

Chapter 5

Digital Technology for Institutional Investors in the Environment of Industry 4.0

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ABSTRACT

The chapter analyzes the main applications of digital technologies by institutional investors in the context of Industry 4.0 and developing amid global challenges (i.e., the COVID-19 pandemic). First of all, these are big data analysis; blockchain technologies; artificial intelligence; cybersecurity; robotization of financial, investment, and business processes; chatbots; mobile financial services; and cloud technologies. Among the digital technologies designed to assist investment, there are digital portfolio managers and robo-advisers, as well as specialist software for investment portfolios, personalized and aggregated financial and banking services, digital payments, risk assessment, RegTech, etc. The track record of institutional digitalization will help to streamline the operation of institutional investors and will enable them to determine more clearly the directions of developing and adjusting their economic policy in the context of Industry 4.0 and the nascent transition to Industry 5.0, thereby increasing their competitiveness and sustainability.

INTRODUCTION

Institutional investors, representing the most important class of subjects of today's economy (national, for almost all countries, and globally) and the most active participants in the global financial market, are actively involved in the digitalization

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processes at the national and global levels, following the innovations and trends of Industry 4.0. More and more digital technologies are being developed at the initiative or with the direct participation of institutional investors, considering the preferences of professional market participants and the demands of their clients. Consequently, we can talk about institutional digitalization stimulated and led by institutional investors at different levels. Accepted by institutional investors, a variety of legally defined entities engaged in and specializing in investing in various forms on their own behalf and for their own account, as well as on behalf of and for the account of clients, now go far beyond the traditional stock market (Khmyz, 2003) and include investment companies, investment funds, pension funds, management companies, insurance companies, investment banks, investment trusts, commercial banks and companies, sovereign wealth funds and charitable foundations, depositories and custodians, savings and loan associations, and credit unions in all varieties of these main types of financial and non-financial institutions. The increasing use of digital technology by institutional investors in investment and financial activities is undeniable. Digital technology is applied by fintech companies – a new kind of institutional investors in the global market – and by trading (commercial) and depository institutions, which, in the context of Industry 4.0, are increasingly integrated, providing a range of an ever-expanding set of services. The latest digital technologies used by institutional investors include big data analytics, blockchain technology integration, artificial intelligence, cyber security, robotization of financial investment and business processes, chatbots, mobile financial services, and cloud technology. Digitalization and the accelerated expansion of ubiquitous financial innovation by institutional investors have been spurred by global lockdowns designed to limit the spread of COVID-19 in 2020–2022. These factors were the main factors that changed the behavior of consumers of goods and services, including investment. They also affected monetary relations, primarily the use of various forms of payments and means of payment, and also stimulated the further spread of cashless money. As a result, there is a global transformation of the entire global investment and financial industry. It varies from country to country in terms of intensity, but there is a general digitalization trend. Relevant changes to regulatory systems are made, existing regulations are amended, and new regulations governing the digitalization of the investment and financial sector are adopted. Many changes are carried out for the benefit of institutional investors (Johnstone-Louis et al., 2020). The demand and corresponding offerings of digital financial services by institutional investors are attracting more and more attention because they are becoming an urgent need – from emergency loans for personal financial management to government payment schemes. One of the most critical segments of the global financial market (with a share of about 25%) is payments, which are intensively digitalized (ISMG & OneSpan, 2020); with lockdowns related to COVID-19, its annual share is expected to grow

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