

Introduction

The evolution of digital technology is one of the most significant drivers of change in consumer behavior in the twenty-first century. Markets and businesses are constantly challenged by how important digital connectivity is becoming to consumers.

Western Europe is still the most developed e-commerce market in Europe, accounting for 70 percent of the total e-commerce value on the continent and the highest share of online shoppers (83 percent) (*European 2020 Ecommerce Regional Report*, 2021, p. 34). European e-commerce was worth €717 billion at the end of 2020, with a 12 percent growth that shows signs of a year-on-year slow-down. Central and Eastern Europe (CEE) is the region where the largest growth in digital transformation has been recorded in recent years.

Since the interpretations of CEE countries differ, in this Element we use the definition established by the United Nations Statistics Division, which has a list of geographic regions it uses in its publications and databases. According to this interpretation, CEE consists of: Belarus, Bulgaria, the Czech Republic, Hungary, Poland, the Republic of Moldova, Romania, Russia, Slovakia, and Ukraine (*United Nations Group of Experts on Regional Names*, 2021).

The e-commerce markets in Romania and Bulgaria both increased by 30 percent in 2020, which is the highest growth number in Europe. These, however, are also the two countries with the lowest share of online shoppers (31 and 29 percent respectively). Russia stands out in the region as an e-retail powerhouse, with e-commerce growing ten times faster than traditional retail (*Eastern and Central Europe on Payment Trends*, 2020). The growth potential of CEE digital shopping is also visible in the pace of mobile retail commerce sales growth in 2021 in CEE. The region noted the second highest growth rank (behind Latin America) of 22.3 percent (*Retail mCommerce Sales Growth Worldwide*, 2021).

Importantly, the CEE region is not a consistent one in terms of digital and e-commerce adoption. With growing internet penetration in each of the CEE countries and major leaps observed both in e-commerce and m-commerce adoption, the region should be treated as one with significant potential for growth, with globalization of digital consumer behaviors and growing consumer confidence being significant factors that underline the potential of the region. Indeed, the COVID-19 pandemic has only accelerated digital transition and has helped to bring populations closer to e-commerce, including in countries that were previously slower to adopt new shopping technologies.

The CEE region's development in e-commerce seems to be a battleground between, on the one hand, the globalization of consumer expectations and, on

the other, geo-political barriers and dependencies. In some countries, consumers' enthusiasm towards digital technologies appears to indicate the market's strong readiness for e-commerce development. For example, Polish consumers are among the fastest in Europe to transition to digital wallets, and Romanians are the top consumers of mobile technologies. On the other hand, low levels of trust make Ukrainians and Russians wary of digital payments, meaning that physical payment remains the most popular form of transaction (Sergi, 2019). These contrasting forces create a unique digital landscape, which makes CEE a region that can experience sustained growth based on digitization.

1 Systematic Literature Review of Digital Innovation in Emerging Markets of Central and Eastern Europe

The economies of Central and Eastern Europe have been a focus of research since the early 1990s, when they showed record growth and progress after decades of socialism. However, this unprecedented growth was achieved while relying on structures created by the politics of the Soviet bloc, which bear unique implications on the shape of the countries today. Szunomár (2020) outlines the geo-political specifics of the region regarding the countries' shared approach towards innovation during the Soviet era. The political and economic development of CEE countries took shape under the Soviet totalitarian regime of omnipotent bureaucratic coordination in the economy (Szunomár, 2020, p. 22). The system favored concentration of industries and the establishment of large, vertical companies. Under such conditions, innovations were treated as uncertain and threatening, and therefore redundant. Szunomár also claims that “engineering and research capacities were used to innovate around already existing technical solutions of the West” (Szunomár, 2020, p. 23). Most companies in the Soviet bloc performed poorly and lacked modern knowledge of business management. International cooperation was undesirable and sometimes even forbidden, with the state controlling all foreign contact.

