding from alternative sources like crowdfunding and microcredit to secure their operations and engage in new projects. Gaining access to the digital single market is an example of this. Crowdfunding appears to be attractive to women entrepreneurs in search of external funding because they look more trustworthy than their male counterparts to small investors (Johnson et al., 2018). Microcredit also represents a valued financial resource for women-owned businesses (Short et al., 2017), although it cannot be sufficient to support significant digital processes. De Vita maintains in this book
that, for digitalization to be furthered, it is of the utmost importance for policymakers to reinforce public funding that targets SMEs, particularly funding dedicated to women-led companies.

In addition, it can be challenging for SMEs to develop the competencies required to become digital companies. These firms can suffer from a real competence gap in comparison with larger firms. The need to revamp and update competencies applies to both management and lower-level workers. It is noteworthy that SMEs, especially in traditional and labor-intensive industries, are usually run by their founders, who often lack the advanced knowledge needed to undertake organizational change processes such as digital transformation (Sousa and Rocha, 2019). They may find it particularly difficult to sponsor an adequate organizational culture supportive of change (Dethine et al., 2020). Emphasis on continuous learning, as well as improved cross-functional collaboration, is essential when developing digital processes (Baier et al., 2020). As far as lower hierarchical levels are concerned, it seems to be an “either in or out” strategy. Either workers dramatically increase their competencies to meet digital market requirements or their skills rapidly become obsolete and inadequate, which marginalizes the workers (Delfanti, 2021). Previous studies have discussed reskilling and upskilling through in-house training and programs handled by learning centers and consulting companies to endow workers with the competencies necessary to tackle digital processes (Kääriäinen et al., 2020; Crépon and Van Den Berg, 2016).

Competencies are also related to the ability to set up successful relationships with clients in the single digital market. SMEs are used to nourishing their ties with a limited number of localized clients. Switching to interactions in the digital single market calls for a change of mindset and communication tools. Social media become strategic tools to communicate with a diversified range of clients, especially when the SME targets international markets. According to her chapter in this book, De Vita gathered evidence that it is important not only to activate social media such as Instagram, Twitter, or Facebook, but also to manage them continuously and effectively by learning how to keep followers informed, to respond to their queries, and to elaborate on the hints received to grasp innovation opportunities (Hollebeek and Macky, 2019). Likewise, according to Kääriäinen et al. (2020), SMEs are expected to develop specific competencies that focus on e-commerce, often through digital platforms, to handle online transactions, on e-marketing by means of social media, and on other e-business facilitators such as digital analytics tools able to enhance organizational processes.

The concept of a digital divide can help us come to terms with the importance of managing relationships along the value chain in the digital single market. It goes beyond the availability of digital infrastructures to refer to the capability to use them successfully and appropriately (Van Dijk, 2020).
The challenge that SMEs face, therefore, is not just to acquire and run digital infrastructures that operate in the digital single market, but to be able to harness them beneficially by attracting new customers, while also improving relationships with existing clients. In this book, Darra et al. discuss how the entrepreneur’s age can make a difference in the SMEs’ digital process in the agri-food industry: businesses that are managed or owned by young professionals tend to be affected less by a digital divide and are more likely to thrive in the digital market.

AN ECONOMIC VIEWPOINT: ARTIFICIAL INTELLIGENCE, PLATFORMS, AND ECONOMIC POLICIES

Digitalization is a technological revolution, like the invention of the steam engine in the 1800s and electricity in the 1920s. Every technological revolution has been received with fear: the fear that machines will replace human workers, increase unemployment, and push vast groups in the population into poverty (Aghion et al., 2019, 2020). However, none of the previous technological revolutions has brought mass unemployment. On the contrary, these have started eras of growth and prosperity. If we look at the impact of new technologies on employment, it is undeniable that the early impact seems to be a negative one. As argued in the chapter by Carbonara and Santarelli, if one looks at the introduction of automated intelligence (AI) and robots in production processes as a proxy for the diffusion of the digital revolution, the empirical evidence (Acemoglu and Restrepo, 2020; Plumwongrot and Pholphirul, 2022; Webb, 2019) points to a decrease in employment and wages, especially in the sectors more exposed to these new technologies (i.e., manufacturing).

If the market theories of neoclassical economics are relevant in this scenario, this should be only a short-term problem. In fact, the decrease in the demand for labor would, at some point, decrease the cost of labor so much that the new technologies would become relatively too expensive, hence inefficient, and firms would turn back to labor, rebalancing labor and capital demand.

