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Digital Media in Foreign Direct Investment Policy of Agriculture

Media cyfrowe w polityce bezpośrednich inwestycji zagranicznych w rolnictwie

Abstract

This research comprehensively examines the impact of digital media on foreign direct investment (FDI) and agricultural development. It shows that digital transformation is fundamentally transforming the agricultural industry, going beyond advanced technologies and rethinking productivity, market access and value chains through smart agriculture, artificial intelligence, big data analytics and e-commerce platforms.

The analysis shows that digitalisation significantly increases the attractiveness of the agricultural sector for foreign direct investment. By improving operational efficiency, optimizing resource use and increasing yields, digital media tools increase the attractiveness of agricultural enterprises for efficiency-oriented FDI. Media platforms reduce information asymmetry, increase supply chain transparency, and facilitate broader access to markets,

thereby reducing investment risks and contributing to the creation of an adaptive environment for innovation and R&D-oriented foreign direct investment.

Key words: *digital media, foreign direct investment, digitalisation, sustainability, agriculture.*

Abstrakt

W tym badaniu kompleksowo przeanalizowano wpływ mediów cyfrowych na bezpośrednie inwestycje zagraniczne (BIZ) i rozwój rolnictwa. Pokazuje ono, że transformacja cyfrowa fundamentalnie przekształca sektor rolny, wykraczając poza zaawansowane technologie i predefiniując produktywność, dostęp do rynku i łańcuchy wartości poprzez inteligentne rolnictwo, sztuczną inteligencję, analizę dużych zbiorów danych i platformy e-commerce.

Analiza pokazuje, że cyfryzacja znacząco zwiększa atrakcyjność sektora rolnego dla bezpośrednich inwestycji zagranicznych. Poprzez poprawę efektywności operacyjnej, optymalizację wykorzystania zasobów i zwiększenie plonów, narzędzia mediów cyfrowych zwiększają atrakcyjność przedsiębiorstw rolnych dla zorientowanych na efektywność BIZ. Platformy medialne zmniejszają asymetrię informacji, zwiększają przejrzystość łańcucha dostaw i ułatwiają szerszy dostęp do rynków, zmniejszając w ten sposób ryzyko inwestycyjne i przyczyniając się do tworzenia środowiska adaptacyjnego dla innowacji i bezpośrednich inwestycji zagranicznych ukierunkowanych na badania i rozwój.

Słowa kluczowe: *media cyfrowe, bezpośrednie inwestycje zagraniczne, digitalizacja, zrównoważony rozwój, rozwój, rolnictwo.*

Methods and materials

We analysed the different datasets during our research and it has shown that the global agricultural sector is undergoing a keen transformation under the influence of digital technologies, often referred to as “smart” or “e-agriculture.” This evolution promises to increase productivity, resilience, and sustainability across all stages of the agri-food value chain. At the same time, foreign direct investment (FDI) is a key channel for the flow of capital, technology, and expertise needed to modernise national economies. The introduction of advanced digital technologies in agriculture remains low due to high costs, difficulties in scaling up investments and limited experience. We should emphasise that FDI has become a main factor in Poland’s economic growth, having a significant positive impact on the agricultural industry through technology transfer. (Ambroziak, 2024) However, the amount of FDI invested in scientific research is limited and foreign ownership of agricultural land is regulated by law.

International investment has been a main factor in Poland's economic convergence, with FDI inflows increasing rapidly after the 2008 crisis. By 2023, FDI in Poland accounted for 40% of GDP, higher than in some advanced EU countries but lower than the OECD average. Foreign companies are 43% more productive than domestic ones and play a significant role in manufacturing; however, they remain underrepresented in high-tech services, limiting the potential for productivity spillovers in these knowledge-intensive sectors. FDI in Poland is concentrated mainly in medium-productivity industries, while investment in research and development remains limited, with less than 2% of new greenfield FDI projects in the period 2003-2023 related to R&D, lower than in similarly situated EU countries. (OECD, 2025)

