

GLOBAL BUSINESS ENVIRONMENT ISSUES IN THE DIGITAL ERA

Paraschiv Dorel¹, Nițu Maria², Belu Mihaela Gabriela³
and Dumitrescu Mihaela-Sorina⁴

^{1) 2) 3) 4)} Bucharest University of Economic Studies

E-mail: dorel.paraschiv@ase.ro; E-mail: maria.nitu@rei.ase.ro

E-mail: mihaela.belu@rei.ase.ro; E-mail: sorina.dumitrescu16@yahoo.com

Abstract

The last decades have been followed by technological development cycles, which have affected in different ways the evolution of the business environment, the way that companies operate and the entire society. The current environment in which companies engage and concretize business has become increasingly complex and ambiguous, facilitating the emergence of new challenges for business practices, interests and business initiatives.

The digital transformation that takes place globally, adapted to current realities, is based on disruptive technologies that support it: Big Data, The Internet of Things, Mobile Internet, Cloud Technology, Automation of Knowledge Work. Although the business environment and companies are working to adapt and conform to ongoing digital transformations, there are a number of challenges and barriers that slow their progress.

The purpose of this paper is to highlight the challenges that the business environment and the companies encounter in the Digital Era, which appeared against the backdrop of the development of disruptive technologies.

Keywords: *Digital Era, Business Environment, Globalization, Disruptive Technologies.*

JEL Classification: F23, F62, O33

Introduction

The last decades have been followed by technological development cycles, which have affected in different ways the evolution of the business environment, the way that companies operate and the entire society. The 1990s have been characterized by the progress of the means of communication which was available for organizations. Through the development of the Internet and the access of the general public, an impetus has been generated in the field of technology, representing an advancement, which implied a series of changes in applications, operating systems, etc.

Digital transformation, also known as digitization, is a versatile concept, interpreted differently by professionals and academics. Digital Transformation implies both the adaptation and the use of the technologies (Internet of Things, Big Data, Cloud Technology, Automation of knowledge work), but also the modification of some business elements, including the model, strategy, processes Business, culture and organizational structures (V. Arribas, J.A. Alfaro, 2018). Some authors describe it as "the changes that digital technology

causes or influences in all aspects of human life" (Stolterman & Fors, 2004), but professionals believe that "digital transformation is the radical development of the opportunities of the Internet "(Ludovic Cinquin, CEO of Octo France, a company specialized in supporting companies in their digital transformation). Digitalisation also implies "the use of technology to radically improve performance or reach of enterprises" (Westerman et al, 2011).

The magnitude and speed of this transformation , followed by ICT (Information and Communication Technologies), has led some authors to use the term "acceluction" (Bounfour, 2016). It highlights the massive expansion of value creation by business and companies, as well as digital acceleration that produces immediate and visible changes, within the company . In this process, business and present companies need to reevaluate their processes and their way of interacting with stakeholders as a result of high pressure from changing consumer behavior, from entering new competitors, and capitalizing technological tools in the areas of productivity and innovation.

The purpose of this paper is to highlight the challenges that the business environment and the companies encounter in the Digital Era, which appeared against the backdrop of the development of disruptive technologies. It is necessary that the actors of the business environment understand the nature of these transformations (to what extent the companies are affected, the budge that should be allocated) in order to find the best strategies to counteract the negative effects of the digital transformations.

Main issues of the global business environment in the digital era

In order to accomplish the article, the method of research used was that of the theoretical research of specialized articles, using quantitative analysis. I have presented the process of digital transformation and analyzed the main disruptive technologies to see the level of technological development and the main technological trends. Subsequently, the main challenges facing the business environment were presented using the synthesis and the logical research method.

Digital transformation: components and levers in the business environment

The current business environment characterized by volatility, discontinuity, rediscovery of competitive advantages, fierce competition, emphasis on finding sustainable and environmentally friendly solutions. Especially the enormous flow of information, leads companies to find new approaches and solutions to achieve success as well as maintain it. The current environment in which companies engage and concretize business has become increasingly complex and ambiguous, facilitating the emergence of new challenges for business practices, interests and business initiatives. Digitalization has succeeded in making its mark on business, starting with identifying new technological trends and customer profiles, as well as searching for solutions for designing and generating products, marketing methods, informing and satisfying customers. As far as technology is concerned, digitalization reconfigures the framework and conditions needed to achieve business performance and success. Under these conditions of uncertainty, acceleration of transformation and digitization, new challenges arise for the business environment.