Socialist countries were not uniform though, with Poland and Hungary attempting to introduce political and economic reforms after 1989 that impacted upon the logic of their centrally planned economies and opened the countries up towards market-driven Western economic systems. However, such an approach was significantly different from other CEE countries that had belonged to the Soviet bloc. Szanyi and Szabo (2020) state that the development gap increased especially after the oil shocks of 1970s and the transformational crisis after the collapse of Soviet-style economies occurred throughout the region, causing further losses in economic output. Nolke and Vliegenthart state that “since the collapse of state socialism in the late 1980s, the Czech Republic, Hungary,

Poland, and the Slovak Republic have introduced a rather successful model of capitalism when compared with other post-socialist states” (Nolke and Vliegenthart, 2009). Szunomár (2020) supports this opinion by stating that “the four Visegrad countries (Poland, Czechia, Slovakia and Hungary – V4) had always been relatively more developed than the Balkan countries (Romania, Bulgaria, Serbia), and also their transition process seemed to be more consequent and quicker” (Szunomár, 2020, p. 25).

Privatization of state-owned businesses and new labor reforms in Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, and Slovakia followed and opened the markets to foreign investments. However, after the initial years of economic development, a decline in CEE economies occurred until the mid-1990s with recessions lasting until the early 2000s (and even longer in the Balkans), followed by very rapid development and a massive influx of multinational businesses. As observed by Szanyi (2021), these accelerating trends were still not sufficient to match leading European economies, even in the V4 countries (Szanyi, 2021, p. 68). Insufficient acceleration was a result of exceptionally slow development of the 1974–90 period.

The global financial crisis of 2008 again put a halt to rapid growth of CEE economies. However, after subsequent recession, the region’s economies reverted to the pace of annual growth rates that had allowed them to advance and chase Western-European economies. With an average GDP growth of 3.9 percent between 2015 and 2017, CEE markets developed 70 percent faster than Western Europe and more than twice as fast as the European Union’s “Big 5” of France, Germany, Italy, Spain, and the United Kingdom (*Real GDP Growth Rate*, 2020).

As observed by Labaye (2013), economic models of CEE markets need to be adapted to underline investment-led growth that is focused on digitization, infrastructure improvements, accelerated urbanization, regulatory reforms, institution building, investments in labor-force skills, and efforts to encourage R&D and innovation. In addition, these economies must address the aging of the workforce by raising the labor-participation rate of women and younger workers (Labaye, 2013, p. 29).

In 2019, before data including the COVID-19 pandemic impacted forecasts, Novak et al. (2019) stated that “by closing the digital gap to Western and Northern Europe, CEE could earn up to EUR 200 billion in additional GDP by 2025” (Novak et al., 2019, p. 9). Digitization, they argue, would secure this scenario by digital transformation of public and private sectors, and by boosting e-commerce.

Linked to this, Namysł et al. (2019) also consider e-commerce as the key trend in European retail, with considerable room for growth, especially in

mobile commerce (Namysł, Jurkanis, Yearwood, and Sikora, 2019, p. 3). According to 2019 forecasts, m-commerce was estimated to take 27 percent of total e-commerce in Europe by 2022 (Namysł, Jurkanis, Yearwood, and Sikora, 2019, p. 3).

Pre-COVID-19 predictions assumed a continuous process of globalization and developing integration between European countries. Cross-border e-commerce and multinational digital transformation were at the core of the forecasted shifts in favor of CEE countries. Development of information technologies in CEE brought new forms of business organization, where more mature markets could integrate their operations with a lower-cost labor force and growing digital expertise. As stated by Szanyi (2021), “the CEE countries become primarily as innovation and human suppliers of global firms” (Szanyi, 2021, p. 69).

However, these new forms of cooperation are bringing shifts to value chains and the loss of autonomy in decision making (Yakovlev, 2021, p. 34). New markets, including those of CEE, began to pose a threat to existing players, making the opportunities of business integration less optimistic. Yakovlev (2021) predicts “a fresh increase in polarization between rich and poor countries” (Yakovlev, 2021, p. 34).

