



Instagram Use among Czech Young Generation during COVID-19 Lockdown Period with Restricted Travel and Services

Radim Dušek Institute of Technology and Business, České Budějovice, Czech Republic Nikola Sagapova Institute of Technology and Business, České Budějovice, Czech Republic

Received: 1 February 2022. Revision received: 30 May 2022. Accepted: 21 June 2022

Abstract

The paper focuses on the social network Instagram and its use by Czech university students during the COVID-19 pandemic lockdowns with restricted travel and services in comparison to typical Instagram activity in the pre-pandemic period. As Instagram specializes in visuals, it is perceived as an attractive online tool for promoting a wide range of products and services, including hospitality services and tourism destinations. The research aimed to determine which aspects of the use of this social network were affected by the pandemic lockdown period in 2020 among the young generation of active Instagram users. The analysis of data collected from a survey of 1138 respondents, for example, showed that students often started to follow new topics - especially in the areas of politics, health, personal development, sports, or hospitality services - in the context of the pandemic and its associated restrictions. At the same time, they started to spend more time on Instagram daily, typically 1-3 hours longer than they did in the pre-pandemic period. The analysis findings suggest that this social network should be seen as an increasingly important tool for effective online communication with the younger generation with tertiary education.

Key Words: Instagram, social media, young generation, COVID-19 pandemic, Czech Republic, lockdown period, restrictions

JEL Classification: M31, Z13

Reference: Dušek, R. & Sagapova, N. (2022). Instagram Use among Czech Young Generation during COVID-19 Lockdown Period with Restricted Travel and Services. *Journal of Tourism and Services*, 24(13), 150-163. 10.29036/jots.v13i24.350

1. Introduction

The internet and social networks are integral parts of modern society, and dependence on them is gradually increasing (Coundouris, Tyson, and Henry, 2021). Social networks facilitate social contact and social activities (Kelly et al., 2017), and foster the maintenance of relationships by enabling communication, interaction, coordination, decision-making, sharing of knowledge (Romero, Uzzi, and Kleinberg, 2019), data, opinions, emotions and ideas, and the formation of communities in a user-friendly environment (Zucco et al., 2019). In addition, social networks are a great source of inspiration (Rieger and Klimmt, 2019) and even important information, including health-related (Maglalang et al., 2020) or emergency information (Kim and Hastak, 2018). For companies, social networks are not only an important tool for marketing communication, building and maintaining relationships (Akar and Dalgic, 2018; Fedorko et al., 2018) but can also have an impact on their innovation potential resulting from social media interactions between an enterprise, its customers and suppliers, various communities, and even





academics (Ioanid, Deselnicu, and Militaru, 2018; Dvorský et al., 2021; Civelek et al., 2020; Kolková & Ključnikov, 2021). The usage of such an innovative tool also increases the economic conditions of countries (Civelek et al., 2021; Ključnikov, 2020a; Ključnikov, 2020b; Ključnikov et al., 2021; Shuyan & Fabus, 2019) and the competitiveness of businesses (Hudáková et al., 2019) that increase their export (Civelek & Krajcik, 2022; Ključnikov et al., 2022).

The social network Instagram specializes in visuals (Guizzo, Canale, and Fasoli, 2021), and is perceived as attractive mostly to younger users, especially women, who appraise images and video sharing (Djafarova and Rushworth, 2017). During the COVID-19 pandemic, and due to the lockdown policies, both people and organizations have become more active on social media (Blažević Bognar and Pleša Puljić, 2022; Zarei et al., 2020). This applies especially to Instagram, which popularity is growing rapidly (Amanatidis et al., 2021). In times of crisis, it is important to maximize the effectiveness of marketing communication in the online environment (Pollak et al., 2020; Bacik et al. 2018). In times of forced closing of economies, digital marketing tools become a necessity (Pollák, Konečný and Ščeulovs, 2021). Although people are isolated at home, they have to meet their work and study obligations and their need to socialise and interact with other human beings (Bao, 2020; Kramer and Kramer, 2020). The internet and social networks enable those activities; moreover, they probably substitute out-of-home activities and socialization during the COVID-19 pandemic (Yabe et al., 2021), and provide effective tools for emergency communication and public health monitoring, and engagement (Malik, Khan and Quan-Haase, 2021). Despite this, the tertiary sector, which includes trade, hospitality, healthcare, information, and other services, was the most affected sector during this crisis (Horák, Mlsová and Machová, 2021; Bacik et al. 2020), and the negative effect of the pandemic situation on employee's motivation and satisfaction was observed (Kováříková, Balková, and Klementová, 2021), particularly in hospitals where various actions including mandatory overtime and bans on taking a vacation for were taken to deal with the crisis (Rowland, Mlsová and Suleř, 2021).

