Abstract:

**Purpose:** The pandemic which impacted the whole world has changed not only the previous notion of crisis management, but also the notion of change management in business. The coronavirus has activated new roles and tasks for enterprises. New strategies’ model, both in the course of counteracting the pandemic, as well as in different areas of business management, is the requirement of this new time.

**Design/Methodology/Approach:** The method of diagnostic analysis was used for the completion of this examination to define the security level and the role of management in the period of pandemic and the initial post-pandemic period, as well as predictive method, to define the potential future shape of the organization.

**Findings:** The crisis induced by the pandemic clearly indicated the need of modernising the existing policies and strategies and setting new trends of flexible adjustment to the changing circumstances and to the changing reality. It has been stated that the management of a company, particularly in the areas of security in global crisis conditions were not assessed by managers.

**Originality/value:** The article discusses issues directly connected with the management of selected aspects of company lives in the period of pandemic and predicts activities for companies in the future.

**Keywords:** Business, company management, crisis, security, new technologies, innovations, economy, strategy, digital transformation, digital world, information management, information systems, information technology

**JEL codes:** B41, D80, D81, F52, F53, H84, O31, O32, O33.

**Paper type:** Research paper.

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1. Introduction

This pandemic is undermining our civilisation. It is subverting the foundations of the social and economic system. It is paralysing many spheres of life. It is influencing the politics, also the functioning of the public services. We are observing hectic actions undertaken by various nations trying to minimize the effects of this crisis for their companies and citizens. The fight for continuity is translated into a series of actions aimed at control the effects of pandemic, which impedes individual lives in the scale of whole societies. Such mechanisms, along with the fear of the future, undermine the ability to work, obtain revenue, report the demand and provide supply. The coronavirus is becoming an economic factor of a bigger scale than the mass seasonal contractions of flu, where the absence from work is the major mechanism of exclusion and cost-generation for the economy.

The introduction to crisis management is the analysis of risks that we may encounter as a company, as a nation, or as the whole world. The first rule of crisis management is using resources and efforts in the process of real and assessed risk response. The response to risks of lower probability level can be more moderate and based on the general principles used by crisis-managing organisations. Not only the employees, but also their managers feel often lost, surprised by the situation for which they were not ready. There appear people’s fears of the future for them and their families. The management has no control of certain factors. What they can control is the priority lists they set, decisions they take, things they focus on, things that they do. It is significant, however, not to make costly mistakes at this time, as they cannot go back. Certain actions and approaches are unforgivable and generate repercussions in the business environment.

Overcoming the pandemic in most of the European countries will encourage reflection over not only its medical aspect but also on other kinds of crises that we can expect in the future. This could result in accelerated transformation of the present lifestyles, business activities, but also forms and models of body politic. The coronavirus pandemic has changed the world significantly. Besides greater health concerns there appear also economic issues. Today many companies have to change their strategies to overcome this most difficult time. This situation could become a chance for entrepreneurs.

In the period when governments respond to the effects of pandemic the entrepreneurs for most sectors have to survive on the market. The result of this struggle depends on taking the right decisions and efficient changes. One thing is certain, in order to survive company owners have to focus on action, instead of expecting the situation to resolve somehow. Although many companies are dealing with the effects of pandemic at present, those effects can be and should be minimised. Fast decisionmaking is of key importance, so three major business areas are worth analysing: business strategy, system security, implementation of cutting-edge technologies, staff management and the finances.
2. What Was the Impact of the Pandemic on Company Management?

The earlier world-scale experience is too limited to use the conclusions from the past epidemics or pandemics (Ebola virus in West Africa, 2014-2016). Considering the incomparable scale of this phenomenon any attempts to reach to the past and indications that something similar has taken place already is impossible, particularly due to the universality of the crisis and the interrelations of countries in all continents.

In most of the companies the first phase of the pandemic set the counter-crisis actions as the priority, particularly the ones focusing on security, health-related essential services and remote schooling. Today companies have begun to go past the reaction phase and the leaders, while planning ways of recovery, pay much more attention to the new quality of human resource challenges. Probably the top challenge to overcome in the midst of crisis recovery issues till be the tensions connected with preparations to come back to the previous modus operandi connected with the necessity to adapt to the company new normal in the future.

Remote work has become a persistent part of the professional protocols. According to the report of Deloitte Poland and Vmware, as many as 88% of companies declared prospective attachment to remote work as part of their post-pandemic procedures.

Remote work is popular among employees. The CBRE report indicates that even 86% of employees hope to work online at least once a week. Moving to the home office mode which became a must due to the extended lockdown has also resulted in legislation amendments. Remote work and other flexible models require that adequate issues, not only tax and legislative, but also social, should be addressed. Simultaneously the new trends have a much higher influence on the business and working environment. At the beginning of the pandemics teams and employees often looked for their own paths to efficient work in anomalous conditions, using temporary solutions.