However, in the last thirty years this has not happened, and it seems unrealistic that rebalancing would take so long (Acemoglu and Restrepo, 2019). This is because the current technological advancement is so labor saving that substituting labor for capital is never convenient even when the cost of labor is extremely low. This phenomenon is exacerbated by a mismatch between the skills of the currently employed workforce and those required for an efficient use of the new technologies. It is interesting, therefore, that most scholars suggest policy measures aimed at increasing the relative cost of new technologies compared with labor (see Aghion et al., 2019, for a critical overview). What seems to be missing from such a recommendation is a focus on measures
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facilitating labor upskilling and the creation of human capital that is able to compensate for the mismatch between skill supply and demand. Therefore, a carefully designed mix of active labor market policies and investment in education seems more appropriate to accompany the transition to the new digital era in production. After all, the negative impact that the current wave of automation and digitalization exerts on employment and wages is, for the most part, a consequence of the inability of institutions and policies to adapt to the requirements of the new technological environment.

The current view misses the fact that digitalization is, in itself, an innovation process that creates a new industrial sector of its own. The new technologies need software, applications, and hardware powerful enough to run them: devices like web cameras, robots, and 3D printers. These new instruments need to be invented, developed, and produced. They require highly skilled labor and human capital, whose demand is likely to increase substantially with the development of the digital sector. So, whereas employment and wages decrease in traditional sectors, where digital technologies and robots replace labor (especially low-skilled jobs), employment is bound to increase in the new, highly technological sectors that will develop and produce such new technologies. New digital technologies will therefore increase wage inequality across skills and sectors, a perspective consistent with the Skill-Biased Technological Change (Card and Di Nardo, 2002) and the Skill-Biased Organizational Change approach (Autor et al., 1998).

Research on the impact of AI technologies on SMEs and entrepreneurship is still limited, as is the analysis of the typical market structure in digital markets. This latter topic is very important because market structure (i.e., degree of concentration, structure of the demand, existence of barriers to entry and exit, etc.) determines the competitiveness of digital markets and the ability of firms (including SMEs) to survive. Economically, digital markets are characterized by strong network effects and the increasing relevance of big data. This implies that they tend to be strongly concentrated, with a few very large, active firms. Currently, there are five huge corporations (Amazon; Apple; Facebook—now Meta; Google—a.k.a. Alphabet; and Microsoft) and a myriad of small ones. We can therefore say that SMEs are very important, and market structure should be maintained in such a way that SMEs can thrive by finding a market niche in which they can make profits despite the “Big-Tech 5.” That is why the control of mergers and acquisitions in digital markets is a very delicate matter.

Mergers and acquisitions (M&A hereafter) change the structure and concentration of the market and, therefore, affect the possibility of competitor survival and profitability (for SMEs, in particular). In many countries (and in the European Union), M&As involving small firms do not fall under the scrutiny of competition authorities because it is reasoned that they do not pose relevant threats to competition. There may be two distinct reasons why this is wrong in
digital markets. First (and this is a more general remark), bigger firms might gain a dominant position in the market little by little, acquisition after acquisition of small competitors, without being detected by antitrust agencies. It has been estimated that the Big-Tech 5 alone have carried out 825 acquisitions in the period from 1987 to 2020, mostly of small and micro companies (Parker et al., 2021). Second, acquisitions might allow an incumbent firm to eliminate a rival product: If an innovative start-up develops a product that poses a threat to an incumbent’s product, acquiring the start-up solves the competition problem. The incumbent can either control the product or eliminate it from the market (called a “killing acquisition”), in any case, removing the competitive threat (Yun, 2020; Calvano and Polo, 2021).

That is why the European Commission has taken a new stance concerning the acquisition of small firms. Generally, only transactions that meet a certain threshold in terms of the combined turnover of the merging firms are subject to scrutiny. On March 31, 2021, the European Commission published new guidance on the application of the referral mechanism established in Article 22 of the EU Merger regulation, that invites Member States to request the Commission’s scrutiny of certain M&As, even if they do not meet the predetermined turnover threshold. This is in particular reference to the acquisition of start-ups and of companies active in digital or, more generally, highly innovative markets (such as pharmaceuticals). Several commentators received the new guidelines with skepticism (see Elkerbout et al., 2021), arguing that the new referral criteria are difficult to assess, especially in defining an innovative company, and that this might impair legal certainty in merger control. Others, however (among whom are Gianfreda and Scocciarini Coppola), have welcomed the new guidelines because they represent a solution to the threats posed to competition by M&A that involve below-threshold target companies in digital markets.