Since March 2020, the Czech Republic introduced the first measures and restrictions concerning the free movement of people due to the global COVID-19 pandemic. The government restrictions were gradually strengthened in relation to the number of infected people (with the exception of the summer months, which might have led to the second wave) and resulted in border closures, schools and universities closures, cancelled flights, the obligation to wear protective masks, hospitality venues, restaurants, and similar facilities' closures, and events cancellation. In terms of socialization and spending leisure time, the government restrictions reintroduced in the autumn 2020 have hit the youngest generation hardest, as they included the closure of universities and the transition to online education, closed restaurants, and bars, limited possibilities to travel, banning parties, and cancelled cultural events. The desire for socialization, information sharing, entertainment, and meeting other needs from home could be partially compensated by social media, including Instagram (Sheldon, Antony and Ware, 2021), and this unusual situation might have affected the level and way of using these tools, including changes in the areas of interest. Actually, topics regarding epidemiology, hygiene, protective equipment, and prevention, as well as rising interest in healthy diet and lifestyle, politics, and economic impacts, were observed (Niknam et al., 2021).

Therefore, the paper aims to determine the effects of the COVID-19 pandemic and related lockdowns restrictions in 2020 on the changes in the level and the way of using the social network Instagram by young Czech users, specifically university students aged 19 - 26. To achieve the aim of the paper, the following research questions are formulated: RQ1 - Which new topics of interest did Czech young Instagram users start to follow during the pandemic lockdown period? RQ2 - How did time spent on Instagram increase daily during the pandemic? RQ3 - Which specific factors of user activity on Instagram affected the increase in time spent on Instagram during the pandemic lockdown period?





2. Literature review

Sudden lockdowns have altered people's lifestyle. By means of a web-based open E-survey sent through WhatsApp, Facebook and Instagram messengers, it was found that lockdown period has led to a reduction in physical activity even among students (Srivastav, Sharma and Samuel, 2021). People started to be online more often, as they needed to carry out their daily activities, and marketing communication of brands has shifted to digital platforms. By conducting an online survey, it was found that younger Instagram users, aged 18-24, tend to follow influencers, especially those who they identify with, and those who are transparent and authentic in advertising. They tend to trust such influencers and are more willing to purchase goods recommended by them (Francisco et al., 2021). In Indonesia, the government's decision to stay at home and work from home was considered/perceived as detrimental, as not everybody could work from home, and many employees were laid off. The application of the semiotic method on Instagram hashtag #stayathomeindonesia showed that during the lockdown period, activities carried out at home are drawing, colouring, cooking, spending time with family members, shopping online, taking care of others in the context of potential spread of the coronavirus (Soekiman et al., 2021). In Iran, the qualitative content analysis of Instagram posts showed that during the pandemic, mostly themes like epidemiology and statistics, diagnosis and treatment, protective equipment, condition of healthcare system, quarantine, traditional medicine, prevention, hygiene, healthy diet and lifestyle, psychology, caring, training, animals, children, satire, religion, misinformation, economic impacts, world news, politics, operation of NDMO were discussed (Niknam et al., 2021).

Based on further performed content analysis of Instagram posts, it was found that this social network was also used to spread misinformation, with the topics mostly concerning general mistrust including the idea of fabricated or hidden information about the COVID-19, later about various conspiracy theories and authority-questioning posts (Quinn, Fazel and Peters, 2021). In India, Instagram posts included topics like diagnostic and therapy, prevention; many users used this social network to find COVID-related remedies for their family and acquaintances, e.g., ventilators, oxygen cylinder, Remdesivir and other medication, as well as hospital beds, as revealed by a qualitative content analysis (Srivastava, 2021). In Iraqi Kurdistan, although Instagram is the second most used social network far behind the prevailing one there, the Facebook, it was found that the posts on the social networks often lead to misinformation, panic, and anxiety during the outbreak, and that majority of young people aged 18-35 years did face psychological anxiety during the pandemic, as shown by an online questionnaire survey and descriptive content analysis (Ahmad and Murad, 2020).

On the other hand, Instagram can be perceived as an online learning media in improving English writing and vocabulary, as indicated by qualitative standard of research on students using this network during the pandemic (Bestari, Faiza and Mayekti, 2020; Carrasco Sierra et al., 2020). In West Java, Instagram was used as a music educational media in audiovisual jingle, and enabled the activity/activation of students and educators, as indicated by qualitative descriptive research approach (Sella and Sukmayadi, 2020). By employing a qualitative descriptive method, Instagram is considered a useful tool for carrying out artistic activities, expression, creation, and communication, which is suitable for art exhibition activities of students when face-to-face events are prohibited due to the outbreak of the pandemic (Wahyudi, 2020). Semi-structured interviews with influencers conducted in France showed that those who create fitness content on Instagram used lockdown period to increase/enhance physical activity of their followers, and with fitness clubs closed, they recommended exercise at home. However, there were also some live fitness sessions offered by fitness clubs (Godefroy, 2020). Nevertheless, body and weightcentered content posted also during the self-isolation and lockdowns can affect body image and lead to weight-stigmatizing thoughts. Based on a content analysis of "#quarantine15" posts, it was found that posts focused on human bodies showed significantly more lower-weight white women, and they also proposed control of weight through diet, physical activity, yet nearly half of the post expressed dislike of fatter bodies (Lucibello et al., 2021).



