

# Knowledge Management in a Globalized World and the Coronavirus Age

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## Abstract.

**Research background:** Although the world is still in a coronavirus crisis, it also sees hope in vaccines being developed, government measures taken to revive the economy and borders reopening. At the same time, the globalized world has learned a lot. Knowledge management and knowledge sharing in a globalized world now have even higher mission than before, since work regimes have completely changed and the necessary requirements for the protection of employees' health and safety are being adopted.

**Purpose of the article:** Knowledge management is a multidisciplinary activity; its individual disciplines will be described, characterized and researched. Research surveys will map the activities of knowledge management in new work regimes with the protection of employee health and safety in order to optimize knowledge management of businesses in a globalised world with existing threats.

**Methods:** After the questionnaire survey is completed, the respondents' answers will be encoded in Microsoft Excel. The encoded data will be exported to the SPSS statistical software. The objective of the statistical evaluation is to extract relationships and linkages that could contribute to optimising the knowledge management of enterprises in a globalised world. To detect basic relationships and linkages, Pearson's chi-square test of independence will be used at the level of descriptive statistics, using contingency tables.

**Findings & Value added:** Based on the conducted research, it diagnoses existing knowledge management barriers and knowledge sharing in globalized enterprises.

**Keywords:** *globalization; globalized world; knowledge management; know-how*

**JEL Classification:** *M54; M51; I15*

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## **1 Introduction**

Knowledge Management deals with the generation, dissemination, preservation and revision of common expertise [1]. Knowledge Management does not replace nor compete with any of the managerial directions, but it permeates all managerial activities. Even if it is not a new discipline, at present it is gaining greater importance than before. The research survey pursued objective, specifically the focus on the generation, dissemination, preservation and effective use of common expertise in new work regimes connected with the requirements for the health and safety of employees, (e.g. home office) in globalized enterprises [2]. Based on the conducted research, it diagnoses existing knowledge management barriers and knowledge sharing in globalized enterprises.

### **1.1 Knowledge management**

Management as a discipline has the aim of generating valid knowledge but has been schizophrenic as to how this should be achieved [3]. Knowledge, as a structured summary of interrelated ideas, findings and experience from a particular area, or for a specific purpose, are the assets of each business organisation. However, unlike common tangible assets, the company does not own the range of knowledge possessed by a particular worker or a group of people. Knowledge management is a part of management focused on the use of knowledge to increase the efficiency of activities of the company. Knowledge is more than data, information and findings [4]. It is a foreign concept, based on international management, focusing on knowledge sharing, as a key area [5], but still burdened by many obstacles, such as inadequate flow of knowledge between management members, superiors and employees or directly in working teams. In some cases, conflicts in knowledge transfer and application can be useful, but only if it is a task conflict in the flow of knowledge and not a process conflict [6].

#### **1.1.1 Data, Information, Knowledge**

The term data refers to all experiences from the environment that can be captured by the human senses. Hard data is represented by data that is clearly defined and quantified (numerically, in physical, economic units). Soft data express people's opinions and attitudes [4]. Another approach says - the knowledge can be broadly classified into two categories, first tacit knowledge, and second explicit knowledge. Tacit knowledge is difficult to express in the form of language, symbol. Tacit knowledge cannot be stored or expressed in the form of any written material. This knowledge is non-transferable. Explicit knowledge can be stored as data and symbols and can be transmitted within the organizations [7]

If the data is processed artificially, it is called information, which is specifically classified by the user in a special category and thus acquires a unique meaning. This means that the information represents a logically categorised set of data that will be used for some purpose. [8, 9].

Any form of representation of practical information is knowledge, which will actively help an individual to perform tasks and manage related cognitive and analytical processes [10]. Quality knowledge is always composed of a complex combination of data, skills, information, expert opinions and empirical experience. This union leads to the creation of a valuable but at the same time intangible asset, which can be used effectively as a basis for a managerial decision-making process. It is necessary to mention a significance of knowledge data sharing in general. Knowledge sharing can both benefit the firm with access to external knowledge and skill sets and expose it to potential risks of knowledge leakage and misappropriation, thus both advancing and hampering the innovation performance [11].

Therefore, the level of sharing and the level of individual use of knowledge must always be carefully considered.

