

The HR Management Changes Related to the COVID-19 Pandemic in Chemical Industry

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Abstract: A new viral disease called COVID-19, caused by coronavirus SARS-CoV-2, appeared in China at the end of 2019. The virus quickly spread round the world. In March 2020, the World Health Organization announced a pandemic. Therefore, the Czech Republic started introducing anti-epidemic preventive measures. The impacts of the measures had a nation-wide character and affected the society, particularly entrepreneurial entities. Companies were forced to reduce or interrupt their activities. A lot of companies introduced alternative work methods to reduce interpersonal contact. Working from home started to prevail where the situation allowed it. As the time passed, the pandemic started to have different economic impacts on different branches of the economy. They were mostly considered negative, but the measures also brought some positive impacts, for example, faster digitalization of the labour market. The aim of this paper is to map the situation in the period of COVID-19 pandemic in the area of human resources in the Czech Republic, focusing on the chemical industry. The paper includes the outcomes of a research performed through electronic questioning at seven chemical companies. The research is focused on changes in the corporate HR management caused by the impacts of the coronavirus crisis.

Keywords: HR management; labour market; COVID-19; pandemic

JEL Classification: J21; M54

1. Introduction

The development of information technologies and the advancing digitalization in individual branches of the economy have been changing the labour market in the last few years. The coronavirus pandemic also contributed to the labour market changes. Digitalization significantly accelerated within this period. To prevent spreading of the coronavirus, the interpersonal contact was limited as much as possible. Therefore, some companies made it possible for their employees to work from home (Zamfir & Aldea, 2020). However, the pandemic also had some negative impacts on the labour market both in the Czech Republic and globally in several waves (Hedvicakova & Kozubikova, 2021; Lee et al., 2020). Although the government made efforts to support companies within the coronavirus crisis, a lot of them had to reduce or stop their activities as a result of the decreased demand and imposed preventive measures, and to make some employees redundant.

COVID-19 – A new viral disease causing the infected persons pneumonia appeared in the Chinese city of Wu-chan in December 2019. However, neither the disease agent nor the

modes of its transmission were known. The disease was later named COVID-19, whose agent is the new coronavirus SARS-CoV-2.

The disease quickly spread to other countries, and at the beginning of March 2020 the World Health Organization (2019) announced the spread of the coronavirus as pandemic. The Czech Republic registered the first case of the disease on 1 March 2020 (National Institute of Public Health, 2020). The measures taken against the pandemic significantly limited social, but mainly entrepreneurial activities. People who had to go into quarantine or lost their jobs also showed depressions and distress, particularly due to the social media disinformation (Xiong et al., 2020). The only available way how to reduce the pandemic is vaccination, which prevents a severe clinical course of COVID-19. The first vaccine registered in the EU was Comirnaty, developed by BioNTech (Germany) and Pfizer (U.S.A.). It was registered on 21 December 2020 (European Medicines Agency, 2020).

Unemployment during the coronavirus crisis – Unemployment in the Czech Republic grew from below 3% before the pandemic to 3.7% in October 2020, and together with the recovery in the summer of 2021 it got back to the pre-epidemic figures (see Table 1).

Table 1. Quarterly unemployment rates in the Czech Republic (Czech Statistical Office, 2021a)

Indicator	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021
Employment rate (%)	58.2	58	57.5	57.6	58.5*
General unemployment rate (%)	2.9	3.0	3.4	3.0	2.7*
Economic activity rate (%)	59.9	59.8	59.5	59.4	60.2*

*Preliminary figures

The unemployment grew very little only, mainly thanks to the support program of Antivirus, which provided employers with financial support, and they then were not forced to reduce their staff (Hovorkova, 2020a; Hedvicakova & Kozubikova, 2021).