During the lockdown, a statistically significant increase in the frequency of using social networks was observed, and so was the increase in problems related to body image, body dissatisfaction, drive for thinness and lower self-esteem especially among younger women following appearance-focused Instagram accounts, as revealed by a questionnaire survey in Spain (Vall-Roqué, Andrés and Saldaña, 2021). Based on an experiment among young Italian women, it was observed that greater addiction to Instagram leads to greater willingness to undergo cosmetic surgery (Guizzo, Canale and Fasoli, 2021).

Although the range of methods is relatively wide, ranging from the most commonly used surveys through content analysis and qualitative descriptive methods to semi-structured interviews, the semiotic method and experiment, we decided to use a survey to answer our research questions.

3. Methods

Scopus

This research analyses the effects of the global COVID-19 pandemic using an online questionnaire to find out how the pandemic lockdown restrictions in 2020 have affected Instagram (IG) users' behaviour, taking into account their time and areas of interest. The respondents were students from Czech universities aged 19 - 26 who are Instagram users, and the snowball method was used to obtain a larger sample from various areas of study. The survey was conducted in 2021 in the Czech Republic, from March to May. During this period, a total of 1138 respondents filled in the questionnaire.

A comparison of the socio-demographic structure of the sample and the population of Czech university students shows that our sample differs from the general population in including more women than men, although women outnumber men not only in our sample but also in the general population. In our sample, the percentage of men is 32 %, while in the case of women, it is 68 %. The general population of all university students, regardless of the form of study, study programme, or founder, consists of 44 % men and 56 % women, while in the case of graduates, it is 40% men and 60% women (ČSÚ, 2020).

In the survey, the respondents were asked about their use of the social network Instagram at the time of answering the questionnaire and before the outbreak of the pandemic and the associated restrictions. Apart from the demographic questions, the set consisted of questions related to whether and what new topics they started to follow during the pandemic lockdown period (RQ1); whether the time spent actively using the social network Instagram was extended during the pandemic lockdown period per day compared to the previous period and, if so, how much (RQ2); and which specific factors of activity on Instagram (number of followed users, frequency of posts, duration of Instagram account active usage) affected the increase in time spent on Instagram during the pandemic lockdown period (RQ3). The questionnaire included the following questions:

- Did you start following new areas of interest during the 2020 lockdown period? If yes, which ones? (RQ1)
- On average, how much time do you spend actively using the social network Instagram before the COVID-19 pandemic (RQ2)?
- Has the amount of time you spend on Instagram increased during the 2020 lockdown period? If so, by how many hours per day? (RQ2)
- How many users do you follow on Instagram? How often do you post on your Instagram account (including stories)? How long have you been using your current Instagram account? (RQ3)

In addition to RQ1, which also consisted of specific verbal responses and text descriptions from the respondents analysed using their occurrence frequencies in MS Excel, we formulated hypotheses for the remaining research questions.

 H_1 : There is a significant dependence between time spent on the Instagram before the COVID-19 pandemic and the extension of time spent on social media during the COVID-19 pandemic (RQ2).





 H_2 : There is a significant dependence between the characteristics of individual social network user and the extension of time spent on social media during the COVID-19 pandemic (RQ3).

The data were analysed in the statistical software PSPP using Pearson correlation and cross tabulations to count and visualise the dependence between the variables. We use the null hypothesis that the variables are independent of each other. However, if the adjusted residual is above +/-1.96, this means that the number of cases is significantly larger/smaller than expected if the null hypothesis were valid at the 0.05 significance level.

4. Results

4.1 Respondents' interest in following new topics on Instagram during the pandemic

An interesting fact based on the results is that despite the many largely negative changes affecting public affairs and society in the first waves of the COVID-19 pandemic in 2020, almost half of the respondents remained rather conservative in their choice of preferred content on Instagram. Thus, 52 % of respondents changed the topics and areas followed on Instagram and they further specified which areas were covered (they could choose an unlimited number of answers for this question in the questionnaire as well as fill in areas not offered by the questionnaire).

Figure 1. Areas of new interest on Instagram followed by respondents during a pandemic (N=588)





These individuals were mainly interested in the areas of politics, health and health care, undoubtedly related to finding answers to questions about the new virus and finding solutions to the situation at the level of their own health protection as well as at the government level. As shown in Figure 1, other areas of new interest are related to education and personal development, sport, travelling, culture and gastronomy. These are areas that have become rather inaccessible in real life in the context of the measures taken and the social network Instagram could offer to some extent a virtual alternative, for example by following influencers with posts on these topics.