Organisations and employers are now facing the need to build a new, coherent model of remote/flexible work, not only in short-term perspective but also as a vision for the future. It must be based on — inter alia, a deep analysis of challenges connected with remote work, ensuring individual and team assistance, creating a coherent model of remote and traditional work in mutual processes and systems. The resulted with the increasing frequency of following the BYOD (bring your own device) rule. For such a solution software such as Mobile Application Management is useful. Its functionality includes profession-related data and application control. This is a safe technology. Well-configured devices eliminate the risk of data theft. It is risky to use illegal software on a private computer, which is used for work. However, there appear also legal and ethical issues, such as: what is the system of privacy protection for the data stored in a private computer? Gradually incorporated
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personalised electronic platforms result with new security risks connected with the exchange of data, communication and sensitive data.

The growing popularity of remote work as a long-term result of the pandemic was indicated by companies from the Czech Republic and Slovakia, as many as 85% of them. Germany was on the third place, where 75% of entrepreneurs perceive the future in this way. In total, 76% of companies in Central and Eastern Europe anticipate an increased part of off-site work. 100% of respondents from Germany intend to invest in technologies facilitating flexible systems of work, almost 8 out of 10 from Slovakia and 64% from the Czech Republic.

3. How to Manage Innovation?

One of the commonly visible problems connected with the development of organisations all over the world today is the need of innovation. Its crucial and strategic dimension is underlined, because in current economic reality the results and future perspectives are hugely impacted by the nature and intensity of various innovation endeavours, adjusting the organisation’s behaviour to the requirements of the global market, the condition, structure, complexity and the dynamics of the environment.

In today’s global economy within which we function today there appear scientific and technological trends, comprising the exponential growth of value referring to the scientific and technological expertise, the globalisation of science and technology. Considering the turbulent variability of the environment, it should be stated that contemporary organisations are forced to a continuous modification of their business models, implementation of new processes or the organization models of their activities. Such activities are necessary, because their abandonment brings about the risk of losing competitive position and the drop of the organisation’s value, which could result with the loss of possibility of efficient functioning. Amid several strategic resources in an organization technology is becoming of significant importance, due to its role in the process of obtaining a high and stable competitiveness level. Its significance and role in an organization has been hugely changed, which is the result of the pandemic environment remodelled under the pressures of changes, as well as of a new image of an organization currently based on the broad notion of expertise resources.

The Covid-19 pandemic meant, for many, a quick digital work course, for some it became the only chance to keep their jobs. The European Commission’s report DESI 2020, 15% of Polish nationals do not use the Internet, and less than half of the society aged from 16 to 74 (44%) have basic digital skills. This estimate is 58% for the EU, which means that Poland ranks at 22. The report indicates also that even 60% of Polish enterprises are of low IT level. In February this year even 74% companies still did not plan to implement automation, and just 17% did not exclude such a solution in the future.
However, the circumstances forced the entrepreneurs to change their approach and the digitalisation process in many companies was accelerated. The implementation of modern technologies based on deepened scientific research has become the major development direction for companies. The European Agency EurEau clearly indicates in its reports the necessity of innovation as the basic element of competitiveness. This refers to the tech sector, non-tech sector, social, and environmental sectors conforming to the new post-pandemic system. The report of the European Commission and the OECD emphasises the urgent need for billions of subsidies for selected sectors of the Polish economy connected with tech services.

The purchase of modern equipment necessary for building data exchange networks, work controls, its accountability, or the increasingly common implementation of security procedures, artificial intelligence and real-time network control systems is not a challenge anymore, but a concrete need enabling future company building. The WHO, in their guidelines referring to efficiency and business continuity control, points to the several necessary and interrelated elements, i.a. the modern IT equipment, data exchange systems, trained analysts. There is no doubt that in result of new technologies some professions will disappear, others will transform, and the new ones will appear. Thus, people performing obsolete work for a long period of time will find themselves in the most difficult situation. However, this thesis has been proved by the current, post-industrial reality. The experience gained in different economic conditions, including technology, not only does not help, but it may be an impediment.

4. More Present in the Virtual Word

Sectors which experienced serious damage from the pandemic made, in the first phase, decisions to cut costs and reduce personnel. The estimates indicated that even 1 million of people might lose their jobs. The situation has been stabilising recently. As many as 80% of the European respondents to the survey made by Deloitte Poland admitted that they experienced at least one change referring to their job conditions.