The linkages between FDI and small and medium-sized enterprises (SMEs) create opportunities for productivity growth. Foreign companies purchase 68% of intermediate inputs on the domestic market, comparable to large EU economies, which creates opportunities for knowledge and technology transfer through buyer-supplier relationships. However, partnerships between companies in research, development and innovation remain underdeveloped. Polish companies prefer to cooperate with domestic rather than foreign ones, indicating potential difficulties in reaping the benefits of innovation and digital transformation spillovers associated with FDI. The potential for knowledge transfer through other channels, such as the inflow of skilled professionals from foreign multinational corporations to local SMEs, is limited by the wage gap and limited training opportunities. (OECD, 2025)

Accordingly to some advanced researches – in the digital age FDI will be geographically concentrated and less international in scope. Investment policy will be much less dependent on national capitals and more regulated by the Commission under the Common Commercial Policy (CCP). (Götz, 2019)

A vital observation is that the definition of “digital media” in this context goes beyond traditional communication platforms and encompasses a wide range of digital agricultural technologies, comprising the Internet of Things (IoT), artificial intelligence (AI), and Big Data mining analysis. Moreover, foreign direct investment in digital agriculture represents a unique opportunity to “merge digital and green technologies,” contributing to both technological progress and environmental sustainability. However, the existing “digital divide” in agriculture and the potential gap between macro-level digital strategies and the specific needs of the agricultural sector may hinder the full realisation of these benefits. The potential for innovation transfer from foreign companies involved in digital agriculture to local small and medium-sized enterprises (SMEs) is also underestimated and complicated by difficulties in attracting and retaining specialised digital professionals.

To utilise digital transformation for agricultural development, countries have to prioritise targeted investments in digital rural infrastructure, dynamic

human capital development in agricultural skills, and an optimised regulatory framework that removes land ownership restrictions for foreign investors. Strengthening linkages between foreign investors and local small and medium-sized enterprises, as well as a comprehensive policy approach that clearly aligns digital and agricultural strategies, will be crucial this way.

Together with these technological developments, FDI continues to be recognised as a key trigger of economic development, particularly in developing countries and countries with economies in transition. FDI is a reliable channel for capital inflows, facilitating technology transfer and bringing advanced management practices to various sectors, including agriculture. (Lytvyn, 2025)

Digital technologies are becoming a strategic driving force for the innovative development of agricultural enterprises, allowing them to optimise production processes, increase efficiency, and improve the competitiveness of the agricultural sector. Digitalisation increases the resilience of the agricultural sector, allowing it to respond to global issues, also known as climate change, resource scarcity, increasing demand for food quality. The availability of digital technologies creates new opportunities for small and medium-sized agricultural enterprises, allowing them to compete with large corporations and access global markets.

Smart and efficient agricultural production methods are determinative to address the challenges of limited resources, adverse climate change and the growing demand for food by the world's population. It is quite urgent to raise awareness of food security in the context of sustainable agriculture. The development of new technologies not only allows for increased yields, but also opens up opportunities for more sustainable agriculture and motivates young people to build careers in this innovative agricultural sector. Technologies used in smart agriculture that help solve current and future socio-economic problems include application of both: digital media and technologies. However, the implementation of smart agriculture requires significant investments, both financial and educational. It is necessary not only to purchase appropriate equipment and infrastructure, but also to adapt administrative procedures and rules to new technologies. In addition, it is important to raise awareness among farmers about the benefits of digital smart agriculture and provide them with appropriate education and training. (Kobus-Cisowska, Dziedziński, 2023)

Development of smart agriculture and digital technologies can motivate young people to work in the agricultural sphere. Innovative technologies and the possibility of using modern tools can attract a new generation to agriculture, which is increasingly focused on technology and sustainable development.

We can assume that smart agriculture is the most important tool for achieving sustainable development goals in the agricultural sector. (Lytvyn,

2025) The introduction of new innovative technologies allows efficiency increasing, optimised production, reduced negative environmental impact and strengthened food security. However, to fully realise the potential of smart agriculture in Poland, additional investments and training of farmers are required. (Kobus-Cisowska, Dziedziński, 2023)

The digital transformation of agriculture is a strategic goal for Poland and many other countries in Europe and across the world. In order to increase the pace and efficiency of these changes, modern research is needed that will comprehensively support digitalisation processes in agriculture, including by studying the application and conditions of development of innovative products and services for different types and typical farms in Poland and other EU countries. The most important measures to be taken are as follows: promoting public trust and acceptance of the created systems, available in digital format. Usage the general exclusion provisions to confirm that research and development meet the needs of promoting responsible research and innovative solutions. (Kosior, 2023)

It has been known for a long time that digitalisation and the digital transformation is amongst the most serious challenges facing contemporary business and society. Do we sufficiently understand processes that these technologies are triggering? Do we sufficiently recognise the interconnectedness of the different societal subsystems that undergo radical changes as a result of digitalisation? Do we realise how to harness potential of digitalisation to serve our society for a long term, rather than living its own life serving private interests? Is this technology more advanced than understanding its purpose? This question is quite a complex one.