4.2 Impact of the COVID-19 pandemic on the increase in time spent by respondents on Instagram

 H_0 : There is a significant dependence between time spent on an Instagram before COVID-19 pandemic and extension of time spent on social media during the COVID-19 pandemic. H_4 : non H_0 .

Table 1 shows that during the lockdowns period that was accompanied by a number of restrictions affecting not only university students' leisure time, about 38 % of respondents spent 1-3 more hours on Instagram every day than they did in the pre-pandemic period. For the other options, an almost equal number of respondents who used this social networking site said that their time of active use had either not increased (29.9 %), or had not significantly increased (28.9 %), specifically by less than 1 hour.

	Time spent daily on IG before the pandemic						Total
			<1 hour	1-2 hrs	2-3 hrs	>3 hrs	
	1 hour	Count	142	148	30	9	329
	<1 hour extended	Total %	12.5%	13.0%	2.6%	0.8%	28.9%
Extension of		Adjusted Residual	2.09	0.13	-2.51	-2.27	
time spent	1.2 hours	Count	33	223	132	48	436
daily on IG	1-3 hours extended	Total %	2.9%	19.6%	11.6%	4.2%	38.3%
during the pandemic in		Adjusted Residual	-3.78	0.72	3.64	1.69	
•	>3 hours	Count	1	6	8	18	33
comparison with the	extended	Total %	0.1%	0.5%	0.7%	1.6%	2.9%
previous	extended	Adjusted Residual	-1.94	-1.22	0.88	9.13	
period		Count	186	129	18	7	340
penou	no extension	Total %	16.3%	11.3%	1.6%	0.6%	29.9%
		Adjusted Residual	3.55	-1.07	-2.30	-1.84	
Total		Count	362	506	188	82	1138
		Total %	31.8%	44.5%	16.5%	7.2%	100.0%

Table 1. Time spent by respondents on Instagram before and during the pandemic (N = 1138)

Source: Own processing

To identify deeper associations for the data concerning time actively spent using Instagram, we examined whether there was a dependence between the increased time that respondents spent daily on Instagram during the COVID-19 lockdowns and the amount of time they spent on the social network in the period before the onset of the pandemic and its associated restrictions. At the $\alpha = 0.05$ level of significance, the null hypothesis of a correlation between these two factors was confirmed based on the Pearson Chi-Square test (Pearson Chi-Square = 392.08; p-value = 0.000). Thus, the amount of time spent on Instagram before the pandemic influenced whether and how much more time was spent on Instagram during the pandemic.

This finding is confirmed by some of the adjusted residual values in Table 1. For respondents whose time spent on Instagram increased by three hours every day during the pandemic, there were statistically significantly more responses indicating that they spent more time on Instagram every day before the pandemic, specifically more than 3 hours (Adj. Res. = 9.13). At the same time, the respondents who did not spend more time on the social network being analyzed during the lockdown period than before were more likely to mention that they spent less than one hour a day on Instagram in the prepandemic period (Adj. Res. = 3.55).





4.3 The impact of user characteristics on time spent on Instagram during the pandemic

In the search for factors that influenced the increased or not increased time spent on Instagram during the COVID-19 pandemic among the Czech university student respondents, the characteristics of IG users-respondents in terms of their activity on this social network were also taken into account. Namely, in terms of the duration of their IG account use, the number of users they follow and the frequency of posting their own posts.

4.3.1 Duration of Instagram account active usage

 H_0 : There is a significant dependence between the duration of Instagram account active usage and extension of time spent on social media during the COVID-19 pandemic lockdown period. H_A : non H_0 .

Given that Instagram was launched in 2010, some domestic users may be expected to use their accounts for more than 10 years, for example. And this factor may also influence the time a user spends on this network. Therefore, a hypothesis of correlation between the length of active Instagram account use and the change in time spent on Instagram during the pandemic was established. At the $\alpha = 0.05$ level of significance, the null hypothesis of a correlation between these two factors was finally rejected based on the Pearson Chi-Square test (Pearson Chi-Square = 4.04; p-value = 0.257). Thus, for example, the assumption that the longer duration of a respondent's Instagram account, the more likely it is that there could have been a statistically significant extension of daily time spent on Instagram during the pandemic can be ruled out.

	How lo							
				Total				
			<1 year	1-3 years	4-5 years	>5 years	Total	
		Count	14	75	111	140	340	
Have you	no	Total %	1.2%	6.6%	9.8%	12.3%	29.9%	
spent more time on IG during the pandemic?		Adjusted Residual	0.74	0.49	-0.42	-0.1		
	yes	Count	21	152	295	330	798	
		Total %	1.8%	13.4%	25.9%	29.0%	70.1%	
		Adjusted Residual	-0.21	-1.4	0.12	0		
Total		Count	35	227	406	470	1138	
		Total %	3.1%	19.9%	35.7%	41.3%	100.0%	

Source: Own processing

4.3.2 Number of followed Instagram accounts

 H_0 : There is a significant dependence between the individual number of followed Instagram accounts and extension of time spent on social media during the COVID-19 pandemic lockdown period. H_4 : non H_0 .