When one thinks of digital markets, one characteristic that comes immediately to mind is the pervasiveness of online transactions: a huge number of goods and services are exchanged every day using multi-sided digital platforms, i.e., the tools that allow buyers and sellers to meet online. Big-tech firms like Amazon, Facebook, and Google are platforms, and they provide technology and resources that other companies can use to build their businesses and connect with their customers. Platforms compete to sell their services to their clients, i.e., other businesses. In doing so, they can try to attract businesses supplying substitute products or complementary ones. For example, Amazon sells access to its platform to many sellers. It also offers Amazon Prime Video, a streaming video service. The various sellers are (imperfect) substitutes for buyers, whereas sales services and video streaming can be (imperfect) complements: if I own an Amazon account because I buy from vendors using the Amazon platform, I might value the extra video
streaming service, which I can access using the same username, password, and subscription. Platforms themselves can be substitutes or complements to one another. For instance, Spotify and Apple Music both offer music streaming services and are, therefore, substitutes. The two Belgian financial newspapers *De Tijd* (in Dutch) and *L’Echo* (in French) represent complementary platforms. In fact, both papers connect Dutch- and French-speaking readers with companies that want to convey information (Van Cayseele and Reynaerts, 2011). So, to reach both Dutch- and French-speaking investors, companies need to buy advertisement space in both newspapers, which represent complementary inputs for the provision of corporate information. In addition to issues of substitutability and complementarity, platforms, as actors in digital markets, are affected by network effects and rely more and more on big data. It is evident, therefore, that the analysis of competition among platforms is complex and has to consider many different aspects. A crucial aspect is that of the “tragedy of the anticommons,” generated by complementarity (Michelman, 1982; Heller, 1998; Dari-Mattiacci and Parisi, 2006; Alvisi and Carbonara, 2013). Starting from the scenario presented by Cournot (1838) in his “complementary monopoly”—in which two companies are monopolists in the production of two goods (one for each company) that are complement inputs in the production of a third composite good—the tragedy of the anticommons lies in the fact that welfare in this industry decreases with the number of individual producers. So, in an apparent paradox, allowing a single company to produce all the complementary inputs lowers the final price of the composite good and increases both consumer welfare and profits, which opens new scenarios for competition policy in digital markets. Last, but not least, SMEs interact quite a lot with platforms. As argued by Alvisi, they rely heavily on the platforms’ digital infrastructure because their ability to develop a platform of their own is limited by lack of financial resources and skills.

A problem in digital markets (and the EU is no exception) is the Member States’ ability to tax incomes and profits. The digital economy causes a remarkable change in the current distribution of wealth, moving away from low-skilled jobs toward highly skilled workers, technologically intensive industries, and digital capital (Park, 2017). This produces new inequalities in society and exacerbates existing ones. Public intervention is required to redistribute wealth through taxation, subsidies, and specific policies to support the transition in the labor market, to incentivize the creation of the new required skills, and to sustain people with obsolete skills and those too old to acquire new ones. Both the distribution of personal wealth and the ability to generate profits might be impaired in the digital market, one of the main reasons likely being the existence of competition policies that are inadequate to protect competition. As argued before, these policies may allow large corporations to acquire dominant positions. Therefore, both personal and corporate taxation
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might need to be redesigned. However, taxation in the digital era also presents an array of new challenges that render redistribution difficult to realize. The chapter by Guerra describes these challenges in detail, illustrating how international coordination in tax policies would be needed to tame aggressive tax planning practices adopted primarily by large multinational firms. In particular, aggressive tax policies are favored for two reasons, namely, the uncertainty in tax rules and liabilities, fostered by the lack of coordination of tax policies at the international level. This leaves room for tax avoidance and tax erosion activities. Next, top management (e.g., CEOs) in organizations encourage such aggressive tax planning practices. Adopting policies that tackle both issues, Guerra argues, would reduce substantially the extent of the problem. Greater international coordination and information exchange, third-party information reporting, and the introduction of a global corporate income tax are all measures that might reduce aggressive tax planning and economic inequality.