During the crisis, a lot of companies limited their operation and only employed the necessary staff. They were mainly their experienced employees providing best performance. This led to the fact that the unemployed included more and more people requiring a part-time job, people whose employment contract for a definite time had expired, and graduates with little or no job experience (Hedvicakova & Kozubikova, 2021; Lee, Schmidt-Klau & Verick, 2020). Another affected group was represented by women, particularly those who had to take care of their children or some other persons in connection with the school lockdown and limited social services. Although 55+ people have the necessary experience, they also suffered from a pandemic impact as some of them had great difficulty adapting quickly to the increasing usage of modern technologies. Another group endangered by the pandemic was represented by self-employed persons who had to close their trades due to the anti-crisis measures. These people became unemployed, or they switched to regular jobs. Together with the restrictions applied on entering the country, there were also fewer foreign and agency workers among the employed. These are risk groups that are threatened first within any crisis, and the situation was not different during the coronavirus crisis. However, this was not true for all labour sectors. For example, the market suffers from the lack of experts from technical and medical branches regardless of the crisis (Hovorkova, 2020b; Hedvicakova & Kozubikova, 2021).

The negative impact of the pandemic showed mainly in the tourist industry and gastronomy. A lot of people employed in this area lose their jobs and look for jobs in another industry. In view of quite a large number of unemployed looking for jobs in another area of business, we can expect an increased interest in requalification courses.

State support during the coronavirus crisis – The spread of coronavirus and the adopted preventive measures have a negative impact on the employment and labour market in the Czech Republic. Therefore, the government have created a programme called Antivirus, which is to mitigate the negative impacts on the employment. The basic aim of the Antivirus Programme was partial or full compensation for overall labour costs in the form of compensation for wages belonging to employees for the period of obstacles to work caused by quarantine, extraordinary measures, anti-crisis measures relating to the spread of COVID-19 infection both in the Czech Republic and abroad, and by the accompanying economic problems of the employers. The Antivirus Programme provided the affected employers with a financial contribution. By 1 August 2021, the Antivirus Programme had supported 1,073,133 employees in total. The wage compensation was paid, on average, for more than 4 months, and the programme helped to maintain jobs for 37% employees in the private sector. The total number of supported persons included more men (55.5%) than women, and more than 22% of the supported employees belonged to the groups threatened by unemployment. This is why it is possible to assume that they would have become unemployed without this support (Ministry of Labour and Social Affairs of the Czech Republic, 2021a). Antivirus A and later Antivirus Plus covered wage compensations amounting to 80% and later 100% of the wages and salaries up to the maximum amount of CZK 39,000 and CZK 50,000, respectively, including levies in the case of the employee's quarantine and in the case of business lockdown or restriction due to the extraordinary measures (Ministry of Labour and Social Affairs of the Czech Republic, 2021a). Antivirus B served for covering the wage compensations in the case of a drop in sales or loss of inputs during a manufacturing process of 60% of the paid wage compensations, including the compulsory levies up to CZK 29,000. Antivirus C represented another form of support in the form of remission of social insurance payments (Ministry of Labour and Social Affairs of the Czech Republic, 2021a). As of 1 July 2021, the Antivirus Programme was partially replaced by a contribution for the period of partial work, which can be activated in the period of an economic crisis, natural disasters, a cyberattack, an epidemic, etc. At the same time, it is possible to limit its scope of operation to a region, a sector, or to a defined group of employers (Ministry of Labour and Social Affairs of the Czech Republic, 2021a; Hedvicakova & Kozubikova, 2021).

Another support the government provided employees with arrived at the time of the school lockdown. School first closed at the beginning of March 2020 and then in the middle of October 2020. This caused problems to employees with children who had to stay at home. Therefore, the government offered the employees who could not perform their jobs due to childcare at the time of the school lockdown support in the form of a care-giver's allowance. The care-giver's allowance is provided on condition that the child is not more than 10 years

old, or the person they take care of is more than 10 years old and dependent on someone else's care.

Labour Market Changes – The labour market has been changing rapidly since the arrival of the coronavirus pandemic. In the pre-pandemic period, the market suffered from the lack of job applicants, and it was not easy for companies to get new employees. This is why applicants were often offered higher salaries and more fringe benefits, which resulted in the fact that people were not afraid to change jobs frequently. The crisis changed this. Resulting from the growing uncertainty on the labour market, employees became more loyal, and their priority was to keep the current job. Together with the recovery of business activities, the situation returned to pre-pandemic condition, and the supply of jobs started to exceed the demand significantly. As at 31 October 2021, the Labour Offices registered 251,689 people looking for work and, on the other hand, 352,454 job openings (Ministry of Labour and Social Affairs of the Czech Republic, 2021b).