Table 3. Dependence between increased time spent on IG and the no. of followed accounts (N = 1138)

			How m				
			<100	100-250	251-500	>500	Total
Have you		Count	69	140	99	32	340
spent	no	Total %	6.1%	12.3%	8.7%	2.8%	29.9%
more time on IG during the pandemic?		Adjusted Residual	2.81	0.26	-0.52	-1.42	
	yes	Count	92	305	271	130	798
		Total %	8.1%	26.8%	23.8%	11.4%	70.1%
		Adjusted Residual	-0.50	-0.07	0.14	0.39	
Total		Count	161	445	370	162	1138
		Total %	14.1%	39.1%	32.5%	14.2%	100.0%

Source: Own processing

The number of other users followed by a particular user on their Instagram account affects the content and number of posts that appear on their profile every day. The more of these posts are viewed by the user, the more time the user is expected to take to view and possibly respond to that content. Therefore, we tested a hypothesis about the correlation between the number of users a respondent follows and whether time spent on Instagram during the pandemic increased. At the $\alpha = 0.05$ level of significance, the null hypothesis of a correlation between these two factors was confirmed based on the Pearson Chi-Square test (Pearson Chi-Square = 23.12; p-value = 0.000). One of the adjusted residual values presented in Table 3 defines this dependence more closely – the respondents who did not spend more time on Instagram were found to have a statistically significantly higher number of responses indicating that they follow less than 100 other users on their Instagram account (Adj. Res. = 2.81).

4.3.3 Frequency of Instagram posts

 H_0 : There is a significant dependence between frequency of posting individual Instagram posts and extension of time spent on social media during the COVID-19 pandemic lockdown period. H_4 : non H_0 .

Table 4. Dependence between	increased time spent on IG and the	e frequency of posting ($N = 1138$)
I	1	

			How often do you share your own post on IG?							
			0*	1*	2*	3*	4*	5*	6*	Total
		Count	43	119	75	50	34	10	9	340
Have you spent more time on IG during the pandemic?	no	Total %	3.8%	10.5%	6.6%	4.4%	3.0%	0.9%	0.8%	29.9%
		Adj. Residual	1.91	0.62	-0.16	-0.59	-1.37	-0.16	-0.31	
	yes	Count	49	235	185	143	134	26	26	798
		Total %	4.3%	20.7%	16.3%	12.6%	11.8%	2.3%	2.3%	70.1%
		Adj. Residual	-0.53	-0.17	0.05	0.16	0.38	0.04	0.09	
Total		Count	92	354	260	193	168	36	35	1138
		Total %	8.1%	31.1%	22.8%	17.0%	14.8%	3.2%	3.1%	100.0%

*0 = no posts; 1 = less than once a month; 2=once a month; 3=once a week; 4=several posts a week; 5=once a day; 6=several posts a daySource: Own processing

In terms of user activity, the authors of the research also hypothesised a dependence between the frequency of posts an individual respondent makes on their profile and the change in time spent on Instagram during the pandemic. Subsequently, the null hypothesis of a correlation between these two factors was confirmed at the $\alpha = 0.05$ level of significance based on the Pearson Chi-Square test (Pearson Chi-Square = 24.25; p-value = 0.000). However, the adjusted residual values (see Table 4) do not fall outside the interval <-1.96,1.96>, thus lacking information on the deeper dependence within the correlation of these factors.





5. Discussion

Based on the obtained results, it is possible to answer the research questions:

RQ1: Which new topics of interest have respondents started to follow on Instagram during the pandemic lockdown period?

The dominant new topic of interest was politics. Other newly followed topics included health and healthcare, education and personal development, sports, tourism, culture, gastronomy, food, arts and creativity, and fashion. The increased interest in posts concerning politics, health, and healthcare was also mentioned by Niknam et al. (2021); some specific topics related to health and healthcare were observed by Srivastava (2021), while the increased significance of posts related to creative activities were reported by Soekiman et al. (2021).

Instagram as a tool used for education was evidenced by Sella and Sukmayadi (2020), and the role of Instagram in encouraging sport activities was described by Godefroy (2020). Trevisan, Vassio and Giordano (2021) describe the increase of topics like healthcare, home, work, food and leisure during lockdown. The widened topics range followed is probably a consequence of forced social distancing and increased presence on social media (Vall-Roqué, Andrés and Saldaña, 2021).

RQ2: How did the time spent actively using the social network Instagram increase during the pandemic lockdown period per day compared to the previous period?