In order to maintain their competitiveness and relevance in the markets, companies / organizations need to adapt to the digital age and adopt new technologies. This transformation has become an essential condition for the development of any business, which can lead to increased revenue and productivity, as well as customer satisfaction. For a better understanding, the process through a company is going in the digital era, Unruh and Kiron in 2017, had made a digitization scheme. Thus, the first stage involves the transformation of services / products into a digital format, as well as the concomitant inventions resulting from the digitization process. The second stage is closely related to the

first stage because the digitized products are used, but includes the step in which new processes and business models develop. The last step, digital transformation is to restructure economies through new processes and digital models, technology being integrated into the social life of citizens.

The phenomenon of digital transformation consists of three components: automation, dematerialization and restructuring of intermediation models (E. Baudoin et al, 2016). These three components are intimate and work together, as follows: *the process of automation* - this process is built on the effects of increasing performance derived from the use of production factors: capital and labor productivity, raw material and energy productivity; *the dematerialization process* - involves the emergence of new channels of distribution and communication that transform or replace physical networks, shops, offices, so that transaction costs and marginal production costs are reduced and *the re-intermediation process* which involves the reorganization of effects on the value chains.

The entry of new competitors requires the remodeling of business and brokerage models, especially in the aspirations of the role of new assets and people derived from data.

The digital transformation that takes place globally, adapted to current realities, is based on several key levers that support it: Big Data, The Internet of Things, Mobile Internet, Cloud Technology, Automation of Knowledge Work, etc. **Big Data** represents the large amount of unstructured and structured data, that are captured and process at a high speed (Lanei, 2001) provided to a business on a daily basis. Big Data constitute "the mother lode of disruptive change in a networked business environment"(Baesens et al., 2014). Their importance is not in the volume of data, but how the organization uses the data relevant to it, so that, properly analyzed, can lead to the right decisions about the direction and orientation of the business, as well as to the determination of strategic moves. In this business environment, performance is guided by the ability to properly and continuously use existing and new data sources, facilitating the identification of new opportunities and modeled business.

Automation of knowledge work represents intelligent software systems that can perform knowledge work tasks involving unstructured commands and subtle judgments (McKinsey Institute, Disruptive Technologies, 2013). Progress in artificial intelligence and mechanical learning helped to automate tasks of knowledge workers, functionalism being considered impossible by the engineers. **The Internet of Things** –represent a global network (Aggarwal, R., Lal Das, M. 2012) which spreads in an accelerated way, involves the integration of drive devices and sensors into cars or other physical objects (environmental monitoring, automation of close contacts - human-machine interactions and car-machine interaction) to be connected businesses, allowing organizations and companies, especially in the public sector, to optimize performance, manage assets, and create new business models. This allows automation of tasks, making possible innovation based on new processing methods and measurements. So, the Internet of Things can "create an economic impact of \$ 2.7 trillion to \$ 6.2 trillion annually by 2025" (McKensey Institute MGI-Disruptive technologies, 2013). **Mobile Internet.** Mobile Internet technology has advanced rapidly in recent years, adapting its interfaces and new formats to market requirements, including portable devices. Its applications are widespread in the enterprise as well as in the public sector, which allows efficient service delivery as well as opportunities to increase labor productivity. In the case of developing countries, the Mobile Internet allows people to get in the connected world. **Cloud Technology** - Through cloud technology, any service or application can be delivered via a network or on the Internet without local storage. The Cloud stores information (from simple media streaming searches to online storage of personal data and information - books, music, photos) as well as improving the IT economy for governments, companies to ensure greater flexibility and fast response capability, to be able to create new business models(McKensey Institute, MGI-Disruptive technologies, 2013).

Blockchain via distributed ledger technology is a database independently updated by each user within a network, and the recordings are made in an independent manner, so the security and integrity of the data in the record chain is protected by using mathematical algorithms. This way is kept a complete record of operations included in the dataset (European Central Bank, 2017). Blockchain is defined as: "a public ledger containing information on every transaction made within a P2P system" (Nakamoto, 2008). The underlying blockchain criteria (Leloup, 2017, p.15) are: Decentralization and disintermediation: The blockchain is not controlled by any central authority; Consensus: The transactions are rejected or accepted as a result of the outcome of the blockchain consensus and do not represent a decision of a central institution; Immutability: the information in the system cannot be deleted or modified and Trust and transparency: transactions are shared operations.