REGULATING DIGITALIZATION: THE EU APPROACH

The extended virtual market responds to the evidence that European companies face similar problems in their national markets and need an overarching framework to provide the impetus to engage in digital processes. As the European Commission has argued, it is SMEs that suffer most from a local focus, with only 7% of them able to sell across borders (COM(2015) 192, 6.5.2015, p. 4). The frame of reference introduced by the Commission relies on a unified public regulation that specifies objectives and consistently supports courses of action that lead SMEs to become both digital and international. To corroborate this line of reasoning, the same source reports that firms interpret differences in regulations across European countries as a major hindrance on the way to enhanced digitalization. If the same rules applied to enterprises located in the EU, 57% of them would be willing to boost or start online sales abroad.

Broadly speaking, the Commission’s digital single market strategy hinges on three pillars: better consumers and company access to online goods and services across Europe; suitable conditions for digital networks and services to expand; and augmented growth potential of the European digital economy. The establishment of the digital single market is aimed at creating and developing new firms, as well as making existing firms more profitable through enabling them to enter a market made of more than 500 million people. More specifically, the Commission’s goals state that, by 2030, 75% of European businesses will harness cloud services, big data, and artificial intelligence, with 90% of SMEs displaying at least some basic familiarity with digital technologies. This achievement will enable these technologies to become the core of the products and services carried out by European firms, thus reinforcing their digital transformation.
Regulation is a key factor enabling the adoption of digital processes by SMEs. As Stefanelli contends in this book, regulation should move a step further and make rules increasingly linked to digital innovation by setting common standards at a European level. Availability of standards would especially benefit SMEs because their smaller size does not grant them the same flexibility in handling secure transactions in an international market as larger firms have (COM (2022) 31 final, p. 1). Regulatory sandboxes—i.e., spaces managed by public supervisory authorities in which companies can test and assess innovative financial technologies (the so-called “fintech”)—emerge as relevant settings capable of promoting regulatory innovation in a safe environment (Zetzsche et al., 2017; Arner et al., 2020; Allen et al., 2021).

Innovation intermediaries can also play an important role in fostering SME activities in the digital single market. For instance, as maintained by Stefanelli, innovation hubs and industrial clusters, which are already flourishing in the richest areas of the EU, can function as single-entry points that provide access to validated technologies and further support digital innovation. They in fact prompt and handle multiple connections among a plurality of actors including competence centers, companies, technology experts, and investors, thus easing SME access to the EU digital single market.

One of the main areas where digital technologies have affirmed their role is the banking and financial systems. The global scale of their diffusion requires supranationally coordinated actions to design new policies able to define a common digital context. In this sense, the communication of the European Commission mentioned above (COM (2015) 192, 6 May 2015) highlights how all economic sectors are becoming more digital and how information and communication technologies shape new economic systems. In the financial services sector, digitalization has changed the very meaning of disintermediation. Besides the development of alternative forms of savings, disintermediation now implies the elimination of intermediaries, and the institution of forms of direct interaction between borrowers and lenders, thanks to the introduction of the new blockchain technologies. This goes hand in hand with the observation that traditional intermediaries, like banks and financial operators, are defining new financial products and services, based on digital technologies (e.g., Fintech banks). This book mainly deals with how the European digital single market is providing new forms of financing particularly suitable for micro-, small and medium-sized enterprises, such as, for instance, crowdfunding and crypto assets. This is the focus of the chapter by Bertarini, which highlights how EU regulation deals with these new phenomena, maintaining an open and flexible framework to encompass rapid and unpredictable evolution, while still attempting to keep such an elusive reality under control.

A priority for the European Union is regulating transportation services in the digital single market because it will improve operational safety and
security and sustain the transition toward green infrastructures. This focus was heightened by the COVID-19 pandemic that started in 2020 and brought the relevance of an integrated transport market to the fore at a time when many European citizens were repeatedly subject to movement restrictions and the request for products and services to be delivered to customers at home increased abruptly. According to OECD (2021), the pandemic has generated opportunities, especially for SMEs, to intensify their use of digital technologies to serve the market. With this evidence in mind, the European Parliament and Council issued respectively Regulation (EU) 2021/1153 and 7 July 2021 establishing the Connecting Europe Facility and repealing Regulations (EU) No 1316/2013 and (EU) No 283/2014.

The tenet of the new regulation is that “the use of electronic means should become the predominant way to exchange regulatory information between the economic operators and competent authorities” (EU e-Government Action Plan 2016–2020), with the latter invited to accept and promote the information exchange among all involved parties in electronic forms bearing common specifications. In the digital single market, enhancing logistics coordination among a set of diversified organizations is of the utmost importance. A range of heterogeneous actors takes part in the provision of integrated services: carriers, logistic operators, cargo interests, and the relevant public bodies.