Any knowledge is tied and linked to an appropriate carrier [12]. In recent years, great emphasis has been placed, for example, on networks for the development of early careers of professionals and the creation of their knowledge [13]. According to a latest study [14] we also know, that improving knowledge flows between co-workers affects productivity. Directing co-workers to share knowledge raised average productivity and reduced output dispersion between workers, highlighting the role that management practices play in generating spillovers inside the firm. A real/tangible/actual carrier of the content of knowledge information can be, for example, a group of people, a person or a formal organisation; last but not least, discrete expressions of knowledge are placed on a material medium or an electronic device. The pieces of information can also exist and be transferred in an intangible, formal form similar to ownership or a patent [14].

## **1.2 Disciplines of Knowledge Management**

Knowledge Management is a systematic approach to finding, selecting, organizing and using knowledge in a business to create value, improve its performance and achieve strategic goals. Knowledge Management is a multidisciplinary activity, and it deals with information science, interpersonal communication, education, internal communication, process approach, content management, document management and information technologies of the company [15]. These disciplines mentioned above were mapped in the questionnaire survey, which is dealt with in Chapter 2. It reflects also a local situation - in our conditions, however, we still encounter some problems, many of them are given culturally. One of these obstacles is the conflict of motives that arise from knowledge management processes especially within knowledge sharing. It is deeply rooted in the socio-cultural system [16], often affected by cultural distance in the sense of receiving and using international knowledge [17] and based on the level of cultural intelligence as a positive impact to knowledge sharing [18]. Another problem could be the motivation of recipients - higher knowledge recipient's intention to adopt knowledge can enhance cognitive learning. It is very important to understand how to utilize the knowledge flow for employees with different intentions to adopt knowledge. The recipients may not want to accept the knowledge and, conversely, many workers may not be willing to share their knowledge – the motivation plays an important role in this process [19]. In today's turbulent globalized world, therefore, increased attention needs to be paid to all aspects of knowledge transfer and its effective use.

## **2 Methods**

From 14th–21st April 2020, a questionnaire survey was conducted. It was based on the specified objectives and individual disciplines of the Knowledge Management as described in Chapter 1.2. The questionnaire contained a total of 21 questions that mapped the specific disciplines of Knowledge Management, i.e. processes, IT and communication infrastructure, human resources and their competence, and formal and informal workplace organisation. Two hundred seventy respondents participated in the survey, all from ŠKODA AUTO University partner companies in the Czech Republic, Slovakia, Russia and China. The aim of the research survey was to diagnose existing barriers to knowledge management and sharing of experience in a globalized world marked by the COVID-19 pandemic.

## **2.1 Methodology of the questionnaire survey**

After the completion of data collection, the individual responses of the respondents were encoded. Data encoding was performed in Microsoft Excel. All variables were, by default, encoded into numeric variables. The encoded data was exported into the SPSS statistical software in which the encoding framework was created, including the resolution of individual variables. The aim of the statistical data evaluation was to extract relationships and linkages that might contribute to better understanding of knowledge management processes. Dependencies with an exogenous quantity were tested. These are quantities determined outside the examined system – age of the respondents, area and length of their employment, educational background and the size of the company. These variables do not intervene in the functioning of Knowledge Management; however, there may be a tendency to influence it. It cannot be assumed that, for better information processes, adjusting the age structure of employees, for example, would lead to better information processes. Thanks to this analysis, however, it is possible to set different processes against specific sociodemographic groups of stakeholders.

To detect basic relationships and linkages, Pearson's chi-square test of independence was used at the level of descriptive statistics, using contingency tables. Only relationships with asymptotic significance lower than 0.05 were recorded. If a value lower than 0.05 is reached between two variables, it can be claimed a relationship exists. However, the chi-square test does not say anything else about the nature of the relationship between variables, and it cannot be assumed that all relationships are significant enough to be generalised. Usually, correlation would be subsequently applied; however, its relation to exogenous quantities has no information value. In terms of the depth of analysis, proving the closeness of the relationship between age and the optimal person to train a new worker would not yield any specific applicable knowledge. For the interpretation of the research to be meaningful, it is necessary to know whether the relationship is conclusive in relation to the different age categories. For this reason, the so-called adjusted residues were used in the contingency tables. The adjusted residue is based on the difference between empirical and expected frequency, which at the time of its value is greater than 2.00 (or -2.00 for negative-oriented relationship), we can be sure (with 95% probability) that the difference between frequencies did not arise by accident. In the case of values greater than or equal to 3.29 (or -3.29 for negative-oriented relationships), the probability of accidental occurrence of the deviation is less than 0.1%. Adjusted residues therefore determine the extent to which the presumption of independence is violated, which is satisfactory for the purpose of evaluating these variables. In this way, it is possible to prove not only the relationship of the endogenous question with the socio-demographic indicator, but also to specify to which internal categories these significant relationships apply. Again, only relationships of statistical significance were left; outliers were excluded.