Issues in the Digital Era

Although the business environment and companies are working to adapt and conform to ongoing digital transformations, there are a number of challenges and barriers that slow their progress. The challenges we encounter are not necessarily new, but require adaptation based on studies both inside the company and at the business level. Thus, companies face difficulties from the perspective of business participants and from the perspective of the business environment. In the first category we identify technological and human issues, the lack of budget required for the digitalization process, passive risk attitude, reduced agility and the deficit of abilities and talent required in this era.

The Technological issues. Digital technologies contribute to the process of transforming operating and organizational methods across companies, businesses, automating processes and changing professional and project practices. The main factors that ensure success or, on the contrary, can represent real challenges in the digital age are the ability to align their technologies and uses with the company strategy, identify the main algorithms that can give meaning to the information gathered, and access to the skill needed to achieve a coordinated activities, as well as the mastering of external and internal data sources. The issue has been represented by the information technology governance concept that approves the organization of IT and can support and develop the organization's strategies and objectives. The central aim is that these digital technologies optimize "value chain processes, while taking into account risk management and performance techniques" (Bounfour & Fernandez, 2015). There are also questions about the impact of technologies on the organization and the business environment, how digital transformations should be dealt with and how the security of computer systems that are progressing in digital transformations can be guaranteed.

Human issues. Human activities, both in factories and companies, will become more dependent on digital mechanisms in the future, and in this context, people's problems will need to be reconsidered (Emmanuel Baudoin, et al, 2016). It is necessary to identify the allocation factors of the digital technology in order to work on the implementation strategy. But there are situations where many projects are not endorsed or successful because employees, managers are not familiar with these technological trends, are afraid to use a new system or do not have digital capacity or skills. All of these factors hinder business activity and create problems of adaptation in the digital age. To address these issues, it is necessary to balance the factors such as:

- using and acclimating digital technology;
- company / organization staff will transfer skills and knowledge to their younger colleagues who will turn those skills into digital technology, and continuing innovation remains competitive.

Lack of budget required. In the current context, companies need to devote time and material resources to the process of innovation and infrastructure upgrading to keep them at the desired level. There are studies showing that organizations that allocate a small amount are in the process of adapting to the new business environment and the digital age, hampers their development and notoriety in the markets they operate (ZK Research White Paper, 2017).

Passive risk attitude. Companies, organizations, businesses in the global business environment need to adapt to digital transformation to develop or survive in this era. However, this adaptation can become intimidating, as well as the allocation of material resources on new technologies and uncertainty about return on investment (ROI). This situation is encountered in cases where a database and process analysis capabilities are not available before and after implementation. Thus, this lack of knowledge increases the level of risk that organizations encounter in the process of digital transformation.

Reduced agility - is a constant concern for organizations and companies because they need to experiment quickly and introduce new services so they can maintain their position and competition. In order to achieve the level of agility desired, attention should be focused on the upgrading of the underlying infrastructure, as IT and legacy infrastructure processes are too inflexible in achieving the appropriate level of dynamism needed by businesses in the digital age.

Deficit of abilities and talent. There are numerous reports showing that over half of the companies do not have trained staff or the right technologies needed to develop. A real danger is the accelerated pace of technological innovation, which emphasizes the complexity of this process.

From the point of view of the business environment, we identified the economic issues, social responsibility, legal and cyber-security issues.

Economic issues. Digital technologies have transformed in depth the economic models of the industrial revolution and the positioning of the consumer or user, promoting new organizational methods. In the current economy, based on knowledge, companies identify, define and develop digital assets. A problem intervened when an organization has to identify the digital assets it owns and to properly improve them. **Social responsibility issues** are closely related to digital transformation, as there are voices warning that risks can be major, especially if it is about destroying jobs (McAfee, 2012) or transforming the web that can create entropy at the company level, the business environment and the environment.

Legal issues. Establishing a safe and trustworthy environment in the online sector is an essential requirement for the economic development of organizations and the business environment so that personal data of customers and company data are protected. In the European Union there are regulatory procedures for the business environment in order to protect and develop harmoniously in relation to market trends and new technologies (Digital Economy and society)(EU, 2016):

- introducing rules covering all electronic communications networks & services
- ensuring basic broadband for everyone in the EU
- encouraging competition by preventing old national telecom monopolies from maintaining a dominant position with regard to high-speed internet access services.