Although it seems that most of the users did not extend or just slightly extend their time spent on actively using Instagram, it could be noticed that 38 % of the respondents reported extended use (by 1-3 hours) during the pandemic. We also observed a statistically significant dependence between the higher rate of extension of time on Instagram during the COVID-19 pandemic and the higher amount of time spent on this social network before its outbreak, and between the low rate of extension of time spent on Instagram and low amount of time spent there before the pandemic. It means that those who had used it intensively before the outbreak were more likely to increase the time spent there during the pandemic, which may raise a question about possible addiction.

Increased addiction to the Internet and Instagram during the pandemic among young adults was detected by Ballarotto et al. (2021). Similarly, increased use and dependence on the internet and social media during the lockdown is mentioned by Sun et al. (2020). According Statista, as cited by López-Carril and Anagnostopoulos (2021), the time spent on social media increased by more than 40 % globally during the pandemic.

RQ3: Which specific factors of user's activity on Instagram affected the increase in time spent on Instagram during the pandemic lockdown period?

We observed, that the number of users a respondent follows is related to the increase in time spent on Instagram during the pandemic. This means that the more users/ a user follows, the more time they spent on Instagram during the lockdown, and vice versa. There is also another important characteristic that leads to more time spent on Instagram during the pandemic, namely the frequency of posts that a user shares. These results correspond with previously published paper by Jain et al. (2020), who argue that the characteristics of presence on social media including hours spent and posting frequency have an effect on the presence during the pandemic and increased activity.

6. Conclusion





Due to its primary focus on visual content and content sharing, Instagram has become an attractive and preferred social network in recent years, especially for the younger generation. The restrictive measures related to leisure time in the wake of the COVID-19 pandemic, including in the Czech Republic, have largely contributed to its growing popularity. This paper aimed to determine which aspects of social network users were affected by the pandemic lockdowns situation in 2020 among the young generation of active Instagram users. The questionnaire survey targeted Czech university students aged 19-26 with the objective to identify changes in the preferred topics followed by users and the amount of time spent on Instagram compared to typical activity in the pre-pandemic period.

Based on data collected from a total of 1138 respondents, it can be concluded that 52 % of these Instagram users experienced a change in topics followed during the lockdown period. Their interest has mainly increased to include politics, health, and healthcare, personal development, sports, travelling, and posts focused on culture and gastronomy. Regarding the amount of time spent on this social network during the pandemic, nearly 38 % of respondents actively used their Instagram account for 1-3 more hours every day than they did in the pre-pandemic period. The factors influencing time spent on Instagram during the pandemic were subsequently examined in more detail. The hypothesis testing revealed a correlation between the rate of increased time spent on Instagram and both the number of other social network users followed by respondents and the frequency of their own Instagram posts. Thus, the research questions were answered, and the objective set was fully met.

In terms of assessing the overall contribution of the research, the results indicate that Instagram was and still is a significant contributor to the total time spent online by the young generation during the pandemic period. Moreover, this proportion can be expected to gradually increase in the following months when the pandemic cannot be brought completely under control. It means that this social network must be seen as an increasingly important tool for communication with the young generation with tertiary education. And not only in the global companies sector that already uses Instagram for this purpose as a rule, but also to a greater extent in the hospitality services industry for more efficient online communication with this segment of the population.

The research limitations here are mainly based on the fact that only a quantitative research data collection method was used. For the next stages of research in this field, it will be useful to focus on a deeper understanding of the motives of social network users, for example, through in-depth interviews or focus groups.

Acknowledgment

This research was supported by the Ministry of Education, Youth, and Sport of the Czech Republic (university specific research - SVV202101).

References

- Ahmad, A. R. & Murad, H. R. (2020). The Impact of Socia Media on Panic During the COVID-19 Pandemic in Iraqi Kurdistan: Online Questionnaire Study. *Journal of Medical Internet Research*, 22(5), e19556. doi: 10.2196/19556.
- Akar, E. & Dalgic, T. (2018). Understanding online consumers' purchase intentions: a contribution from social network theory. *Behaviour & Information Technology*, 37(5), 473-487. doi: 10.1080/0144929X.2018.1456563.
- Amanatidis, D., Mylona, L., Kamenidou, I. E., Mamalis, S. & Stavrianea, A. (2021). Mining Textual and Imagery Instagram Data during the COVID-19 Pandemic. *Applied Sciences*, 11(9), 4281. doi: 10.3390/app11094281.

