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THE ECONOMIC, INFORMATIONAL AND SECURITY ROLE OF SOCIAL MEDIA DURING THE COVID-19 PANDEMIC

ЕКОНОМІЧНО-ІНФОРМАЦІЙНА ТА БЕЗПЕКОВА РОЛЬ СОЦІАЛЬНИХ МЕДІА ПІД ЧАС ПАНДЕМІЇ КОВІД-19

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Горін Н.В., Горін О.Р. Економічно-інформаційна та безпекова роль соціальних медіа під час пандемії КОВІД-19. Науково-методична стаття.

У статті визначено основні напрямки впливу соціальних медіа під час кризових ситуацій, а саме під час пандемії КОВІД-19 як однієї з найбільших світових криз, що зачепила практично всі країни світу. Дослідження базується на проведеному опитуванні користувачів соціальних медіа, а також на статистичних матеріалах та порівняльному аналізі праць провідних зарубіжних науковців. У роботі виділено чотири основні групи чинників впливу соціальних медіа на суспільство, а саме економічно-інформаційний (чинник локдауну у зв'язку пандемією КОВІД-19), безпековий, сприйняття соціальних мереж у суспільстві та формування довіри до соціальних медіа. Виявлено, що фейкова та неправдива інформація призводить до погіршення економічного, безпекового та психоемоційного життя не лише окремих її споживачів, але й держави в цілому. Встановлено, що найбільшу роль у сприйнятті та довірі до соціальних медіа як для приватних осіб, так і для бізнесу відіграє надання достовірної інформації, усунення фейкових новин, турбота про конфіденційність та застосування безпеки даних.

Ключові слова: соціальні медіа, пандемія КОВІД-19, інформація, економіка, безпека, Україна

Horin N.V., Horin O.R. The Economic, Informational and Security Role of Social Media During the COVID-19 Pandemic. Scientific and methodical article.

The article defines the main directions of influence of social media during the crisis, especially during the COVID-19 pandemic as one of the largest global crises, which affected almost all countries in the world. The study is based on a survey of social media users, as well as on statistical materials and a comparative analysis of the works of leading foreign scientists. The study indicates four main groups of factors of social media impact on society, such as economic and informational (lockdown factor due to the COVID-19 pandemic), security, perception of social networks in society and the formation of trust in social media. It was found that fake and mis- or disinformation leads to the deterioration of the economic, security and psycho-emotional life not only of individual consumers, but also of the whole country. It has been found that the provision of reliable information, elimination of fake news, concern for privacy and application of data security play the biggest role in the perception and trust of social media for both individuals and businesses.

Keywords: social media, COVID-19 pandemic, information, economy, security, Ukraine

In contemporary world, information is a method of influencing and analyzing of the past, present and future events. More and more often users build their behavior by analyzing of information flows. Access to information determines the choice of decisions not only by a specific person regarding his private life, but also by managers regarding strategic and operational business decisions. However, the information may reflect both true and false events. Today, social media, in particular social platforms, play an increasingly important role in providing information. At this stage, the ability to determine information and misinformation has a huge importance.

Analysis of recent researches and publications

The scientific approaches of world leader economists to determining the functioning of markets take into account the provision of information, access to information and asymmetry of information [1]. The Nobel Prize laureates in Economic Sciences G. Akerlof, M. Spence and J.E. Stiglitz showed that information is imperfect, and that even small imperfections of information could have profound effects on how the economy behaved. Although J.E. Stiglitz determines that asymmetries of information are only one facet of information imperfections, he underlines that all of them – even when small – can have large consequences [2].

During the COVID-19 pandemic crisis the social media perform an active communicative function and an important source of information both for private and business. Therefore, the digital trust will directly translate into economic growth [3]. It was explored that the priorities for information propagation in social media may be markedly different from the priorities for news selection in traditional media outlets [4].

The group of Italian researchers finds that users in mainstream platforms are less susceptible to the diffusion of information from questionable sources and that information deriving from news outlets marked either as reliable or questionable do not present significant difference in the way it spreads. They suggest that the interaction patterns of each social media combined with the peculiarity of the audience of each platform play a pivotal role in information and misinformation spreading [5]. The use of social networks and messengers is becoming increasingly popular among the people who need active communication.