People all over the world are becoming more aware that they are facing some global problems - issues caused by man as a technical subject, for which no one was prepared. Suffice it to mention the threats to our natural environment, biodiversity and climate. Actions to ensure sustainable development, protect our natural environment in all its diversity and protect the climate are high on the global agenda. If digitalisation is a technological option that expands potential in various technical and economic sectors, thereby transforming societal systems, as it is the public interest to attain clarification how to achieve resilient development. Reflections on digitalisation must comprise reflections on sustainable development. (Herberger & Dötsch, 2021)

Digitalisation involves usage of digital technologies for the transformation of business models and elaboration of the new opportunities for revenue generation, value creation and etc. Essentially, digitalisation is the technologies utilisation to convert analogue information into a digital appearance. Moreover, it is widely recognised that digitalisation has a huge impact on companies, upstream and downstream enterprises, networks, and ecosystems. HR has an important impact upon innovative way of digital transformation

in agriculture. Changes in human resources of the agricultural industry might increase the human capital level and promote the efficient use of smart digital technologies in agricultural productivity. (Chen, Yang, Li et al. 2024)

To a great degree, ability to use digital technologies in agriculture depends not only upon access to essential communication infrastructure (broadband connection, telecommunications and others). At the same time it depends on data collection range development, services analysis, regulatory framework (including interaction principles, standards of data quality, standards and rules regarding data privacy, skills, common modeling frameworks, social digital platforms, cloud storage or computing). The mentioned elements jointly determine the efficient creation of digitalisation systems in agricultural sphere and provide infrastructure for data. (OECD, 2019)

Digital innovations also contribute to the introduction of environmentally friendly agricultural practices, such as precision agriculture and the wise use of available natural resources accordingly to principles of resilient development. Digital solutions practical implementation requires effective public policies, investments in infrastructure and the development of digital education programmes in agriculture. Digitalisation of the agricultural sector is a serious element of its transformation and innovative development. Active implementation of digital technologies will increase the competitiveness, efficiency and sustainability of agricultural enterprises in global conditions. For countries seeking to modernise agricultural practices and integrate into global value chains, attracting strategic FDI is becoming a priority nowadays. (Tomashuk, Koliadenko, & Burdiak, 2025)

Digitalisation is also seen as a driving trigger for the development of agricultural knowledge and innovation systems (AKIS). Within this emerging but increasingly popular thematic cluster, different lines of research can be distinguished, looking at knowledge and innovation systems from a macro, meso or micro level. At the macro level, some studies, based on the concept of innovation systems, examine how innovation support structures facilitate digitalisation and how digitalisation changes them, for example through the introduction of big data analytics. (Klerkx, Jakku, & Labarthe, 2019)

Digital agriculture is often referred to as smart agriculture or e-farming, encompasses a wide range of tools and methods aimed at digitally collecting, storing, analysing, and disseminating electronic data and information in the agricultural sphere. It involves advanced technologies integration, such as artificial intelligence (AI) enabled by Internet of Things (IoT) (Dmowski, Bartyna, & Stępnia, 2025) and advanced data analytics (Abiri, Rizan, Balasundram et al., 2023).