Moreover, longstanding and viable technology development programs require the development of competitive local companies. Economies in CEE still struggle with stable, local technological performance due to deep-seated corruption and rent seeking, which blocks innovation (Szanyi, 2021, p. 69). Lack of systemic change in a competition-based economy may lead to insufficient development of local digital competition and decreasing integration with multinational technology companies. Szanyi (2021) also sees risks for CEE from China’s emerging economy, which could destabilize the competitive edge of CEE, and create unsustainable dependence on Chinese investments and technologies (Szanyi, 2021, pp. 72–3).

Technological development and innovation in e-commerce are key drivers for CEE e-commerce to grow and build a competitive edge (Novak et al., 2019, p. 42). Technical progress has been treated as the “introduction of new processes that reduce the cost of producing an essentially unchanged product” (Rosenberg, 1983, p. 4). Technical progress, according to Rosenberg (1983), should always be supplemented by product innovation, which drives quality improvement and is “the most important long-term contribution of technical progress to human welfare” (Rosenberg, 1983, p. 4).

There is a common agreement among leading CEE market analysts and forecasters that the region is well positioned to propel technology development and innovation. Reports by Galante et al. (2013), Manyjka et al. (2016),

Ignatowicz et al. (2018), and Namysł et al. (2019) all give a comprehensive outlook on CEE digital evolution and potential. The e-commerce surge caused by the COVID-19 pandemic in 2020 only strengthened the optimistic market predictions, which can be observed in the works of Dan (2021a, b, c, d), Khoruzhyy (2021), Milasevic (2021), Poletajevs (2021) and Iszkowska et al. (2021). E-commerce, together with mobile e-commerce, are unanimously considered the top drivers for growth and the top priorities for innovation in CEE.

One of the prevalent factors driving digital transformation forward is the way CEE's citizens have embraced the shift. Beugelsdijk et al. (2017) underline that there are specific cultural traits that can be more region than country-specific, which allows us to treat the CEE as a cultural cluster (Beugelsdijk et al., 2017, p. 35). This supra-national cultural unity is possible since "countries having a history of close ties because of proximity, trade, conquest or religion show more similar cultural values due to institutional transmission than do countries lacking such ties" (Peterson and Barreto, 2015, p. 26). Tsotsou (2019) uses Hofstede's six cultural value score model to outline the specifics of the CEE cluster, stating that "Central Eastern European countries are high in power distance, uncertainty avoidance, collectivism, long-term orientation and restraint" (Tsotsou, 2019, p. 825). Solomon et al. (2010) define "emerging consumer culture" – to which CEE states adhere – as one that is defined by rapid change and aspirational shopping behaviors due to exposure to global communication and external market pressure (Solomon, Bamossy, Askegaard, and Hogg, 2010, p. 48). The level to which CEE consumers strive to mimic Western consumer patterns is debated by de Mooij (2018), who raises the argument of nationalism and price-driven rational shopping as a contrast to Western impact on CEE (de Mooij, 2018, p. 33). Arnold et al. (2019) also draw attention to lower purchasing power of CEE consumers as an important factor affecting their purchasing decision-making process (Arnold, Chadraha, and Springer, 2019, p. 8).

Most recent predictions about further digital transformation of the CEE region are focused mainly on consumer-driven digital readiness and trends propelled by the COVID-19 pandemic and do not elaborate on the systemic issues voiced by Szanyi (2021) or Yakovlev (2021). Högselius (2005) claims that due to CEE's economic and societal legacy, future development of the region can only be achieved via "active involvement in the creative generation and further development of . . . new technological processes" (Högselius, 2005, p. 3), and not with one-to-one imitation and adaptation of Western formats. The economic strengths of CEE so far have mainly been found in areas where competitiveness is determined by the availability of low-wage labor, whereas innovation came from the Western markets (Sergi, Bagatelas, and Kubicova,

2007; Högselius, 2005, p. 5). Creative innovation in digital and e-commerce can break this pattern if it is driven by markets themselves and if it is adapted to local specifics of the CEE cultural cluster (Kucia et al., 2021).