The literature review on trust in social media during the COVID-19 pandemic, conducted by a group of Canadian academics, identified various topics, themes, and methodological approaches in social media and COVID-19 research. Among the six identified topics, the majority of articles were public sentiment. Among the selected studies, Twitter was the leading social media platform, followed by Sina Weibo. It should be noted that the researchers selected the most popular social platforms in China [6]. Therefore, research conducted on the basis of European or American markets will differ in the research base. However, the methodology remains generally accepted and includes, as a rule, machine modeling methods and statistical methods. The mentioned review is one of the most comprehensive to date and proves the fact that "accurate and reliable information through social media can play a decisive role in the fight against infodemics, disinformation and rumors" [6]. However, the authors also point to a lack of studies examining the trust in social media information.

According to a study by the Ukrainian Ilko Kucheriv Democratic Initiatives Foundation together with the Razumkov Centre's sociological service [7], in Ukraine during the COVID-19 pandemic the social networks became the 2nd most popular source of information after the central television channels - their share increased from 24% in 2019 to 44% in 2020. The messengers (Viber, Telegram, WhatsApp, etc.) were the 3rd with a share of 11%. With such a share of social media coverage of society, the study of the informational reliability, security and users' trust to social media becomes extremely important.

Data sources and research methods.

The data set for our study is based on the Google Form questionnaire with 152 Ukrainian respondents with the different professional status (business – 42.8%, education and science – 57.2%) from 10th through 25th of October 2021.

100% of respondents indicated that they engage with social media every day as highly active (10 hours – 3.9%, 10 hours and above – 2%), moderate (2 hours – 39.5%, 5 hours – 44.1%), and less active (1 hour – 10.5%) users.

For more probability of the analysis, the survey covered about the same number of different ages groups, but the youth group was the most numerous due to the highest numbers of highly active and moderate social media users:

12-17 years old (teenager group) – 7.8%,
18-25 years old (youth group) – 60.5%,
26-35 years (adult group) – 9.3%,
36-45 years old (senior adult group) – 13.8%,
46 years old and above (middle-aged group) – 8.6%.

Based on the survey of the most popular social networks worldwide in 2021 made by Statista Research Department [8], in our study we focused on the 7 largest social platforms: Facebook, Twitter, Instagram, WhatsApp, Messenger, Pinterest, and LinkedIn. Despite the results of Statista, which has shown Facebook was the top social network worldwide, in Ukraine it ranked only second with 73% users. The survey pointed clearly on Instagram's dominant social media ranking with 84.9%. Another top platforms listed by the Ukrainian respondents were Messenger – 52% and Pinterest – 44.1%. The least popular platforms in this survey were WhatsApp – 28.9%, LinkedIn – 22.4%, and Twitter – 15.8%. Respondents of teenager and youth groups also paid special attention to newer platforms with a younger user base – Telegram (27%), and TikTok (4.2%), but Viber with its 4% was popular in senior adult and middle-aged groups.

The main goals of the study are to determine the role of social media in formation the economic, security and social aspects of the country during the pandemics. For these reasons we divided the studied questions onto four groups:

- 1) Lockdown impact;
- 2) Social media security requirements;
- 3) Acceptance of social media;
- 4) Trust to social media.

Every group of factors was carefully aggregated and the results were completely studied.

The main part

Lockdown impact

The study indicated that the COVID-19 pandemic affected the structure of information consumption by Ukrainian citizens. 63.2% of respondents noted that the COVID-19 pandemic crisis forced them to use the social media more often. Also, the share of those who receive information from messengers such as Messenger, WhatsApp, Telegram, Viber has increased to 10%. According to a group of Ukrainian researchers led by P. Burkovskiy [7], messaging has not been noted in the 2018-19 survey. Thus, messaging, as a new type of communication, is also becoming a social media, especially for young people and those living in large cities and big regional centers.

The right to information is guaranteed by the Constitution of Ukraine (Article 34). During the COVID-19 pandemic, that right must be guaranteed by the state (governmental authorities). Both private individuals and business representatives should have guaranteed access to information and open data during the pandemic. The governments are obliged to provide information truthfully and promptly, because the lack of information and data about the coronavirus contributes to the spread of fakes and misinformation,

which in turn has a negative impact on the whole economy. Based on the analysis of previous studies and publications on the topic of trust in social media during the COVID-19 pandemic, it can be concluded that asymmetry and even a small imperfection of information or receipt of misinformation leads to the adoption of erroneous economic decisions by market players, and therefore to the economic crisis in general.

According to the monitoring data of the Office of the Commissioner for Human Rights, in Ukraine, only 76% of public information managers properly published information on the official websites regarding the orders aimed at countering the spread of the coronavirus disease (COVID-19). And the plans of the relevant anti-pandemic measures were properly made public by only half of the administrators [9].