The most frequent one, indicated by 57% of the respondents the transfer to remote work. Circa 60% of people who had to work remotely, but also every fifth office worker confirmed that the work became more flexible. The data provided by the Polish Central Office of Statistics (GUS) indicate that at the end of June the number of available jobs was 81,400 and that it increased the number calculated at the end of the first quarter by 4,900. There are however still 150,000 jobs fewer in the economic system than before the pandemic.

Fortunately, companies are not planning lay-offs. The data presented by the Polish Economic Institute indicate, that in May last year the number of companies declaring their intent to maintain their staff has grown by 17%. The necessary thing in our new reality is the change of the personnel’s awareness. The simple transformation of benefits offered to the employees is already insufficient. The report entitled 'Job
Market in the COVID-19 period prepared by Grant Thornton indicates that month after month the spectrum of benefits is decreasing. At the beginning of the pandemic the package of private medical care was offered by 30% of employers, and the partial funding of a sports card by 27%. One year earlier such bonuses could be found in offers given by almost half of entities.

Because of the pandemic the employers backed out from some benefits or offered different ones instead, including their modified versions, for example, online activities were added to traditional sports cards and the medical package included additional psychological support. Another example is the creative online schooling for children, enabling parents to work online. Management based on remote work model brings about many questions about the future of traditional work models. It is important to reevaluate previous efficiency levels and the employees’ state of mind connected with them. There also appear questions about the way that the pandemic will affect the employee innovation and what role the office shall play as the place of work. The gradual evolution of workplace will be a difficult challenge for the management in that future.

Technology has become the basic factor of building competitive potential and performing strategic business tasks all over the world. The new paradigm, formed under the pressure of the pandemic, introduces some changes into the sense and form of technical strategy utilised by contemporary entities. Technical strategy has, until recently, been treated as the part of the general strategy of an entity which related to the choice of prospective technical systems (e.g., data bases, industrial installations). Thus, it was perceived mainly as a plan of actions for one of the organisation’s subsystems - technological subsystem, the realization of which should enable the achievement of basic goals. The contemporary conditions make us perceive the technological change in strategic dimension. Strategy building based on cooperation in all aspects becomes the reality and its development and appropriate preparation depends on the speed of changes and the directions of decisions.

According to the research by Deloitte Poland, as many as 71% of all entities refresh their strategies less frequently than once in three years, but, at the same time, as many as 80% of organisations admit planning or undergoing digital transformation. The new directions, which evolve and become the basis of further efficient development and - inter alia, creation of new sales channels, electronic client services, advanced analysis of the collected data or processes’ automation. This is connected with the implementation of security procedures and processes’ monitoring, the heart of which will be SCADA – Supervisory Control and Data Acquisition, DCS – Distributed Control System PLC – Programable Logic Controller.

Innovation set the enterprise development path for the coming years. Advanced digital solutions will enable securing the chain of supplies and in the future they will
become a new standard, providing prevention from occurrences such as pandemic. The image of the organisation’s security prior to COVID-19 pandemic, according to EY Global Information Security Survey 2020, was the following: 59% of organisations have experienced a major security breach in the period of the last 12 months, 26% cases of security breach in the period of the last 12 months have been detected by the Security Operations Centre (SOC). 20% of organismitigations’ management boards are completely confident in having measures mitigating cyber risks, 36% of organizations admit that when planning a new business initiative they consider cybersecurity issues from the very beginning.

However, the examples of new cyberthreats and the growing number of cyberattacks on enterprises and organizations result with a new approach to designing security systems. The principle of ‘zero trust’ is not only a need, it is a necessity. In the process of building secure systems of data processing no device, network or a single user has a trusted status in an enterprise, both inside and outside.

This will enable, primarily, the strengthening of the security system, but also will simplify the management and will increase the level of service for the end user. Similarly to other countries, also in Poland, the modern and operational critical infrastructure, is the key factor of the efficient state, independently of the appearing risks. In emergency situations it also de facto conditions its survival.

5. Conclusions

The epidemic connected with COVID – 19 efficiently swayed the whole global economy. At present companies have to face further, new challenges, which seriously influence the process of reaching their business goals, starting with the organization of work for their employees. Remote work, when pursued via online tools, virtual meetings and conference calls have become a necessity today, not as it had been before - a choice we gave to the staff. All this brings about not only the necessity of redefining the functioning of enterprises in a new reality that has not been tested before, but primarily, the defining of crisis management process aiming at taking adequate steps to limit or minimize the negative effects of the coronavirus epidemic.

The preparation of post-COVID action plans, together with adequate security measures, will result in the possibility to control the next, similar crisis. Not every business will survive this difficult time, when the possibilities to travel are limited, many events are postponed or cancelled. It is difficult to assess for how long organizations will experience the effects of the pandemic. It is certain, though, that a long-term plan to gradually stabilise organizations’ processes should be under preparation now. Its assumptions should be based on business projections prepared by analytical systems.
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