Whether such market-driven innovation would be led by multinational or local enterprises is a matter for debate (Wamboye, Tochkov, and Sergi, 2015). Pfirrmann and Walter (2002) argue that SMEs (small and medium-sized enterprises) could lead successful innovation in the CEE region (Pfirrmann and Walter, 2002, p. 3), whilst Ignatowicz et al. (2018) draw attention to the recent emergence of digital “unicorns” – small local companies that have successfully leveraged the digital economy (Ignatowicz et al., 2018, p. 39). Bitzer (2000) however suggests that since Western models cannot be applied due to different financial and institutional conditions, new models should be created which would consider existing limitations (Bitzer, 2000, p. 23). Ignatowicz et al. (2018) outline seven key enablers for digitization of the CEE region:

- increase of adoption of digital tools
- increase of adoption of digital skills and take-up of digital skills by general population
- development and promotion of digitized government solutions
- leveraging CEE’s specialist IT pool
- increase of lifelong learning among individuals and digital trainings by companies
- fostering entrepreneurship to stimulate the start-up ecosystem
- improvement and standardization of CEE regulatory environment to ensure attractiveness of investments and easy scalability across the region (Ignatowicz et al., 2018, p. 42).

In an online addendum to the report created by Ignatowicz et al. in 2018 for McKinsey & Company, Marciniak et al. (2021) share an update on the forecasted growth of CEE digitization and e-commerce. The unlocked potential of digital shopping drew double-digit increases in this sector across all markets in the region, but also put additional pressure on small and medium-sized enterprises, which lag on digital adoption in comparison to bigger and international e-commerce businesses (Marciniak et al., 2021).

Galante et al. underline that recognizing market-specific online user experience is fundamental for successful digitization and e-commerce (Galante, Garcia Lopez, and Monroe, 2013, p. 28). For local players, whether big or small, shopper convenience should be at the core of innovation, and it should always be correlated with quality, product range, and pricing strategy. Value propositions should be adapted to meet current consumer needs, recognizing their shifting behaviors and purchase barriers.

2 The Rise of Digital Shopping in CEE Countries – A Consumer-Led Transformation

Central and Eastern Europe is a 172 million-strong consumer market and, according to Colliers International report, it is poised to deliver better growth rates and returns in retail than most developed markets (Turpin et al., 2021, p. 4). The labor market has been improving steadily for the last decade, in turn increasing purchasing power of consumers. The biggest impact and potential of CEE retail has been e-commerce, which has become fundamental to the transformation of the sector. This impact on online shopping has been even more significant due to the COVID-19 pandemic.

Not all countries have been affected equally by the pandemic and the CEE region recorded circa 1,400 cases per million inhabitants, significantly less than Western Europe (Iszkowska et al., 2021, p. 15). Although these differences can be attributed to lower levels of testing in the region, CEE countries did implement lockdown measures, border closures, mandatory masks outdoors, restrictions on non-essential services, and limitations on social gatherings relatively early and fast.

Strict lockdowns caused abrupt closures of brick-and-mortar stores and long-term disruptions to services. COVID-19 caused a steep 20–45 percent decline in footfall figures in shopping centers in 2020, compared to 2019 (Turpin et al., 2021, p. 9). Even though the share of online sales varies considerably, an e-commerce surge can be observed across the entire CEE region and this shift has occurred because of two, interconnected significant factors – technology and consumers.