So, it can be concluded that during the pandemic, violations of information culture and moral and ethical norms are observed in social networks and mass media, which provokes panic among citizens and businesses. In the final result, this leads to a decrease in the socio-economic well-being of the state as a whole.

Social media security requirements.

It should be stressed that, although the Covid-19 pandemic has made adjustments to the use of social platforms and led to an increase in their users, according to our analysis, only 34.9% of them indicated that they began to pay special attention to security issues. 65.1% of respondents pay almost no attention to ensuring the safety of social media. Using information posted on social platforms, only 30.9% of respondents check security protocols, and 69.1% do not consider it necessary. At the same time, according to the study on Internet Security conducted by the Kyiv International Institute of Sociology [10], only 35% of users feel more or less secure on the Internet, and 12% are more likely or completely unprotected. 23% of citizens have experienced hacking their account on social networks or messengers.

Our study found that users pay the most attention to such aspects of social media security as personal data protection (85.5%) and security (passwords, additional questions) (80.9%). Restrictions on access to the account (36.2%) and legal norms governing the field of social media (21.7%) play a much smaller role in security issues for users.

We applied the 1-10 numerical rating scale to collect information about users' trust to the security of their personal data posted on social media, where 1 meant no trust, and 10 – full trust. The results of survey showed that 65.1% of users rate the security of data from 1 to 5, that indicates significant distrust of social media security issues. It should be noted that only 2.6% fully trust the data security, and 9.2% do not trust it at all.

The same rating scale was used to determine the impact of three security issues – a) security factors; b) ensuring the confidentiality of data; c) ensuring privacy – on the users' assessments of social media acceptance and trust through:

As a result of the study, it was found that ensuring the confidentiality of data and ensuring privacy in social media are approximately equally important – from 6 to 10 points were rated by 78.3% and 80.9% of respondents respectively. 19.7% of respondents gave 9 points and 18.4% – 10 points to the ensuring the confidentiality of data, and 17.1% and 21.7% respectively – to ensuring privacy. Instead, the importance of security factors is slightly lower (72.3%). Although the overall difference is small, only 10.5% and 7.2% of respondents gave the highest scores of 9 and 10 respectively, for the impact of safety factors.

Therefore, it can be concluded that social media users pay more attention to the confidentiality and privacy of their own data in social media, than to the social media security at all.

The top basic rules, that respondents use to protect their security on social media, are the following:

- 1) Leave private information private – 86.2%;
- 2) Do not open links in messages unless you are certain that the sender is trusted – 77%;
- 3) What we post online is forever – 67.8%;
- 4) Do not react to suspicious messages until you check it – 64.5%;
- 5) Post responsibly – 41.4%;
- 6) Don't write back to strangers – 35.5%;
- 7) Remember that you represent not only yourself – 26.3%.

Acceptance of social media.

Respondents noted that most doubts caused by fake news (80.9%) while using social medias. Lack of confidence is also caused by short suspicious video files and printouts in news titles in 12.5% and 6.6% respectively. Thus, the next question arises what influences users' perception and what makes social medias more trustful?

We attempted to evaluate users' trustfulness and acceptance of social media with determining the influence of the next factors:

1. peer opinions;
2. celebrity opinions;
3. positive comments;
4. way of presenting information;
5. information reliability.

In survey we also applied the 1-10 numerical rating scale mentioned above.

Only 36.8% of respondents rated the influence of peer opinions on acceptance and trust to social media over 6 points, of which 78.8% belong to teenager and youth groups; 21.1% of respondents rated this impact on 5 points, 15.8% – 4 points, 11.8% – 3 points, 7.2% – 2 points and 7.2% – 1 point. So, it can be argued that the opinions of peers are listened to mainly by young people, although in general it can also affect the perception of social media by users of other age groups.

Celebrity opinions have less influence on acceptance and trust to social media in all age groups: only 25.6% of respondents rated it on more than 6 points (92.3% of them belong to teenager and youth groups), and 19.1% of respondents noted the complete absence of such influence.

Compared to the two previous factors, positive comments had a greater impact on acceptance and trust to social media in all age groups. Thus, 19.7% and 19.1% of respondents rated it at 5 and 6 points respectively, and, in general, more than half of respondents (52.6%) rated it as very high (from 6 to 10 points), but 7.2% of respondents noted a complete lack of such influence.