The two Payments Service Directives (PSD2) and The General Data Protection Directive also aim at creating a secure business environment, fostering fair competition and ensuring security against fraud and cyber-attacks.

Cyber-security Issues. Cyber-security represents the collection of tools, policies, security concepts, security safeguards, guidelines, risk management approaches, actions, training, best practices, assurance and technologies that can be used to protect the cyber environment and organization and user's assets." (ITU, 2009). In the global business environment, new threats to digital security have arisen because current digital technologies - iCloud, Internet

of Things - create new opportunities for hackers to exploit company vulnerabilities. There is also a lack of coordination in companies regarding the infrastructure and the security, which results in technological stagnation and increased vulnerability to cyber attacks (Messmer, 2013) Thus, the need to create a secure digital space and data protection (GDPR) (EU Parliament, 2016) must represent the main objective organizations, even if it is a recent problem, but with real implications for all participants. Today, electronic payments have become the new system of payment systems and payment instruments that perform the electronic value transfer. The efficiency and ease with these values are transferred creates a number of benefits for business and businesses, but there are many challenges in terms of safety and law enforcement. There are technologies that allow such systems to make transactions quickly with bank transfer systems and under anonymous title. However, there are many weaknesses that need to be addressed and resolved so as to prevent, detect and combat money laundering and illegal financial transactions, and the vulnerability of systems to cyber-attacks.

Cyber-attacks can have major consequences for a company as they will affect the image of the organization from the perspective of consumers and partners, generating financial, legal and reputational difficulties.

companies are not aware of the major risks they are through the cyber attacks, and there is concern regarding the proper security of information (M. Uma and G. Padmavathi , 2013). From a financial point of view, substantial losses can be caused by: money theft, financial information (bank details) and corporate information, interrupted transactions, loss of contracts and last but not least, costs related to repair of devices, networks and affected systems. The current legislation governing privacy and data protection requires that each organization / company properly manages the security of personal data, both to customers and partners and employees. When these data are deliberately or accidentally compromised without a system of security measures tailored to these issues, there will be regulatory sanctions and fines. In terms of reputation, companies may suffer, as these attacks will affect the trust they have built with customers and with their customers and partners, causing major sales, customer losses and a drop in profits (Jason West et al, 2018).

Cyber-laundering. The Internet offers a wealth of possibilities and conveniences for individuals, companies, in carrying out current activities, but also facilitates the occurrence of illegal activities. As a result, money laundering has typically adapted to technological realities, acquiring the name of cyber-laundering. This operation involves laundering money in cyberspace through online transactions. In practice, cyber-laundering is the conventional practice of money-laundering in three stages: placement, layering and integration. Compared to the traditional money-laundering method which represents the process by which a person hides or conceals the identity or the illegal origin of income so that it appears to have come from other sources., (Report IMF, UNODC, 2005), cyber-laundering offers a wide variety of tools for offenders: (cost reductions, quickness, ease of use) that can carry out these transactions from anywhere as long as they have a computer and a connection at the Internet. This phenomenon affects the business environment, especially from the first lack of concrete legislative and applied legal regulations, so that these offenses are stopped.

Conclusions

Digital transformation and innovation imply a change in the functioning of society and of the economic, business, industrial, technological, etc. environment. These transformations are visible in the way companies are organized according to their field of activity, products, services and uses. This phenomenon is in the process of developing and adapting to current realities, such as: the spatial dimension (the omnipresence of mobile technologies), access to

people / groups of people / society (the Internet removes the restrictions on audiences) and the amount of time Internet cancels temporary / temporary barriers).

The Merger of the digital and physical world supposes major implications for privacy, security and the way companies are organized and work. The global business environment will become more and more unpredictable and challenging for companies, and it is necessary to strike a balance in terms of concrete legislative and applied regulations in the field of personal data (both for citizens and businesses) and security of the digital environment, in order to reduce cyber-laundering, anonymous financing of terrorism and other illegal activities that can have major consequences for society.