Technology in CEE has a strong potential to chase the long-established digital ecosystems of Western Europe. New players in CEE did not suffer such a strong “technology lock-in” as their Western and Northern European counterparts. While more advanced companies in Europe developed their core IT systems during the 1970s and 1980s, CEE countries were neither able to create their own solutions nor to build on Western developments at that time. However, by joining the digitization process relatively late, CEE markets are much less limited by legacy systems that often remain in place in Western markets. Current adoption of new technologies is easier and cheaper for CEE markets, allowing them to leapfrog to the most immediate and most recent technological solutions.

Bypassing technology lock-in puts CEE markets at the forefront of innovation. This can be observed in the fact that the region has seen vibrant growth, with multiple digital success stories across the area, and several digital-native companies achieving unicorn status (a valuation of more than \$1 billion)

(Ignatowicz et al., 2018, p. 6). Iszkowska et al. (2021) observe that “various tech clusters are emerging on a regional and country level, strengthening the credibility – and visibility – of specific sectors and individual players on the international stage” (Iszkowska et al., 2021, p. 22). In 2019, among the analyzed markets were five CEE unicorns: Allegro and CD Projekt from Poland, UiPath and eMag from Romania, and Avast from the Czech Republic. There are also numerous rising stars – defined by Iszkowska et al. as non-acquired, non-public start-ups founded since 2000, with a minimum €1 million in total funding and with a maximum valuation of €800 million (Iszkowska et al., 2021, p. 23). Among the analyzed countries, there were twenty-three rising stars in 2019:

- Poland: Applica, Booksy, Brainly, Docplanner, Huuuge, Imfermedica, Nomagic, Packhelp
- Hungary: Almotive, Prezi, Tresorit, Bitrise, Commsignia, Sharp 3D
- Romania: Elefant.ro
- The Czech Republic: Twisto, Liftago
- Bulgaria: Remix, Gtmhub, Office RnD
- Slovakia: Sli.co, Photoneo, Minit.

Most emerging companies operate in the gaming, cybersecurity, software, and fintech sectors. Due to the small size of individual markets in CEE, numerous start-ups do not receive sufficient funding and governmental support to grow and gain international recognition. However, the success of the above examples proves the potential of CEE players. With the COVID-19 pandemic, the European Commission has strengthened its stance on the importance of digital innovation and digital autonomy. Currently CEE countries have a unique opportunity to obtain funds and support for digital transition (Iszkowska et al., 2021, p. 28).

Advancement of CEE in digital economy would not have been possible without the readiness of consumers to embrace the new technologies. Growing connectivity has unlocked new opportunities related to internet usage and reinforced economic growth. Between 2005 and 2014, cross-border bandwidth grew forty-five times and contributed to increasing global GDP by around 3.6 percent (Manyjka, 2016, p. 3). Fast broadband allows CEE societies to benefit from digitization and is fundamental to ensure sustainable development. In this regard, the CEE region is well positioned: over the past twenty years, CEE countries have managed to develop an average of 94 percent household coverage for fixed broadband, very close to the 98 percent benchmark for Western Europe (Manyjka, 2016, p. 31).

Connectivity is the first step for online consumer adoption. Nevertheless, CEE consumers still perform fewer digital activities than their Western counterparts. Online banking is used by 52 percent fewer citizens in the East, with

only 39 percent of the population. Using online travel and accommodation services is declared by only 29 percent of the respondents, while in Western Europe this is a practice performed by over half of the population (Ignatowicz et al., 2018, p. 44).

Furthermore, up until recently people in CEE countries have exhibited a relatively low propensity for online spending, at around 15 percent of the US level (Ignatowicz et al., 2018, p. 14). A significant reason for these discrepancies has been considered to lie in a low degree of cross-border e-commerce in Europe: less than 10 percent of firms in the European Union engaged in cross-border sales or purchases in 2019 (Ignatowicz et al., 2018, p. 57). This is not common practice among European consumers, with only one in five Europeans purchasing goods online outside their home market. Consequently, this number is lower in CEE, where only one in ten consumers practice cross-border e-commerce. Ignatowicz et al. (2018, p. 57) state that strong consumer barriers lie behind such low levels of cross-border e-commerce, such as websites in foreign languages, longer delivery times, and higher delivery and return costs. However, it should be added that a surge in new e-commerce retailers, including cross-border giants like Amazon and Alibaba, is gradually opening new opportunities to CEE users with translated websites, attractive prices, and shortened delivery times.