The way of presenting information has an even higher impact on acceptance and trust to social media compared to previous indicators. Respondents rated it on the 1-10 numerical rating scale as follows: 8 points – 22.4%, 7 points – 19.7%, 6 points – 18.4%. It does not affect at all (1 point) for 1.3%, and has the highest impact (10 points) for 2% of respondents. In general, it can be argued that the way of presenting information has a high impact in all age groups (72.3% of respondents rated it from 6 to 10 points).

The reliability of information has the highest impact on acceptance and trust to social media in all age groups: the highest trust (10 points) was indicated by 24.3% of respondents. In general, 79.6% of users gave a high assessment of the impact of this factor - from 6 to 10 points, and only 0.7% indicated that they do not trust to the information in social media.

The study of age groups shows that the older is the user, the less his acceptance and trust in social media are influenced by external factors such as peer opinions and celebrity opinions, and the more he draws his own conclusions based on positive comments and the ways of presenting information.

Trust in social media.

The analysis indicates that users tend rather to trust than to distrust to social media – 52.6 and 47.4% respectively. Thus, on the 1-10 numerical rating scale, 23.7% of respondents rated their level of trust at 5

points, 20.4% – 6 points, 23.7% – 7 points, 7.9% – 8 points and 0.7% – 9 points. None of the respondents indicated the full trust to social media, but 1.3% of respondents do not trust at all (1 point), have very low level of trust – 9.2% (2.6% – 2 points and 6.6% – 3 points). In general, the level of trust in social media in Ukraine can be defined as average, despite the social media took only 4th place among the types of media. Answers to the question "What type of media do you consider as the most credible source for information?" divided as follows:

1) Websites of public institutions – 73.7% of responders;

2) Information services on the Internet – 56.6%;

3) Business websites – 32.2%;

4) Social media – 6.6%;

5) Internet blogs – 5.9%.

The statement about the average level of trust in social media in Ukrainian society is also confirmed by the result of respondents' assessment of the reliability of social media as a source of information:

— completely unreliable – 4.6% of respondents (score 1 point),

— rather unreliable – 5.3% (2 points), 12.5% (3 points),

— reliable – 16.4% (4 points), 28.9% (5 points), 18.4% (6 points),

— rather reliable – 9.9% (7 points), 3.3% (8 points),

— very reliable – 0.7% (9 points) and 0% (10 points).

The trust of respondents in the 7 largest social platforms, which we focused on in the study, was shared as on Figure 1. In addition, 9.2% of respondents noted that none of the social platforms deserves their trust.

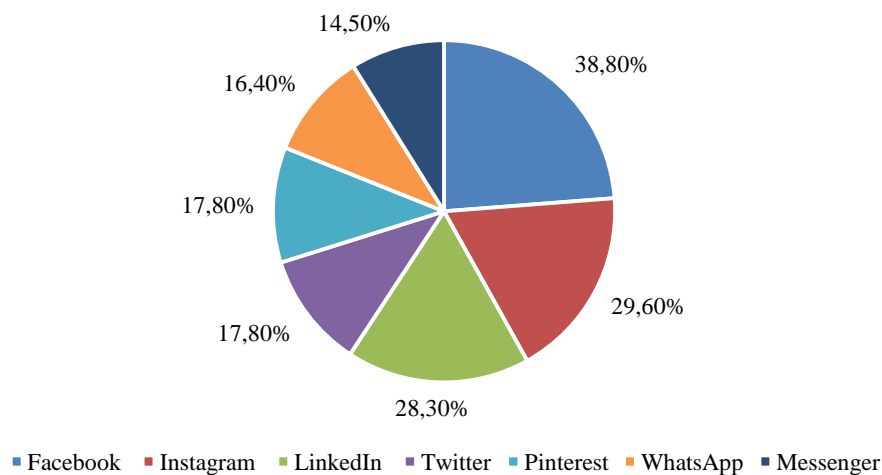


Figure 1. The trust in social platforms
Source: authors' own elaboration

The level of trust in information posted and shared on social platforms can be defined as average (see Table 1). For example, in case of Facebook 13.8% of respondents rated it at 4 points on the 1-10 numerical

rating scale, 26.3% – 5 points, 11.8% – 6 points, 15.1% – 7 points. 6.6% of respondents have no trust (1 point), and the level of full trust (10 points) was not determined by any respondent.