Digital technologies are transforming business processes by significantly reducing the costs associated with data replication, transportation, tracking, verification, and retrieval. This natural increase in efficiency leads to increased

productivity and operational efficiency across the entire agricultural value chain. (Miller, Mikiciuk, Durlík et al. 2025)

The value of investing in digitalisation and digitization is recognised globally and financially. Companies often recognise the value of investing in digital technologies to enhance their research and development (R&D) capabilities and reduce risks. However, digital transformation has led to certain changes in business models and structures, primarily aimed at improving business efficiency and effectiveness. Investments in innovative tools or processes are aimed at ensuring the sustainable development of the company, innovation, prosperity, job creation, improving the standard of living, and readiness for market changes that affect business activities. (Al Dhaen, Gallear D, Weerakkody et al. 2025)

One of the most important factors in the development of agriculture in Poland, EU and around the world is investment, a key element in technology progress, that leads up to increasing efficiency of all factors of production and increased production of food. Potential growth of both agriculture and economy depends upon technological change. Investments play a key role in the development of capital. They contribute to the growth, efficiency and development of agriculture. Capital investments can contribute to the modernisation of agricultural machinery and increase the efficiency of agriculture. They contribute to the introduction of new technologies and livestock facilities that support global food self-sufficiency.

Limited financial resources determine the adoption of optimal investment decisions. The level of investment is determined by a number of factors, mostly crucial are initial costs, projected service of investment life cycle, operating costs, market share. Investments are vital not for farms only, but also for any firm and must contribute to the efficient use of resources, including financial and natural. The investment process contributes to technical and technological development. Capital investments in Polish agriculture are key for increasing competitiveness and economic efficiency, digital reforms enacting. (Bórawski, Guth, Bėdycka-Bórawska et al. 2020)

It is known that FDI is an important form of cross-border capital flow, characterised by long-term relationships and a significant degree of influence by an investor resident in one economy over an enterprise resident in another economy. This influence is usually defined as ownership of 10% or more of the voting shares or an equivalent interest in management, rather than just financial interests.

FDI can take many forms. Greenfield investments involve the establishment of completely new production facilities, offices, or new businesses in a foreign country. This type of investment often results in the creation of new jobs and production capacity. Alternatively, FDI can be made through mergers and acquisitions (M&A), where the investor acquires

or merges with an existing foreign company. Capital can also be invested in existing businesses without the need for a full takeover. The choice between greenfield investments and M&A investments may depend on strategic objectives, market conditions, and the regulatory framework. It is worthy to note that recently, greenfield investments have attracted significant attention in national policy, especially in countries such as the United States, due to concerns about foreign competitors' access to key sectors and technologies.

The motivations for FDI in agricultural industry are diverse and go beyond purely commercial considerations. Investors often look for to gain access to natural resources, secure raw materials, or expand their supplier base. Market access is another vital factor in companies' global expansion and attracting new customers. On the other hand, motivations include tapping into the labour supply of a foreign economy, acquiring or transferring advanced technology, ensuring security of supply, or controlling the quality of specific products in the value chain. For host countries, attracting FDI is often seen as a way to stimulate economic growth, create high-paying jobs, foster innovation, and expand international trade. However, policymakers also face concerns that some FDI can lead to the offshoring of production and jobs, potentially weakening a country's competitiveness or creating national security concerns, especially in strategic sectors of the economy.

Digital media and technology have fundamentally changed the structure of FDI, especially in the agricultural sphere. Their impact spans the entire FDI decision-making process: from initial market research and due diligence to investor communications and the creation of frameworks to ensure transparency and accountability.

Digital media platforms offer benefits, they also carry significant risks as it is concisely shown at Table 1. Disinformation can spread widely, potentially manipulating public opinion, influencing election outcomes, and leading to significant economic losses when misinformation influences foreign investment decisions.

The ease with which information (and misinformation) spreads can lead to a "hype" that obscures the truth, prompting investors, especially new ones, to make risky decisions based on popularity rather than solid fundamentals and conducted analysis. Influencers or "financial gurus" with limited knowledge or qualifications may offer investment advice, potentially misleading their followers. This can lead to "herd behaviour," where investors blindly follow trends without doing their own research, as exemplified by high trade of "memos action" and crypto currencies.

Widespread risk of disinformation, information bubbles and herd behaviour pose a serious threat to the integrity and stability of investment flows, including foreign direct investment in agriculture. This suggests that sound data governance, strict transparency requirements for investment content

and proactive financial education initiatives are not just best practices but also essential safeguards against unstable and irrational allocation of capital in the agricultural sector.