The progress of the new technologies will continue to transform the business environment and the leaders, policymakers from the political environment and individuals must understand these changes and adapt to them in order to behave and make decisions accordingly. The pressures in the business environment will grow and intensify as a result of the evolution of technology, the demands of consumers generated by access to information. As mentioned previously, the enumeration technologies have a major potential in the process of improving citizens globally, but at the same time there may be undesirable side effects. For example, Cloud computing and Mobile Internet generates risks regarding security and privacy violations, and in the case of The Internet of Things, cars and controlled objects on computers can be broken, exposing refineries, factory, Supply chains, transmission networks and power stations.

It is also necessary to carry out impact studies on human activity in the digital age and to what extent it is affected with digital transformation, Human issues, along with the allocation of a reduced budget to the innovation and modernization process and the ignorance of technical problems will make it harder to adapt and develop in the digital age.

The result of our study presents the challenges with the greatest impact in the global business environment, to what extent are the companies affected and correctly identified according to each company and the field of activity they operate in. These problems can become real opportunities. Business Leaders, stakeholder and policy makers need to be prepared, because technology evolves in an accelerated way, and the world turns to Internet speed.

References

- Aggarwal, R. and Lal Das, M., 2012. *RFID Security in the Context of "Internet of Things"* [online] Available at: <<http://dx.doi.org/10.1145/2490428.2490435>> [Accessed 3 February 2019].
- Arribas, V. and Alfaro, J.A., 2018. 3D technology in fashion: from concept to consumer. *Journal of Fashion Marketing and Management*, 22(2), pp. 240-251.
- Baesens, B., Bapna, R., Marsden, J.R., Vanthienen, J. and Zhao, J.L., 2014. Transformational issues of big data and analytics in networked business. *MIS Quart.*, 38(2), pp.629-632
- Baudoin, E., Berger-Douce, S. and Besson, M., 2016. *Companies of the future. The issue of digital transformation*. [online] Istitut Mines-Telecom, Digital Economy and society, Available at: <https://europa.eu/european-union/topics/digital-economy-society_en> [Accessed 20 March 2019].
- Danciu, V., Belu, M.G. and Paraschiv, D., 2019. *Afaceri international performante in secolul 21. Noi abordari si solutii*. Bucuresti: Editura ASE.
- ITU, 2009. *Overview of Cybersecurity*. Recommendation ITU-T X.1205 [online] Geneva: International Telecommunication Union (ITU). Available at: <<http://www.itu.int/rec/T-REC-X.1205-200804-I/en>> [Accessed 26 March 2019].

- Laney, D., 2001. *3D Data management: controlling data volume, velocity and variety*. [online] Available at: <<http://blogs.gartner.com/doug-laney/files/2012/01/ad949-3D-Data-Management-Controlling-Data-Volume-Velocity-and-Variety.pdf>> [Accessed 25 March 2019].
- Leloup, P., 2017. *Blockchain . La révolution de la confiance*. S.l: Ed. Eyrolles.
- Manyika, J., Lund, S., Bughin, J., Woetzel, J., Stamenov, K. and Dhingra, D., 2016. *Digital Globalization: The New Era of Global Flows*. [online] New York: McKinsey Global Institute. Available at: <<https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/digital-globalization-the-new-era-of-global-flows>> [Accessed 1 April 2019].
- McKinsey Global Institute, 2013. Disruptive technologies: Advances that will transform life, business, and the global economy. *McKensie Quarterly*, [online] Available at: <<https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/disruptive-technologies>> [Accessed 1 April 2019].
- Messmer, E., 2013. Cyber insurance decisions leave CIO, CISO out of the loop. *Networkworld Asia*, 10(3), p. 8.
- Nakamoto, S., 2008. *Bitcoin: A peer-to-peer electronic cash system*. [online] Available at: <<https://bitcoin.org/bitcoin.pdf>> [Accessed 30 March 2019].
- Popa, I. and Belu, M.G., 2018. *Afaceri Internationale. Tehnica operatiunilor de export import*. Bucuresti: Editura ASE
- Uma, M. and Padmavathi, G., 2013. A survey on various cyber-attacks and their classification. *International Journal of Network Security*, 15(5), pp. 390-396.
- West, J., Chu, M., Crooks, L. and Bradley-Ho, M., 2018. Strategy war games: how business can outperform the competition. *Journal of Business Strategy*, [e-journal] 39(6), pp.3-12. <https://doi.org/10.1108/JBS-11-2017-0154>.