Table 1. The level of trust in content posted and shared on social platforms, %

Social Platform	1-10 numerical rating scale									
	1 (No trust)	2	3	4	5	6	7	8	9	10 (Full trust)
Facebook	6.6	3.9	13.2	13.8	26.3	11.8	15.1	7.2	2	0
Twitter	12.5	5.9	9.2	13.2	20.4	9.9	15.1	10.5	2.6	0.7
Instagram	7.2	5.9	13.2	15.8	22.4	19.7	8.6	4.6	2.6	0
LinkedIn	14.5	4.6	9.9	9.2	15.1	13.2	14.5	9.2	6.6	3.3
WhatsApp	15.1	5.9	14.5	11.2	20.4	12.5	9.2	4.6	5.9	0.7

Source: authors' own elaboration

The similar results are noted for Instagram, WhatsApp and Twitter: the trust in information is vary from 4 to 7 points, and almost nobody trusts in social platform content fully.

However, the situation with users' trust in information posted in LinkedIn is somewhat different. The analysis showed an approximately uniform distribution of assessment of the trust ratings, as well

as a higher share of both complete trust and complete distrust to posted information compared to the other mentioned platforms (see fig. 2).

Therefore, it can be assumed that the level of trust is higher in those social media in which non-anonymous information and professional characteristics are posted, as well as professional connections are formed.

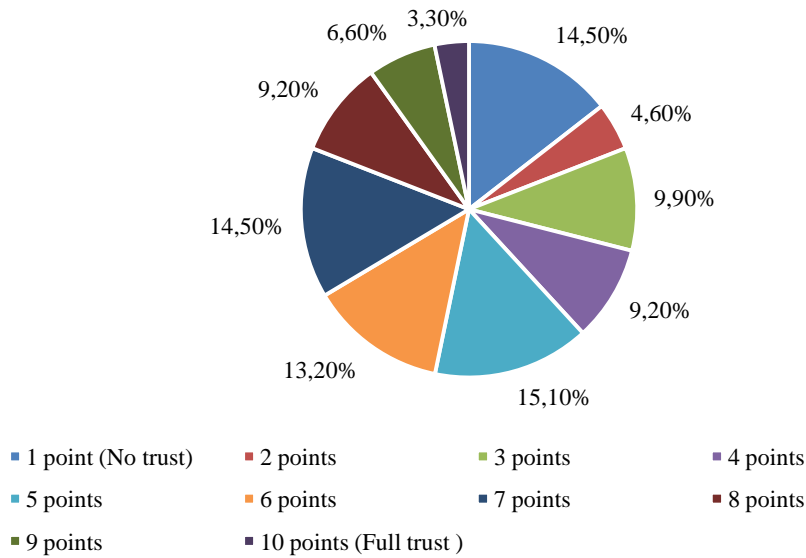


Figure 2. The level of trust in content posted on LinkedIn

Source: authors' own elaboration

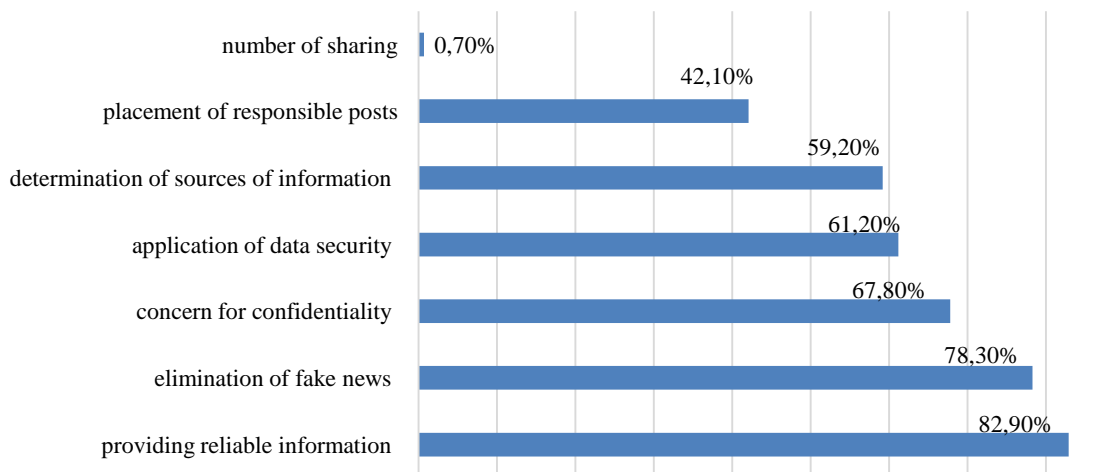


Figure 3. Factors, that form the trust to social media

Source: authors' own elaboration

As Figure 3 shows, the most important factors, that form the trust to social media for users in Ukraine are: providing reliable information – 82.9%, elimination of fake news – 78.3%, concern for confidentiality – 67.8%, application of data security – 61.2%, determination of sources of information – 59.2%, placement of responsible posts – 42.1%.