The outbreak of the COVID-19 pandemic caused serious disruption in the functioning of the economies of CEE countries. Lockdowns, forced isolation, closure of retail and service establishments, sports venues, cultural establishments, etc. were traumatic experiences for many consumers, especially among the younger cohorts of the population. Consumers in many countries, including the CEE region, changed their everyday routine behaviors overnight (Mróz, 2021a, p. 36).

The 2020 COVID-19 pandemic drastically reshaped the global e-commerce landscape, leading to the biggest growth of e-commerce share across the entire CEE region. The unprecedented spread of the virus and subsequent lockdowns brought about new consumer needs and habits and, consequently, new solutions from businesses who struggled to survive in the changing environment. Closed shopping centers and home seclusion resulted in a sharp drop in sales in brick-and-mortar retail outlets and boosted a rapid increase in turnover in online stores, which began to experience a real surge, and the waiting time for delivery of ordered goods increased several fold (Mróz, 2021a, p. 41).

During the first months of the COVID-19 lockdowns, the digital economy of CEE accelerated considerably, “capturing 78%, or EUR 5.3 billion, of the increase seen in the whole of 2019 within the space of just five months” (Marciniak et al., 2021). The e-commerce surge has been driven mainly by

unprecedented consumer demand. Since the early months of 2020, 15 percent more consumers have accessed at least one online service in CEE. Before the pandemic, CEE users accessed around two services online daily, but this number doubled in 2020 (Novak et al., 2021).

Despite declining business activity, growing unemployment, and economic turmoil, the region has observed an unprecedented level of digitization, led by changing shopper behaviors. Consumers were offered a broader selection of online services, resulting in more extensive usage of digital solutions.

Research on the impact of the COVID-19 pandemic on CEE consumers performed by Iszkowska et al. (2021) shows that all age groups and geographies underwent a rapid digital adoption. Eighty-eight percent of consumers who accessed digital services said that they were either “satisfied” or “very satisfied” with the service (Iszkowska et al., 2021, p. 38). The main sources of dissatisfaction were the difficulty of using digital services and a lack of a full range of products accessible online (Iszkowska et al., 2021, p. 38). Importantly, across Europe as a whole almost 70 percent of users admitted that they would be willing to continue using digital services at the same or an even higher level after the pandemic (Iszkowska et al., 2021, p. 38). It means that private and public sectors should support the digital transformation of the economy to adapt to the new consumer behaviors.

One of the noteworthy consumer trends in the virtual environment is social commerce. Social media during the COVID-19 pandemic have become a catalyst for e-commerce development in CEE countries. Young adult consumers treat the Internet as a space where they can relax and entertain themselves, but also build bonds with other users as well as get valuable inspiration, tips, and advice. For self-assured, empowered consumers in CEE, the Web is also a place where they can share opinions on products and resolve their shopping dilemmas with the help of other users (Mróz, 2021b).

Reinforcing consumers’ readiness towards a digital economy should be at the core of CEE digitization and building a strong talent pool of digital experts could reinforce digital infrastructure and further develop internet coverage. Furthermore, governments and businesses should digitize their offerings, by making consumer journeys more convenient and simpler. Customer needs shifted towards online channels since the COVID-19 pandemic outbreak, and therefore product offerings should be adapted.

3 Key Shopper Behaviors and Drivers across CEE Markets

The CEE region has a social and economic legacy that brings as many challenges as opportunities to its population. Cultural differences and the stage of