JOURNAL OF TOURISM AND SERVICES Issue 24, volume 13, ISSN 1804-5650 (Online) www.jots.cz

Scopus



- 4. Bacik, R., Fedorko, R., Nastisin, L., & Gavurova, B. (2018). Factors of communication mix on social media and their role in forming customer experience and brand image. *Management & Marketing Challenges for the Knowledge Society*, 13(3), 1108-1118. doi: 10.2478/mmcks-2018-0026.
- Bacik, R., Gavurova, B., Fedorko, R., & Olearova, M. (2020). Using digital devices in the process of online shopping: a study of demographic differences. *Marketing and Management of Innovations*, 4, 154-167. doi: 10.21272/mmi.2020.4-12
- Ballarotto, G., Marzilli, E., Cerniglia, L., Cimino, S. & Tambelli, R. (2021). How Does Psychological Distress Due to the COVID-19 Pandemic Impact on Internet Addiction and Instagram Addiction in Emerging Adults? *International Journal of Environmental Research and Public Health*, 21(8), 11383. doi: 10.3390/ijerph182111382.
- 7. Bao, W. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, 2(2), 113-115. doi: 10.1002/hbe2.191.
- 8. Bestari, A. C. Y., Faiza, D. & Mayekti, M. H. (2020). Instagram Caption as Online Learning Media on the Subject of Extended Writing during Pandemic of Covid-19. *Sukarta English and Literature Journal*, 3(1), 9-21. doi: 10.52429/selju.v3i1.359.
- Blažević Bognar, Z., & Pleša Puljić, N. (2022). The influence of media on impulsive buying in the era of the COVID-19 pandemic. *Business, Management and Economics Engineering*, 20(1), 41–58. doi: 10.3846/bmee.2022.15919
- Carrasco Sierra, A., Cobos Flores, M.J., Fuentes Duarte, B., Hernández Comi, B.I. (2020). Successful Management System by a Metalworking Mexican Company During Covid-19 Situation. Analysis Through a New Index (Case Study). *International Journal of Entrepreneurial Knowledge*, 8(2), 42-55. doi: 10.37335/ijek.v8i2.116
- Civelek, M., Gajdka, K., Světlík, J., & Vavrečka, V. (2020). Differences in the usage of online marketing and social media tools: evidence from Czech, Slovakian and Hungarian SMEs. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 15(3), 537–563. doi: 10.24136/eq.2020.024
- 12. Civelek, M., Ključnikov, A., Fialova, V., Folvarčná, A., & Stoch, M. (2021). How innovativeness of family-owned SMEs differ depending on their characteristics? Equilibrium. *Quarterly Journal of Economics and Economic Policy*, 16(2), 413–428. doi: 10.24136/eq.2021.015
- 13. Civelek, M., & Krajčík, V. (2022). How do SMEs from different countries perceive export impediments depending on their firm-level characteristics? System approach. *Oeconomia Copernicana*, 13(1), 55–78. doi: 10.24136/oc.2022.002
- 14. Coundouris, S. P., Tyson, C. L. & Henry, J. D. (2021). Social networking site use and relationship quality: A double edged sword. *Computers in Human Behavior*, 123, 106871. doi: 10.1016/j.chb.2021.106871.
- 15. ČSÚ (2020). Terciární vzdělávání: studenti a absolventi vysokoškolského a vyššího odborného vzdělávání. 230060-20, č.j. ČSU-818/2020-63. Praha: ČSÚ.
- 16. Djafarova, E. & Rushworth, C. (2017). Exploring the credibility of online celebrities' Instagram profiles in influencing the purchase decisions of young female users. *Computers in Human Behavior*, 68, 1-7. doi: 10.1016/j.chb.2016.11.009.
- Dvorský, J., Čepel, M., Kotásková, A. & Bugánová, K. (2021). Differences in business risk effects on the future of SMEs due to Covid-19 pandemic. *International Journal of Entrepreneurial Knowledge*, 9 (2), 14-31. doi: 10.37335 / ijek.v9i2.144
- Fedorko, I., Bacik, R., Gavurova, B. (2018). Technology acceptance model in e-commerce segment. Management & Marketing Challenges for the Knowledge Society, 13(4), 1242-1256. doi: 10.2478/mmcks-2018-0034
- Francisco, E., Fardos, N., Bhatt, A. & Bizel, G. (2021). Impact of the COVID-19 Pandemic on Instagram and Influencer Marketing. *International Journal of Marketing Studies*, 13(2), 20-35. doi: 10.5539/ijms.v13n2p20.