Due to the number of actors involved, there can be many integrated logistics services, and their activities may range from issuing of authorizations and, in maritime freight, monitoring of the access to port piers and areas to the digitalization of custom procedures; from automatized operations of all the communications/authorizations addressing the removal of waste on site; to the handling and sharing of data on traffic and weather forecasts. In such a complex web of interdependencies, the electronic means referred to in the EU e-Government Action Plan, therefore, play a core role.

Electronic means hinge on the replacement of scattered papers with online forms and, in parallel, on the resort to dedicated digital infrastructures. Concerning the former, international carriage of Good by Road (CMR) through the electronic recording and handling of data (e-CMR) can be reckoned as particularly important. Regulated by the “Additional Protocol to the Convention on the Contract for the International Carriage of Goods by Road (CMR) concerning the electronic consignment note,” signed in Geneva on February 20, 2008, by many European countries, the issuance of an electronic consignment note that gives the same rights and obligations as its paper equivalent is deemed to increase legal certainty, data integrity, consistency of information, and data accessibility, while facilitating error-proofing.

Concerning the latter, port community systems act as electronic platforms that connect the multiple systems operated by the variety of public bodies and private companies that make up a seaport, airport, or inland port community...
Remarkably, within the framework of electronic means in transportation, all data (and specifically, every regulatory information) that are made available to competent authorities on platforms are considered to be received by all bodies for all administrative and regulatory purposes, thus simplifying and accelerating the process of picking, transportation, and delivery of goods throughout a unified market.

As with any innovation, there are advantages as well as disadvantages that ensue from the usage of electronic means to handle product movement. The most prominent benefit for SMEs is related to the reduction of administrative costs stemming from a single electronic source of information rather than from multiple paper documents (Van Hooydonk, 2020). A decrease in costs can, however, be counterbalanced by the amount of investment required of SMEs in switching to digital processes. As the contribution by Zunarelli argues, some investments target the acquisition of technology to operate on the digital platforms and keep up with continuous requirement updating. This can spawn asset specificity and make it difficult for small carriers to move from one major carrier to another. On top of that, permanent, costly learning programs addressing all the operators involved, truck drivers included, need to be designed and managed to gain efficiency and customer satisfaction.

Having examined how the EU Commission regulates the digital single market—in general and with special reference to disintermediated financial services and transports—we now deal with company law. In 2018, the European Commission introduced the company law package, consisting of two Directives: Directive 2019/1151/EU on the use of digital tools and processes in company law, and Directive 2019/2121/EU on cross-border conversions, mergers, and divisions. Both directives substantially amended Directive 2017/1132/EU, relating to certain aspects of company law, and have important implications for companies, especially for SMEs because they introduce procedures with the aim to reduce “costs, time and administrative burdens” for “micro, small and medium-sized enterprises” (Directive 2019/1151/EU, Recital 8). The company law package is part of a more general project that intends to improve the mobility of companies within the EU single market, in the pursuit of one of the traditional objectives of the European Union, i.e., the unification of the internal market. This requires the removal of barriers to trade and the development of instruments and regulations that enable companies to operate on a community scale. In the attempt to pursue these goals, in 2001 the European Union introduced a European public limited-liability company (Societas Europaea), regulated (albeit not exclusively) according to the corporate law of the EU (Schmidt, 2021). This attempt was not particularly successful, possibly because it tried to harmonize company law by introducing a new European company type. Another proposal by the Commission that was greeted with mixed fortunes was the introduction of a new, limited liability
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company type, the Societas Unius Personae (Malberti, 2014). The company law package follows a different approach. Building on previous experience, this time the Commission did not attempt to proceed to strong harmonization with these new directives, or to introduce new company types. It tried to promote the smooth functioning of enterprises within the common market, simplifying and rationalizing the creation of companies using existing forms and making room for any subsequent modifications that either the Commission itself or the Member States would introduce.

In this book, Carbonara focuses on Directive 2019/1151 on digitalization, which deals with the creation of specific types of limited liability companies, their registration in the company registers, the connection with Member States registers, and the creation of branches. The Directive requires that all these procedures should be done online, without requiring the physical presence of the parties involved. Moreover, it demands that Member States “provide models of instruments of constitution (‘templates’)” in accordance with national law (Recital 9). This will reduce the costs of creation even more. The implementation of this Directive poses new challenges, as thoroughly discussed in the chapter.