Table 1

Potential impacts of digital media application on foreign investment decisions*

Criteria/Aspect	Benefits	Risks
Information access	Easier access to a variety of online information sources.	Disinformation influencing investment decisions and causing economic losses.
Knowledge and awareness	Increased financial awareness: more than half of gen Z and millennials look for financial advice online.	The information bubble effect: algorithms that reinforce existing beliefs, leading to narrow perspectives.
Market dynamics	The dynamics of e-commerce: social media and the metaverse are driving e-commerce growth (nearly \$1 trillion in social commerce).	FOMO (Fear Of Missing Out) driving emotional, impulsive decisions.
Coverage	Global coverage: digital platforms like Facebook, Instagram, TikTok are global hubs for trading and investment discussions.	Emotional decisions: investing based on fear or greed rather than facts.
Efficiency	Information exchange efficiency: faster information exchange between peers and institutional investors.	Herd behaviour: blindly following the advice of others without independent research.
Qualifications	It is not directly related to benefits, but access to trusted sources.	Influencer's qualification lack: advice from people without the relevant knowledge or license.
Transparency	Increased transparency in some areas through direct communication.	Hidden promotions: influencers promoting products/activities for a fee without clear disclosure.

*Compiled based on own research.

Table 2
Innovative digital agriculture technologies and their applications*

Technology name	Definition	Agricultural Application
IoT devices	Physical objects network with embedded sensors, digital software, another technologies to link and data sharing.	Soil moisture as well as nutrient sensors, wearable livestock health monitoring devices, automated irrigation systems.
Artificial Intelligence (AI) & Automated Learning (AL)	Algorithms that enable systems to learn based on data, detect patterns, also make predictions or decisions.	Predictive analytics for optimal planting/ harvesting, disease/pest control, yield forecasting, advanced data analysis.
The Cloud	Availability of computer system resources on demand, data storage and processing power, without direct active user control.	Storing huge datasets from sensor and remote sensing data for data-driven inquiry.
Unmanned aerial vehicles (UAVs) / drones	An unmanned aerial vehicle used to collect aerial data.	Weed detection, crop condition assessment, remote sensing, field mapping.
Robotics	Programmable machines capable of automatically perform complex of series actions.	Automated harvesting, planting and spraying, reduction of human labour.
GPS guidance	A satellite navigation system that provides location and time information.	Guide for tractors and agricultural machinery for precise chemical application.
Big Data analytics	Processing and analysing large scale and complex datasets to identify patterns, trends, and relationships.	Compound data from different sources (weather, market, farm sensors) to receive sensible insights.

Technology name	Definition	Agricultural Application
Blockchain technology	Distributed, decentralised registry technology that provides secure and transparent record keeping.	Transparency and traceability increase of the supply chain in the agri-food industry.
Mobile Apps & Web platforms	Software applications and online platforms for information sharing and interaction.	Supplying farmers with updated practices, market information and advisory extension services.

*Compiled based on own research.

The typical technology of the digital economy, which we often and extensively talk about, is smart information technology, including communication and IT technologies, and in a narrower common sense innovative technologies related to the Internet, the Cloud, Big Data mining, Blockchain, the Internet of Things, and Artificial Intelligence. Regardless of the definition, we consider them to be a crucial part of Fourth Industrial Revolution, the most essential technologies are digital internet technologies, also Artificial Intelligence and Blockchain based on them, the Internet of Things, quantum computing technologies and other tools. Fourth Industrial Revolution had enormous consequences, especially in the form of a wave of digitalisation that has affected the manufacturing industry in the industrial economy and people's lifestyles. (Liu, 2022)

Digital agriculture is based on a variety of technological components, including the Internet of Things (IoT), Artificial Intelligence (AI), Automated Learning (AL), The Cloud, Unmanned Aerial Vehicles (UAVs), robotics, including advanced sensors embedded in agricultural machinery. These technologies facilitate data-driven decision-making by allowing farmers to receive accurate information about crop quality, soil moisture, and local weather conditions. For example, precision agriculture, a type of smart farming, uses GPS-navigated tractors, sensors, and data analytics to optimise planting, irrigation, and harvesting, leading to more efficient use of resources and reduced environmental impact. Advocates of digital agriculture express its potential to radically reduce chemical use and other negative material impacts on the environment and human health through data-driven recommendations. Applied digital tools are also significantly improving the quality of agricultural advisory extension services, enabling real-time communication, data analysis, and access to huge amounts of agricultural information, which enhances farmers' capabilities and productivity.