Work environment changes – If a company wants to keep the employees at the time after a crisis, they should listen to their employees and create for them good working conditions. Employees mostly require flexibility in the workplace, which helps them create a work/life balance. One of the solutions is remote work, which became widespread within the coronavirus crisis. However, it cannot be introduced everywhere. In jobs, where it is not possible to work from home, the company can offer their employees flexibility in the form of flexitime, which allows workers to alter workday start and finish times. In addition, it is also important that the employer pays attention to employee education, as the skill requirements are changing continuously, particularly in digital technologies, which started to be used more often during the crisis.

The crisis accelerated the spread of the way of working that had not been used very often by companies in the Czech Republic, which is working from home, a so-called home office. It is mainly used by administrative staff or ICT jobs. A home office has benefits both for the employees, and for their employers. An employee that does not have to travel to work saves time and also has the possibility of harmonizing their private and work lives. Benefits on the part of an employer include savings in some costs, e.g. the office costs or travel costs. Czech companies had not applied this method of work very widely, and so it is necessary for the employees and the employers to get used to it. People must learn how to be disciplined at work. What was also necessary was proper functioning of technologies employees need for their work and online communication (Hodkova, 2020). Digitalization also affected job auctions and subsequent training of new employees, called onboarding. It is mainly applied to administrative jobs or jobs where employees work from home (Halbrstat, 2020).

Sector of economy affected by the coronavirus – Anti-pandemic measures had different impacts in different sectors of the economy. For example, the banks increased the number of cash deposit machines, some of their branches are stopping to use cash to reduce interpersonal contacts (Kucera, 2020). Some other interesting changes can be seen in health care. Health insurance companies have started to pay for examination over the phone or a video call. It made it possible to solve some cases without the patient having to wait for the

examination in the waiting room, where the risk of infection was increased during the epidemic (Nguyenova, 2020).

Apparently, the coronavirus pandemic has affected, positively or negatively, all the economic sectors. The preventive measures relating to the pandemic had negative impacts on the tourism and gastronomy above all, but also on some other branches of business connected with tourism. Table 2 shows the development of the number of guests staying at accommodation facilities in the given months, where you can see the dramatic impact on the tourist industry.

Table 2. Number of guests at mass accommodation facilities (Czech Statistical Office, 2021b)

Indicator	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021
No. of overnight stays	4,699,269	3,172,659	1,036,474	5,964,357	662,954	281,894	1,568,453	6,707,895

The other adversely affected industries included and still include the automotive industry and civil engineering. There are also fewer job openings in administration and banking. By contrast, the areas doing well include information technologies, trade, and delivery services. E-shopping has seen a dramatic increase in the popularity, which was mainly caused by the fact that people can get their goods comfortably and safely without going to the shops. Compared to the pre-pandemic period, there was an increase of 40% (E15.cz, 2021).

Although the chemical industry has not been affected by the pandemic as significantly as some other industries, some chemical industry sectors have been affected more than others. For example, the oil industry faced the oversupply and low demand caused by a drop in transportation resulting from the anti-pandemic measures. Table 3 provides an overview of the industrial production in the given period.

Table 3. Year-on-year industrial production index (Czech Statistical Office, 2021c)

Indicator	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021
Industrial production index (%)	96.8	96.5	77.2	96.4	101.7	103.2	130.0	99.3
Chemical industry production index CZ-NACE C20	83.2	93.4	110.8	104.4	110.8	104.4	121.9	105.2
Automotive industry production index	94.3	93.5	53.9	98.4	109.9	108.9	178.9	76.3

A disadvantage of the chemical industry is the fact that it is not possible to simply stop manufacturing, which was the main reason for the excessive supply in the oil industry. An adverse situation has also affected sectors connected with the automotive industry and electrical engineering, which have suffered from manufacturing interruptions and the low demand (Accenture, 2020). In spite of this fact, most chemical companies did not intend to reduce their staff. Compared to the affected sectors, but also to the chemical industry before the arrival of the pandemic (Vlcek & Kostalova, 2020; Kostalova & Bednarikova, 2019), the situation was more favourable in the sector manufacturing medical supplies, particularly

disinfectants, medicaments, and protective aids that were important for coping with the coronavirus (Jandusova, 2021).