BOOK STRUCTURE

The book is organized into three parts that discuss the opportunities and challenges that SMEs cope with in the digital single market from the three intertwined perspectives that we have outlined above: the organizational, economic, and legal viewpoints.

In the opening part on the organizational factors undergirding SMEs’ presence in the single digital market, the chapter by Giacomo Carli, Jeanette Hartley, and Maria Rita Tagliaventi fleshes out the expected benefits and setbacks that SMEs are faced with when engaging in digital processes. This chapter begins by identifying the different stages that SMEs must go through to become digital—namely, digitization, digitalization, and digital transformation. The main advantages that SMEs can draw from digital processes are reduction of their dependence on large companies, innovation, and internationalization, while the biggest hindrances that previous studies have discovered are analyzed. In particular, access to financial resources, the shaping of a supportive organizational culture, the development of competencies, and the necessity to change relationships with clients are discussed. The role of digital platforms that highlight the pros and cons of their usage by SMEs is offered. Subsequently, the authors draw inspiration from Porter’s value chain representation and delve into the implications of digital processes for operations and supply chain management, marketing and sales, management and planning, human resources, technology development, leadership, and
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change management. Finally, a strategic overview to integrate organizational processes is elaborated considering all these aspects through the exam of the business models that are able to steer and sustain digital processes.

The second chapter, by Luisa De Vita, focuses on the possibilities that the digital single market opens up for entrepreneurship, female entrepreneurship, especially. The chapter offers a framework for comprehending the ecosystem factors that enable the birth and growth of women-led businesses. The chapter examines the crucial role played by digital technologies from this perspective, such as the possibilities to acquire new customers, to experiment with alternative financial resources such as crowdfunding and crowdsourcing, and to enter new sectors different from the labor-intensive services industries that tend to be the target of female-owned companies. In this sense, although digital technologies are claimed to be emancipating, they can also reproduce structural inequalities that can be traced back to the digital divide, thus mirroring the dynamics at play in offline settings. A qualitative study was conducted on 19 women entrepreneurs who switched to the digital market. This study sheds light on the complex, somewhat controversial arguments formulated about the interplay between female entrepreneurship and digital processes. It brings to the fore the difficulties encountered, as well as the benefits obtained. This evidence was collected in the field and allowed the author to formulate suggestions for policymakers, calling for specific national and international funding programs addressing female entrepreneurship.

The third chapter, by Nicoleta Darra, Aikaterini Kasimati, Michael Koutsiaras, Vasilis Psiroukis, and Spyros Fountas, analyzes the digital single market from the viewpoint of SMEs in the agri-food industry. This chapter argues that digital processes can help overcome a core shortcoming of SMEs in this sector, which is reliable and accurate data collection that can inspire strategic and organizational decisions. Digital processes do not actually transform agriculture and rural areas. The authors provide an exhaustive overview of the digital technologies available to farmers, such as remote sensing platforms, agricultural ground robots, and drones. The chapter then delves into the opportunities and risks that pertain to the adoption of digital technologies in agri-food, considers technical, financial, and social factors, and carries out a comparison among different technologies. The ability to gain autonomy from large enterprises and to become part of effective value chains and consequently more productive and profitable are among the advantages of using digital processes. Obstacles range from connectivity problems in remote areas to a lack of digital skills, farmers' digital literacy especially, and from the necessity to fund expensive devices able to monitor crops throughout their development to data storage and data sharing with value chain partners. There is a need for SMEs to carve out customer centric business models and change organizational culture to jumpstart the digital transformation, as argued in connection with Chapter
1. Finally, the socioeconomic and environmental aftermath of digital processes is evaluated. The security and traceability of agricultural activities are primary, but there is also an expected betterment of the social status of farmers and an increase in the potential attractiveness of agri-food businesses for youth.