By analysing of the contingency tables and vicariously adjusted residues, relationships were extracted where it can be assumed that they may affect the knowledge management system. Consequently, it can be considered that this influence will be at least partially predictable and therefore applicable in practice.

## **3 Questionnaire Survey Results**

The results of the research are presented in the form of a table showing the survey questions, exogenous variables, dependent variables and closeness of the relationship between them. As previously mentioned, only statistically significant relationships were left, and the outliers were excluded. Table 1 presents variables with proven dependency according to the size of the business in which respondents are employed. The same

methodology was applied to processing the variables with proven dependence on age of the respondents, area and length of their employment, educational background and the size of the company.

The COVID-19 pandemic has entered the lives of each individual and has paralyzed many aspects of the day-to-day operations of companies in global and local markets. From the vision of a global citizen living, working and consuming goods and services across borders, we have become citizens of a hermetic society overnight.

The questionnaire survey took place on 14-21 April 2020, at a time when a state of emergency was in place in the Czech Republic and people were forced, not only in the Czech Republic, to work from home. The COVID-19 epidemic essentially tested the level of functioning of knowledge management in most businesses.

**Table 1.** Variables with proven dependency according to a business size

Question in the questionnaire survey	Exogenous variable	Dependent variable	Adjusted. res.
Do you know where to find important information for your job?	up to 50 employees	no	2.6
Indicate where important information for your job is stored.	up to 50 employees	internet (cloud)	2.7
	up to 250 employees	(internal) shared data storage	2.3
	more than 250 employees	internet (cloud)	-2.2
How often do you use information that is shared and which is important for your job content?	up to 50 employees	often	2.7
To what extent are you satisfied with information relevant to your job?	up to 50 employees	satisfaction	2.8
	up to 250 employees	maximum satisfaction	2.6
Via which channel do you most often communicate with your colleagues or supervisors?	up to 50 employees	social networks	2.7
	more than 250 employees	e-mail	3
Do you want to communicate with your colleagues or superiors via another channel?	up to 50 employees	no	3.1
	more than 250 employees	yes	2.6
Who do you consider to be the optimal person for training when switching to a new work regime (e.g. Home Office)?	up to 250 employees	superior (chief)	2.6
	more than 250 employees	colleague	2.9
Who don't you consider to be the optimal person for training when switching to a new work regime (e.g.	up to 250 employees	coordinator	2.9
	more than 250	personnel manager	2.7

<b>Home Office)?</b>	employees		
<b>What know-how is necessary for your work?</b>	up to 50 employees	presentation and communication skills	3.4
	up to 250 employees.	computer technology – routine work	2.9
	more than 250 employees	computer technology – routine work	2.6
<b>What types of information is necessary when switching to a new work regime, e.g. Home Office?</b>	up to 50 employees	guidelines / manuals	-3.4
	up to 250 employees	guidelines / manuals	3.1
<b>Are there any types of information that are redundant on shared data storage?</b>	up to 50 employees	no	3.2

Source: Own survey, 2020

Table 2 presents variables with proven dependency by the area of employment of the respondents.

**Table 2.** Variables with proven dependency by the area of employment of the respondents

<b>Question in the questionnaire survey</b>	<b>Exogenous variable</b>	<b>Dependent variable</b>	<b>Adjusted. res.</b>
<b>Do you know where to find important information for your job?</b>	banking	no	2,6
	education and development	no	2,6
<b>How often do you use information that is shared and which is important for your job content?</b>	education and development	almost never	2,8
	IT	often	3,1
<b>Via which channel do you most often communicate with your colleagues or supervisors?</b>	automotive	email	2,4
	education and development	oral report	2,9
	telecommunication	MS Teams	3,1
<b>Do you want to communicate with your colleagues or superiors via another channel?</b>	automotive	yes	2,7
	banking	yes	2,6
	education and development	no	2,6
	IT	no	2,7
	electrotechnics	yes	2,4
<b>Who do you</b>	automotive	colleague	2,8

<b>consider to be the optimal person for training when switching to a new work regime (e.g. Home Office)?</b>	banking	personnel manager	2,9
	education and development	coordinator	3,1
	IT	superior (chief)	2,6
<b>Who don't you consider to be the optimal person for training when switching to a new work regime (e.g. Home Office)?</b>	education and development	colleague	2,4
	IT	personnel manager	2,8
	market research	superior (chief)	3
	telecommunication	superior (chief)	2,7
<b>Are there any types of information that are redundant on shared data storage?</b>	banking	yes	2,8
	IT	yes	2,8

Source: Own survey, 2020

Table 3 presents variables with proven dependency by the age of the respondents.