It would be interesting to analyze deeply the impact on different sectors of economy. The aim of this paper is to map the situation in the period of COVID-19 pandemic in the area of human resources in the Czech Republic, focusing on the chemical industry. It is the first part of the research in this area across the economic sectors.

2. Methodology

The primary research was based on the literature review involving professional publications dealing with the COVID-19 epidemic and also on a research into the web pages of the Czech Statistical Office and Labour Offices in individual regions according to the area of business.

The research was focused on the chemical industry, and it was conducted through electronic questionnaires in May 2021, i.e. at the end of the third wave of the pandemic. The electronic questionnaires were sent to seven companies belonging to AGROFERT, a.s. and ORLEN Unipetrol, a.s. holdings, CZ NACE C20, two the most important owners in Czech chemical industry sector. Six of the companies returned completed questionnaires, which makes a response rate of 85.7%. The companies requested research anonymity, and so the research evaluation information does not refer to the respective companies. In addition to the questionnaire survey, there was also a workshop on the given topic. This workshop was held in October 2021 and involved HR managers from chemical companies. Their opinions on the given topic are mentioned in the paper, too. Based on the first survey in this area there will be prepared extensive research in chemical industry and in other areas of business to compare the impact.

3. Results

The first part of the questionnaire was focussed on changes in the area of recruitment and selection of new employees. Only one of our respondents interrupted these activities for a short time. The other companies did not make any changes, and these activities were conducted continuously, even though in a modified way. Only one company ran all interviews online, three of them ran them online partially only, and two of them did not make any changes.

The question concerning staff reduction relating to the coronavirus crisis was replied identically by all the companies. They all declared that none of their employees were made redundant.

The support programme of Antivirus was used by for companies. Two of them also mentioned the particular type of programme they used. Two of them used Antivirus A and A Plus for partial coverage of the costs relating to isolation, not for solving partial unemployment.

The next part of the questionnaire dealt with hygienic measures introduced by the companies. We also wanted to know how this fact affected the corporate processes. Standard hygienic measures implemented by the companies mainly related to wearing face masks and respirators in the workplace and availability of disinfectants for all employees. Other

frequently implemented measures included a stricter regime or new rules in dining rooms (e.g. alternation of employees in dining rooms), testing of employees and external visitors, cancellation of training and mass events and introduction of home offices, which enabled alternation of employees in offices, and also reduced the number of people in an office. Two of the questioned companies had meetings through videoconferences only, limited employee recruitment, external visits, employee gathering, and limited the number of employees in shifts without threatening production. One company declared that implementation of these measures was very costly.

All the companies provided their employees with a home office. It was applied to the posts of accountants, IT specialists, sales representatives, purchasers, administrative workers, lawyers, dealers, auditors, economists, HR managers, and managers. As for the percentage of employees working from home, the companies replied differently: one company said that the number of employees using a home office cannot be specified. The others answered as follows: 4%, 10% (two companies), 15-20%, max. 50%. The researched companies applied a home office for different periods of time. Four companies introduced a home office in March 2020 and used it until May 2021. One company introduced a home office for some employees for the period from March 2020 until April 2021, but the company employees can still use this way of work on an individual basis. Another company declared that their employees had the possibility of working from home for the entire period of the state of emergency.

The research aimed to identify whether the coronavirus situation changed communication within the company, i.e. whether face-to-face communication declined and communication moved rather to the online environment. Face-to-face communication moved towards online communication in all the questioned companies. Five companies limited face-to-face communication partially. Only one company stopped communicating face to face completely and used solely online communication. Four companies intend to continue communicating online even after cancellation of the preventive measures. One of them expressed their intention to use online communication partially only (for example, for some trainings). The other two companies plan to return to face-to-face communication.

Utilization of online communication in training was confirmed in the round-table discussion by one of the HR managers. She stated that their company had transferred training to the online regime and that they were going to maintain this model in the future as well. They have made webinars for some trainings, e.g. OSH (Occupational Safety and Health). Their employees are obliged to watch the webinar and train themselves.

Limited face-to-face communication can result in mental problems in employees. This is why we wanted to know if the working environment and the employees' mental health had changed due to the limited face-to-face communication. One company declared that their employees' mental health rather had not changed. Mental health of the employees in the other five companies was rather affected by the limited interpersonal contact. Three of them stated that working from home is not suitable for everyone, and after a longer time spent in a home office, they were happy to be back in their working environment at the company.