Despite the elusiveness of digital technologies, digital agriculture still fundamentally depends on physical infrastructure. It comprises energy sources (coal, gas, oil, renewables), rare earth metals used in microelectronics and microprocessors, and a reliable telecommunications infrastructure in rural areas with reliable broadband access connectivity. The high reliance on information and communication technologies (ICT) and digital platforms means that digital agriculture has significant environmental impacts, for example, leading to increased water and energy consumption, and contributing to the generation of e-waste.

An important nuance in defining this field is the distinction between precision farming and smart agriculture. Precision farming is characterised by a focus on optimising resource allocation at the field level based on site-specific data, using technologies such as tractors and GPS navigation sensors to precisely allocate resources. On the other hand, smart farming has more comprehensive approach that combines the IoT, AI, automation, and real-time analytics across all agricultural operations, including crop production, livestock, supply chain, and resource management, enabling comprehensive and advanced agricultural management. Thus, precision agriculture is seen as a specific application area within the broader context of smart agriculture.

Agriculture will benefit from innovations in precision farming. Energy management will prioritise sustainability and recovery. Smart digital solutions are not just panacea or technological advancement. They show a paradigm shift: how industries operate and develop. Future of smart digital industries is full of prosperity, innovation, and resilience. In order to thrive in this turbulent environment advanced industries have to implement smart developments, mind ethical considerations, and remain flexible while facing constant changes. Implications are vast, and the opportunities for a future progress are tremendous. (Zikria, Kumar Shukla, Nijalingappa et al. 2025)

Therefore, the user query for “digital media” in agriculture should be viewed in a broader context, referring to the entire set of digital agricultural technologies and platforms that facilitate the collection, analysis and dissemination of data across the entire value chain in the agri-food sector.

Digital social networks might be accessed from two different types of devices: computers/laptops and smartphones. Rural farmers utilise mobile smartphones all over the world. In most developed countries, computers appliances also are available. However, success of mobile phones is due to its broad advantages. They are portable, if connected to the Internet provide widespread access to digital social networks and its services. Immediate interaction leads to widespread technology application, especially in the rural field. Thanks to its numerous functions, smartphones might be used in resolving field tasks. Moreover, the investment in (simple) smartphone is small comparing to cost of a computer or a laptop. Rural specialists use mobile phones en masse

for some economic reasons, due to their portability, numerous functions they provide (telephone, internet, camera/photo, etc.), and its relative ease of application. As a result, smartphones have allowed widespread digital networks usage. (Soullignac, Pinet, Bodelet et al. 2025)

Table 3
Digital social media platforms and relevance for FDI stakeholders*

Digital platform	FDI usage case	Target audience	Main benefits	Related risks
LinkedIn	Professional connections, B2B lead generation, talent acquisition, corporate brand creation.	Institutional investors, corporate decision makers, industry professionals, policymakers.	Credibility, direct communication, targeted outreach, access to talent pool, market insights.	Disinformation, compliance, foreign influence, data privacy.
Twitter/X	Real-time updates, breaking news, public diplomacy, opinion polls, microblogs.	General public, media, politicians, individual investors, industry commentators.	Quick dissemination of information, immediate public discussion, crisis communication.	Misinformation, quick mood swings, image damage, foreign influence.
Facebook	Community development, social interaction, general information sharing, broad coverage.	Retail investors (generation millennials), general public, local communities, partners.	Wide coverage, diverse content formats, cross-promotion of partners, community feedback.	Disinformation, privacy issues, reputational risk.

Digital platform	FDI usage case	Target audience	Main benefits	Related risks
Instagram	Visual branding, representation of life/culture, personal stories, youth engagement.	Generation Z, millennials, visual retail investors, general public.	High engagement, brand awareness, visual storytelling, influencer marketing.	Disinformation, superficiality, herd behavior, limited professional utility.
TikTok	Short video content, viral trends, financial education (Generation Z), youth engagement.	Generation Z, young retail investors, general public.	High virality, quick adoption of trends, accessible financial education.	Disinformation, national security issues (foreign control), herd behaviour, short-term attention span.
YouTube	Educational content, detailed explanations, video reviews, market information.	Institutional investors, retail investors, general public, researchers.	Profound information, high engagement, great educational potential, wide coverage.	Disinformation, variable content quality, toxic comments section.
Reddit	Niche communities, crowdsourced information, sentiment measurement, meme trends.	Retail investors, special interest groups, early followers.	Niche selection, active community participation, quick trend detection.	Herding behavior, unverified information, high volatility.