**Table 3.** Variables with proven dependency by the age of the respondents

<b>Question in the questionnaire survey</b>	<b>Exogenous variable</b>	<b>Dependent variable</b>	<b>Adjusted. res.</b>
<b>Indicate where important information for your job is stored.</b>	to 25 years	(internal)shared data storage	2,7
	26-40 years	paper form	2,6
	41-50 years	intranet/portal	3,2
	more than 50 years	(internal)shared data storage	2,9
<b>How often do you use information that is shared and which is important for your job content?</b>	to 25 years	almost never	3
	26-40 years	very often	2,6
	41-50 years	often	2,9
	more than 50 years	average	3,1
<b>To what extent are you satisfied with information relevant to your job?</b>	to 25 years	maximum satisfaction	2,7
	26-40 years	disfatisfaction	2,1
	41-50 years	satisfaction	2,2
<b>Via which channel do you most often communicate</b>	to 25 years	email	3,1
	26-40 years	skype	2,6

<b>with your colleagues or supervisors?</b>	41-50 years	skype	-2,6
<b>Do you want to communicate with your colleagues or superiors via another channel?</b>	26-40 years	yes	2,1
	41-50 years	no	2,5
	more than 50 years	yes	2,6
<b>Who don't you consider to be the optimal person for training when switching to a new work regime (e.g. Home Office)?</b>	to 25 years	personnel manager	3,4
	26-40 years	superior (chief)	2,7
	41-50 years	superior (chief)	-2,7
	more than 50 years	coordinator	2,8
<b>Are there any types of information that are redundant on shared data storage?</b>	to 25 years	no	3,1
	26-40 years	yes	2,3
	41-50 years	no	3

Source: Own survey, 2020

In the last century, it was sufficient to win over competition by introducing new production facilities or new technology. Nowadays, it is not only the latest technology, but also knowledge. Managers and employees of the companies we contact agree on the importance of knowledge management (in particular when the globalized world has experienced the closure of borders and completely new work regimes) and already apply many elements of it. When examining individual knowledge management disciplines through a questionnaire survey carried out in April 2020, several barriers were identified that prevent the strengthening of existing Knowledge Management: The research focused on the relationships between individual Knowledge Management activities and individual variables such as company size or the duration of employment in the company. Based on these relationships, existing barriers to knowledge management and knowledge sharing in a globalized world have been defined. Research conducted in April 2020 revealed the following barriers to knowledge management and knowledge sharing:

1. It is not possible to clearly and unequivocally define the limits of applied knowledge in a company working in the fields of education and development as well as banking.
2. The disincentive factor in the form of unwillingness to share the knowledge of employees aged 26–40 years and in the field of education and development as well as banking presents a problem.
3. In the IT and banking business areas, redundant information existing on shared data storage that influences the effective way of searching for knowledge creates procedural disorganisation.
4. IT support is rarely employed. The respondents of the age group 26–40 still use paper documentation to preserve important information related to their work.

5. Information may be contradictory, in particular in enterprises with more than 250 employees.
6. The communication culture needs to be addressed, in particular in the area of automotive industry, where the respondents wish to communicate via a channel other than e-mail.
7. Knowledge Management lacks dedicated staff creating systemic support for respondents within; at present the support is as a rule created by colleagues or superiors, within or outside.

## 4 Conclusion

The paper The Problem of Fluctuation and Knowledge Management focused on individual disciplines of Knowledge Management and presents the results of a questionnaire survey carried out in April 2020. The results of the questionnaire survey revealed several obstacles in the existing disciplines of Knowledge Management:

1. Inaccurately defined knowledge application in the company.
2. Demotivating factor for sharing information.
3. Redundant information on shared storage.
4. Low level of employing IT tool.
5. The problem of conflicting information.
6. Culture of the company's communication and an unsatisfactory communication channels for employees.
7. Lack of responsibility of appointed employees in creating system support.

If managers focus on examining the identified barriers, it is possible to strengthen Knowledge management in both, the new work regimes related to employee's health and safety, such as home office, necessary social separation in similar threats to COVID-19, closing borders of a globalized world, as well as, for example, the departure or illness of skilled and qualified workers.

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