The fourth chapter, by Marco Marrone, Gianmarco Peterlongo, and Giorgio Pirina, closes the first section of the book by voicing a critical perspective on digital processes at a societal level. The “myth” of digitalization is extensively discussed here. This contribution stands in marked contrast to prevalent rhetoric centered upon the alleged effects of the digitalization of society—dematerialization of the economy in favor of environmental sustainability, automation, flexibility of work processes, and sharing of information within networks, above all. By adopting a socio-material approach, the authors tap into the dark side of digital processes, by arguing that they may lead to greater levels of value extraction, exploitation, and ecological impact than the use of traditional technologies. This argument is grounded in the observation that embracing digital processes is not going to replace human labor, but rather it will widen the gap between intellectual and manual labor and increase surveillance on the latter. Ironically, geographic, gender, and class inequalities may be reproduced through the spread of digitalization. This holds particularly true for coltan, lithium, and rare earth miners, workers producing smartphones, and porters in logistics or large-scale organized distribution, who provide the materials and services required to run digital infrastructures and make digitalization possible.

Chapter 4 leaves us with a rather harsh view on the true effects of digitalization. There is an unexpectedly negative environmental impact, de-skilling of manual labor, and an unprecedented widening of inequality.

In a similar vein, the first chapter in Part II, Chapter 5, by Emanuela Carbonara and Enrico Santarelli, focuses on a specific aspect of the digitalization of production processes—namely, the adoption of AI technologies and robots. They argue that AI and robots represent a technological revolution with unexpected effects because they are a double-edged sword, bringing both advantages and costs to firms, workers, and society as a whole. Undeniably, the introduction of automation in production processes that were traditionally labor-intensive has decreased the demand for labor, with a consequent decrease in wages. This effect is more pronounced in the manufacturing sectors as compared with the services ones because the former are more likely to be characterized by the execution of routine tasks, requiring low- and medium-skilled workers, who are then displaced by automation. This, however, risks being a partial and short-termed view. The “supply side” of this technological revolution is missing from this analysis. Artificial intelligence technologies and robots are not only adopted by firms that replace labor with machines. They are
also produced by other firms and become inputs in the production processes of the firms adopting them.

The diffusion of AI and robots therefore allows the development of a new, highly technologically intensive sector, which will increase the demand of highly skilled labor, with a corresponding upsurge in wages. The final impact on employment, therefore, depends on how these negative and positive impacts will counterbalance each other. What is most important, however, is the mix of economic policies that should accompany the transition to the automated world. Such policies should not hinder innovation; at the same time, they should favor the development of the human capital required by the high-technology sector inventing and producing AI technologies.

Chapter 6, by Giuseppina Gianfreda and Luisa Scorciarini Coppola, focuses on M&A in digital markets and looks at the case of the proposed acquisition of Kustomer, a US start-up developing customer relationship management (CRM) software, by Meta (formerly Facebook). Even though the merger did not meet the required threshold, Austria requested scrutiny by the Commission. The merger was then cleared, following commitments by Meta, which guaranteed access to its application programming interface (API) to competing CRM software providers and to new entrants. The authors wonder in particular whether the stricter stance followed by the EU Commission will also be adopted by Member States in their evaluations of M&A transactions. If that were not the case, we may, in fact, end up with diverging procedures among EU Member States, with consequent increased legal uncertainty and with the harm thereof. Besides the Commission’s scrutiny of a below-threshold transaction, which signals the growing importance of digital markets in the EU and a reaffirmed attention for highly innovative SMEs, an interesting detail is the limited overlap of the parties’ productive activities, which implies that the merger’s nature was mainly (and unusually) vertical.

In Chapter 7, Matteo Alvisi introduces the important issue of complementarities within digital markets. The chapter studies competition in multi-sided markets, where platforms operate to connect the various sides of the market, providing an in-depth analysis of state-of-the-art research on the nature of market power, competition policy, and regulation. Platforms represent multi-sided ecosystems, where complex relationships of simultaneous substitutability and complementarity open new scenarios for optimal pricing, M&As, and innovation strategies. The chapter illustrates how complementarity changes the nature of competition among platforms, creating a phenomenon known in the literature as “the tragedy of the anticommons.” This mutates the point of view for competition authorities and brings about the necessity of a new regulatory setup that should give a prominent place to SMEs and to their possibility to survive and thrive in a digital market organized and dominated by large platforms.
Chapter 8, by Alice Guerra, examines how the States’ ability to redistribute wealth among their citizens is affected in the digital economy. In a market characterized by easy mobility of capital and taxpayers, as well as by many transnational transactions, aggressive tax planning mechanisms (such as base erosion or profit-shifting, among others) have become very common, creating social injustice, and distorting the market’s allocative mechanism. Thanks to their organization, multinational firms with headquarters located in one country and activities performed by means of subsidiaries in other countries have the advantage in tax avoidance operations. Consequently, they are favored vis-à-vis national companies, especially SMEs, since they are able to reduce their tax payments, whereas other companies must bear a greater tax burden and must often compensate for the revenue missing from multinationals. Guerra offers a comprehensive overview of the main tax challenges allowed by digital procedures and transactions and provides enlightening insights on the methods and strategies utilized. An analysis of tax policies that would be effective in digital markets is performed, with insights and conclusions from empirical and experimental research; it is aimed at measuring and testing the impact of tax policies on companies’ incentives to adopt aggressive tax planning and on tax revenue and the allocation of the fiscal burden across enterprises.