The question about the sickness rate in the company relating to COVID-19 and about the number of people going into quarantine was answered as follows: one company stated that the number can only be estimated. In total, there had been about 160 employees tested positive for COVID-19, and 300-350 employees had been in quarantine, which makes about 1/3 of the company staff. The second company declared about 16%, and an employee had stayed at home in the case of suspected COVID-19 in the family until confirmation of the situation. The third company saw a year-on-year increase in the sickness rate of 1%. The pandemic did not bring a significant change in the number of absent employees. The fourth company stated that the sickness rate averaged 10.5% in the first quarter of 2021, while 273 persons went into quarantine (without COVID-19) in the entire period of the pandemic. The fifth company declared the sickness rate of about 4.5%, i.e. there was a year-on-year increase of about 1%. However, this cannot be specified precisely, as mainly the technical-economic staff did not take sick leave in the case of light symptoms, even if they were in quarantine, but they had a home office. The last researched company estimates about one hundred employees. The employee sickness rate affected labour force scheduling in four companies. Four of them suffered a lot, the other two less. The labour force scheduling in the last two companies stayed rather unaffected.

The research also paid attention to any potential changes in the demand for the products of the questioned companies. Their answers were balanced. The product demand grew in two companies, it stayed the same in the other two, and it went down in the last two. One company stated that the demand for fuels for travelling had decreased by 80% and the demand for the other products went down by 20%. We also wanted to know whether it was more difficult to distribute products abroad as a result of the implemented government measures. Two companies do not export their products abroad. Three companies found it more difficult to distribute their products internationally. One company even declared that it was significantly more complicated. Product distribution was not more difficult during the epidemic for one company only.

4. Discussion

The research shows that most of the questioned companies from the Czech chemical industry did not have to dramatically change the care of employees and the way of personnel work. The impact was mainly related to the reduction of interpersonal contacts. The measures strengthened the work in the form of home-office, video calls and meetings, recruitment of new employees, training, sales and communication in general to a virtual environment. When comparing positive and negative impacts, the negative ones prevail. In addition, many of these measures had other consequences, such as psychological impact in the form of greater uncertainty, frequent changes, loneliness due less contacts. It is a question of how measures that could be used by only part of the employees (e.g. home-office was used only by a limited number of employees according to their activities) strengthened or caused conflict or dissatisfaction of employees who could not use similar changes due to their type of work. The companies faced shortfalls in the number of employees due to increased

morbidity and quarantine, while these changes limited them, but did not stop their production. The question is to what extent these changes were temporary and to what extent they brought a long-term change to personnel work. The possible incorporation of these changes into long-term practice could indicate the positive impact of these measures, signaling that some of the changes have worked well, bring more efficient operation, reduce costs and suit both to the companies, and to their employees. It can be expected that the positive effect was a significant shift in the use of digital technologies in communication, data sharing, e-learning etc. Further expansion of research in this area would provide answers to these and many other questions, it would be beneficial to expand research to other economic sectors and comparing the change in the longer term after the end of the pandemic.

5. Conclusions

The arrival of the coronavirus pandemic had significant impacts on the labour market and the way of personal work. Most of impacts were negative, but it was also possible to identify some positive ones. A positive impact can be seen in acceleration of digitalization, as companies had to adapt quickly to the imposed preventive measures reducing interpersonal contact. They also took advantage of the possibility of working from home for employees whose job description allowed it. The preventive measures included limited travelling abroad and reduction or interruption of business activities in some industries. The most adversely affected industries were tourism and gastronomy, where companies had to dismiss some staff, but e.g. the automotive industry also faced some negative impacts. The government issued a support programme called Antivirus, which aimed to mitigate the coronavirus pandemic impacts and to slow down the growth of unemployment. On the other hand, negative impacts were not so extensive in the area of the chemical industry. It was not necessary, with a few exceptions, to reduce production. However, the chemical industry also used the government support programmes. Chemical companies had to cope with higher demands placed on hygienic measures, increased sickness absence rates, it was necessary to adapt the work environment, change the working method in some groups of workers to a home office, and to introduce new forms of communication with job applicants within recruitment or within employee training.

Conflict of interest: none

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