Conclusions

The role of social media in formation the economic, security and social aspects of the country's life during the crises, to one of which belongs the COVID-19 pandemic, is huge and important. The studied questions in the framework of four groups (lockdown impact; social media security requirements; acceptance of social media; trust to social media) showed that social media users need high level of safety and true content posted and shared on social platforms. The behavior of both individuals

and market players is formed on the basis of the received information, and during the crisis the role of social media in society increases significantly.

Social media can help the government in the fight against the crisis through the provision of true and timely information, and can cause panic in the markets, business circles and form a panic mood in society through the spread of fakes and mis- or disinformation. On the other hand, government authorities, which are responsible for one or another sphere of activity, must submit information to the users in the honest, in timely and openly way. For the effective functioning of society during the crisis, the interaction of all three links 'society-media-state' is necessary. Therefore, we assume that in further research it would be worthwhile to find the possibilities and analyze the ways of such interaction.

Abstract

In contemporary world, information is a method of influencing and analyzing of the past, present and future events. More and more often users build their behavior by analyzing of information flows. Access to information determines the choice of decisions not only by a specific person regarding his private life, but also by managers regarding strategic and operational business decisions. However, the social media may give both true and mis- or disinformation content. Today, social media, in particular social platforms, play an increasingly important role in providing information. At this stage, the ability to determine information and misinformation has a huge importance. The literature review shows a lack of studies examining the trust in social media information and its effect on the national economies and societies. The article defines the main directions of influence of social media during the crisis, especially during the COVID-19 pandemic as one of the largest global crises, which affected almost all countries in the world. The study is based on a survey of social media users, as well as on statistical materials and a comparative analysis of the works of leading foreign scientists. The main goals of the study are to determine the role of social media in formation the economic, security and social aspects of the country during the pandemics. The study indicates four main groups of factors of social media impact on society, such as economic and informational (lockdown factor due to the COVID-19 pandemic), security, perception of social networks in society and the formation of trust in social media.

The study indicated that the COVID-19 pandemic affected the structure of information consumption by Ukrainian citizens. The most share of respondents noted that the COVID-19 pandemic crisis forced them to use the social media more often, and helped them in decision-making. Based on the analysis of previous studies and publications on the topic of trust in social media during the COVID-19 pandemic, it can be concluded that asymmetry and even a small imperfection of information or receipt of misinformation leads to the adoption of erroneous economic decisions by market players, and therefore to the economic crisis in general. It has been also found that the provision of reliable information, elimination of fake news, concern for privacy and application of data security play the biggest role in the perception and trust of social media for both individuals and businesses. So, it can be concluded that during the pandemic, violations of information culture and moral and ethical norms are observed in social networks and mass media, which provokes panic among citizens and businesses. In the final result, this leads to a decrease in the socio-economic well-being of the country.

It should be stressed that, although the Covid-19 pandemic has made adjustments to the use of social platforms and led to an increase in their users, according to our analysis, only a slightly more than one third of respondents indicated that they began to pay special attention to security issues, in particular checking security protocols, and paying attention to personal data protection. The restrictions on access to the account and legal norms governing the field of social media play also a much smaller role in security issues for users.

It can be concluded that users have the most doubts caused by fake news while using social medias. Lack of confidence is also caused by short suspicious video files and printouts in news titles. The study of age groups shows that the older is the user, the less his acceptance and trust in social media are influenced by external factors such as peer opinions and celebrity opinions, and the more he draws his own conclusions based on positive comments and the ways of presenting information. But it can be assumed that the level of trust is higher in those social media in which non-anonymous information and professional characteristics are posted, as well as professional connections are formed.

The behavior of both individuals and market players is formed on the basis of the received information, and during the crisis the role of social media in society increases significantly.

Social media can help the government in the fight against the crisis through the provision of true and timely information, and can cause panic in the markets, business circles and form a panic mood in society through the spread of fakes and mis- or disinformation. On the other hand, government authorities, which are responsible for one or another sphere of activity, must submit information to the users in the honest, in timely and openly way. For the effective functioning of society during the crisis, the interaction of all three links 'society-media-state' is necessary. Therefore, we assume that in further research it would be worthwhile to find the possibilities and analyze the ways of such interaction.

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