Chapter 9, by Maria Alessandra Stefanelli, offers an exhaustive outlook at the EU Commission’s steering intervention and paves the way for Part III on the regulation of the digital single market. Moving from the Commission’s definition of a digital single market, Stefanelli explains how the regulation of the digital single market can benefit SMEs, which are exposed to multiple shortcomings. These include scant familiarity with digital technologies coupled with limited access to operations on an international scale and a feeble capacity for data protection. Her contribution subsequently introduces innovative tools to combine regulation and digital innovation, such as digital hubs acting as intermediaries among a plurality of public and private actors. These comprise public bodies, companies of different sizes and different sectors, and industrial clusters, which jointly design and experiment with digital infrastructures. In a related vein, sandboxes are described as settings in which a selected set of companies, under the supervision of competent public bodies, can test novel financial regulation as well as its interplay with organizational processes and performance. The necessity to make regulation and digital technology evolve together, rather than regulation chasing technological development, is advocated through elaboration of the concept of anticipatory regulation.

Chapter 10, by Beatrice Bertarini, complements the chapter on regulations by focusing on banking and financial disintermediation in the digital age. It investigates whether and how SMEs can access the new forms of financing that disintermediation brings about and the European Union regulatory
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framework of control and supervision. Nowadays, disintermediation means that borrowers and lenders interact with each other directly, without the need to involve an “intermediator.” It is new technologies (especially blockchain) that have allowed this. New services, like crowdfunding and crypto assets, are particularly suitable for SMEs. At the same time, the process requires attentive regulation to protect SME investors, who might be particularly vulnerable to financial downturns. Bertarini argues that the EU regulation of these phenomena is based on flexibility and openness. The idea is that the new regulatory framework must be able to encompass new financial services as soon as they enter the market, with the aim of protecting investors.

The eleventh chapter, by Stefano Zunarelli, tackles the topic of logistics integration in the digital single market, specifically targeting the regulation of maritime transportation. The contribution considers how regulation at the European Union level handles the growing need for the management of online logistics transactions by emphasizing the adoption of electronic means. The electronic functioning of the international carriage of Goods by Road (e-CMR) and the implementation of digital platforms such as port community systems are subsequently parsed out. Management of integrated logistics in Italy is then explained, including the peculiar range of actors that must be coordinated to yield smooth and efficient services, such as small and large carriers, logistic operators, cargo operators, and interested public bodies. The author focuses on the heterogeneous services conveyed by the Port Community System GAIA to a set of public and private parties, SMEs included, and on the creation of controlled custom corridors that enable custom controls to be carried out at the warehouse instead of from the arrival site. Finally, the advantages and shortcomings of the digitalization of transport documents are discussed, stressing how more efficient and timely processes can be based on increased investments and continuous training programs.

In the twelfth chapter, Umberto Michele Carbonara departs from the more regulatory focus of the three preceding chapters in the legal section and moves toward EU company law. The chapter presents the first of the two directives included in the European Commission’s company law package: Directive 2019/1151/EU on the use of digital tools and processes in company law and the questions related to its transposition into the legal systems of the Member States. The Directive regulates the online formation of companies, the registration of branches, and their legal disclosure. Simplification and de-bureaucratization will benefit small and medium enterprises, in particular, because the costs of formation might fall heavier on the smaller-sized newly formed companies. However, the Directive presents some problematic areas that need to be carefully addressed during its transposition, such as the control of the legality of the formation procedure by Member States, the standardization of the instrument of constitution and of the statute, and the online
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procedure for the formation of a new company hosted by online platforms. The chapter tries to distinguish between the positive and the problematic effects of the Digitalization Directive, especially for small and medium enterprises. The transposition into Italian law, through Legislative Decree, 8 November 2021, n. 183, is also discussed.

NOTE


REFERENCES


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