*Compiled based on own research.

Over the past 10 years, digital social networks have grown significantly, reaching billions of users. They have become an integral part of everyday life, and there is no doubt that their role in society, both in the personal and professional spheres, will grow in the coming years. As agricultural industry requires quite a long time and expensive validation periods. We ought to believe that application of social networks in agriculture would continue to grow. Interaction online is becoming even more important in context of agroecological

transformation with innovative methods for crops monitoring are introduced. (Soulignac, Pinet, Bodelet et al. 2025)

Digital social media platforms have dramatically changed the investment environment, creating a digital space where investors can efficiently access a wide range of information online. Beyond access, digital media have played a crucial role in increasing financial literacy across demographics. More than half of generation Z and millennials actively look for financial advice online, covering topics such as budgeting, taxes, and debt management. Generational platform preferences are differentiated. Generation Z often use TikTok and Instagram to search for financial information, while millennials primarily use Facebook. Institutional investors typically use platforms like Google Search, YouTube, and LinkedIn to research information regarding investments opportunities. However, the growing reliance on digital social media for financial consulting is also an issue, as excessive use of digital media can increase people's financial insecurity.

Digital social media interactions and sentiments expressed on these platforms have a significant impact on the collective behavior of investors, which in turn significantly affects financial market dynamics. (ESMA, 2024)

34% of retail investors have made at least one change to their investments based on announcements posted on digital media. This demonstrates the tangible impact of online discussions on real-world financial actions. In this innovative digital environment, a noticeable phenomenon is “herding” behaviour, where investors, especially those who actively use digital social networks, tend to trust others and follow their recommendations and actions without conducting independent research. This can be especially problematic when opinions are expressed by influencers with limited investment knowledge. The hype around “meme stocks,” exemplified by the raise of GameStop shares in January 2021, when a Reddit thread with millions of subscribers triggered unprecedented stock price spikes, is a main example of such collective behaviour based on sentiment. Although positive sentiment on digital media may correlate with higher short-term returns, this effect is often temporary, highlighting the inherent risks of overreliance on unverified information.

Empirical analysis also indicates a direct link between digital social media activity and international investment by multinational enterprises. A global dataset covering over 4,500 multinational companies shows that digital media activity, such as the number of likes and followers, drives international investment and the creation of new affiliates. (Paniagua, Korzynski, & Mas-Tur, 2017)

Digital social networks are now deeply integrated into internationalisation strategies, allowing companies to expand their presence and strengthen their “mobile capabilities” (including knowledge and reputation) in foreign markets through user-generated content. This means that there is a valuable connection between a company's digital engagement and its foreign direct investment

activities. The democratisation of information through digital social media, which offers unprecedented access and promotes financial literacy, is quite a challenge for FDI policymakers.

On the one hand, digital platforms such as LinkedIn, Twitter, Reddit, and Instagram provide investors with faster and more efficient access to various sources of online information, contributing to increased financial literacy among generations. Wide access to information allows a wider range of people to become familiar with foreign investment concepts. On the other hand, such an open environment facilitates the exchange of opinions between individuals, including “influencers with limited investment knowledge,” leading to collective “herding” behaviour and dependence on unverified information. The short-term nature of market movements driven by digital social media, where the price reaction to exaggeration typically lasts little more than a day, highlights the risks associated with such reliance on them.

For FDI policymakers, this is a dual responsibility: not only to promote the dissemination of accurate and transparent investment information, but also to educate investors with main digital skills and consider regulatory measures to reduce the risk of market manipulation and irrational enthusiasm driven by sentiment. Image, authority, and stability of a country or company, shaped and strengthened through digital media, have become a key, measurable factor for determining FDI. This “digital reputation” now rivals traditional factors such as market size, cost competitiveness, and political stability. (Khan, Akbar, 2013)

Empirical evidence shows that digital social media activity, measured by indicators such as the number of likes and followers, directly stimulates foreign investment and the creation of new branches by increasing a company's “knowledge and reputation” in foreign markets (Paniagua, Korzynski, & Mas-Tur, 2017). The presence of a location in digital media, including in the digital footprint, is a powerful and often underestimated force shaping the perceptions and decisions of foreign investors (mercuryglobalreports.com, 2025). When a place is consistently portrayed in reputable digital media as stable, transparent, and friendly to foreign companies, it creates a foundation of trust. On the other hand, negative social media coverage, especially regarding corporate scandals or geopolitical instability, can significantly undermine this trust, leading to a decline in foreign investment activity. Policymakers therefore need to actively manage this digital reputation as a strategic element of their efforts to attract and retain FDI (Gomes & Gaio, 2021), recognising that online narratives can directly impact investor confidence and capital flows.

Conclusions

Digital social media have greatly changed the environment of FDI, transforming it from a simple communication channel to a main tool for creating investor perceptions, influencing investment decisions, and strategically promoting FDI across the world. Their widespread availability and reach have democratised access to information, fostering and promoting financial education, and enabling investment promotion agencies to conduct targeted outreach. However, this digital transformation also implies significant risks, such as the rapid spread of disinformation, the potential mobilisation and disinformation of social opposition, and national security concerns related to foreign-controlled digital platforms. The analysis reveals a complex interplay in which digital social networks act as both a powerful instrument for FDI and a potential source of vulnerability, requiring a strategic and adaptive approach from policymakers and investment promotion agencies (IPAs).

The future of digital media in FDI policy will be characterised by increased integration of advancement technologies, as Artificial Intelligence in content generation, sentiment analysis, which will further complicate and enhance the role of digital social media. For governments and IPAs, this means a constant evolution of strategies. Future policy development must focus on creating flexible and adaptive structures that can respond to quick digital change and possible emergence of the new digital threats.

Further advanced research is required to quantify the long term influence of digital reputation on FDI flows, develop more advanced predictive analytics of sentiment and risk, and explore mechanisms for international cooperation to address cross-border digital threats to foreign capital. The ability to harness the positive aspects of digital social networks and effectively mitigate the associated risks will be crucial for countries seeking to attract and retain FDI in emerging global economy.

Digital agriculture with its diverse applications in precision agriculture, supply chain management, financial services and risk reduction, is dramatically improving the efficiency, productivity and sustainability of agricultural operations. Digital technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), Advanced Sensors, Blockchain and Robotics are supplying unprecedented levels of data analytics, enabling optimal resource utilisation, increased yields, reduced waste and increased resilience to climate change and volatility. These invaluable benefits are making agricultural businesses more attractive to foreign investors looking for profitable and sustainable opportunities.

Digital media are influencing FDI decisions, transforming market research, due diligence and investor communication. Digital platforms, news aggregators and data analytics tools provide investors with real-time, critical information, risk assessments, benchmarking and streamlining the investment process. Moreover,

a positive and transparent digital presence is urgent to shaping investor perceptions, building trust and increasing visibility, thereby directly influencing capital flows. The growing use of professional social media and targeted digital advertising underscores the evolving strategy for attracting FDI.

Moreover, digital technologies play a key role in increasing transparency and accountability of FDI in agriculture. Blockchain-based traceability systems provide a secure and immutable record of data throughout the supply chain, enhancing food safety and regulatory compliance, which is critical for consumer trust and compliance. Data sharing platforms facilitate collective information collection, optimise farming practices and improve risk management, while government initiatives such as online foreign investment declaration systems enhance oversight and public access to relevant information.

However, the full potential of digital agriculture to attract and optimise FDI depends on addressing a number of important challenges. The persistent digital divide, characterised by poor connectivity in rural areas, high costs of technology adoption, and low digital skills among farmers, poses significant barriers to widespread adoption and equitable sharing of benefits. Data governance issues, including ownership, privacy, security, and standardisation, require a robust regulatory framework to build trust and prevent misuse. In addition, the emergence of new digital threats, such as cyberattacks and agroterrorism, requires policy safeguards to protect critical agricultural infrastructure and intellectual property.

In summary, digital media are the most important element of modern agricultural FDI policies. Their comprehensive impact, from informing investors about solutions and supporting innovative business models to shaping regulatory measures and increasing transparency, underlines their crucial role in achieving global food security and sustainable agricultural development. Future policy responses should prioritise the creation of an inclusive and safe digital environment that fosters innovation, responsible investment and ensures the broad adoption of the benefits of digital transformation in the agricultural sector.

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