- 20. Gentina, E., Chen, R. & Yang, Z. (2021). Development of theory of mind on online social networks: Evidence from Facebook, Twitter, Instagram, and Snapchat. *Journal of Business Research*, 124, 652-666. doi: 10.1016/j.jbusres.2020.03.001.
- 21. Godefroy, J. (2020). Recommending Physical Activity During the COVID-19 Health Crisis. Fitness Influencers on Instagram. *Frontiers in Sports and Active Living*, 2, 589813. doi: 10.3389/fspor.2020.589813.
- 22. Guizzo, F., Canale, N. & Fasoli, F. (2021). Instagram Sexualization: When posts make you feel dissatisfied and wanting to change your body. *Body Image*, 39, 62-67. doi: 10.1016/j.bodyim.2021.06.005.
- 23. Horák, J., Mlsová, K. & Machová, V. (2021). Imact of the coronavirus pandemic on the tertiary sector. *Littera Scripta*, (14)1, 28-39. doi: 0.36708/Littera_Scripta2021/1/2.
- 24. Hudáková, M., Urbancova, H., & Vnoučková, L. (2019). Key Criteria and Competences Defining the Sustainability of Start-Up Teams and Projects in the Incubation and Acceleration Phase. *Sustainability*, 11(23), 6720. doi:10.3390/su11236720
- 25. Ioanid, A., Deselnicu, D. C. & Militaru, G. (2018). The impact of social networks on SMEs' innovation potential. *Procedia Manafacturing*, 22, 936-941. doi: 10.1016/j.promfg.2018.03.133.
- 26. Jain, O., Gupta, M., Satam, S. & Panda, S. (2020). Has the COVID-19 pandemic affected the susceptibility to cyberbullying in India? *Computers in Human Behavior Reports*, 2, 100029. doi: 10.1016/j.chbr.2020.100029.
- 27. Kelly, M. E., Duff, H., Kelly, S., McHugh Power, J. E., Brennan, S., Lawlor, B. A. & Loughrey, D. G. (2017). The impact of social activities, social networks, social support and social relationships on the cognitive functioning of healthy older adults: a systematic review. *Systematic Reviews*, 6, 259. doi: 10.1186/s13643-017-0632-2.
- 28. Kim, J. & Hastak, M. (2018). Social network analysis: Characteristics of online social networks after a disaster. *International Journal of Information Management*, 38(1), 86-96. doi: 10.1016/j.ijinfomgt.2017.08.003.
- 29. Ključnikov, A., Civelek, M., Vozňáková, I., & Krajčík, V. (2020a). Can discounts expand local and digital currency awareness of individuals depending on their characteristics? *Oeconomia Copernicana*, 11(2), 239–266. doi: 10.24136/oc.2020.010
- Ključnikov, A., Civelek, M., Polách, J., Mikoláš, Z., & Banot, M. (2020b). How do security and benefits instill trustworthiness of a digital local currency? *Oeconomia Copernicana*, 11(3), 433–465. doi: 10.24136/oc.2020.018
- Ključnikov, A., Civelek, M., Fialova, V., & Folvarčná, A. (2021). Organizational, local, and global innovativeness of family-owned SMEs depending on firm-individual level characteristics: evidence from the Czech Republic. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 16(1), 169–184. doi: 10.24136/eq.2021.00
- Ključnikov, A., Civelek, M., Klimeš, C., & Farana, R. (2022). Export risk perceptions of SMEs in selected Visegrad countries. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, 17(1), 173–190. https://doi.org 10.24136/eq.2022.007
- 33. Kolková, A., & Ključnikov, A. (2021). Demand forecasting: an alternative approach based on technical indicator Pbands. *Oeconomia Copernicana*, 12(4), 863–894. doi: 10.24136/oc.2021.028
- 34. Kováříková, V., Balková, M. & Klementová, I. (2021). Motivated employees as key to success of any organization. *Littera Scripta*, 14(1), 61-70. doi: 10.36708/Littera_Scripta2021/1/6.
- 35. Kramer, A. & Kramer, K. Z. (2020). The potential impact of the Covid-19 pandemic on occupational status, work from home, and occupational mobility. *Journal of Vocational Behavior*, 119, 103442. doi: 10.1016/j.jvb.2020.103442.
- López-Carril, S. & Anagnostopoulos, C. (2021). COVID-19 and Soccer Teams on Instagram: The Case of Corporate Social Responsibility. *International Journal of Sport Communication*, 13(3), 447-457. doi: 10.1123/ijsc.2020-0230.





- Lucibello, K. M., Vani, M. F. Koulanova, A., deJonge, M. L., Ashdown-Franks, G. & Sabiston, C. M. (2021). #quarantine15: A content analysis of Instagram posts during COVID-19. *Body Image*, 38, 148-156. doi: 10.1016/j.bodyim.2021.04.002.
- Maglalang, D. D., de Castro, A. B., Gee, G., Sabbath, E. L., Tran, T. V. & Takeuchi, D. T. (2020). Associations of Sociodemographic Factors With Health-Related Social Networks Among Premigration Filipinos. *Social Work in Public Health*, 35(9), 669-678. doi: 10.1080/19371918.2020.1822977.
- 39. Malik, A., Khan, M. L. & Quan-Haase, A. (2021). Public health agencies outreach through Instagram during the COVID-19 pandemic: Crisis and Emergency Risk Communication perspective. *International Journal of Disaster Risk Reduction*, 61, 102346. doi: 10.1016/j.ijdrr.2021.102346.
- Niknam, F., Samadbeik, M., Fatehi, F., Shirdel, M., Rezazadeh, M. & Bastani, P. (2021). COVID-19 on Instagram: A content analysis of selected accounts. *Health Policy and Technology*, 10(1), 165-173. doi: 10.1016/j.hlpt.2020.10.016.
- 41. Pollak, F., Dobrovic, J., Vachal, J., Strakova, J. & Partlova, P. (2020). Crisis Management of Corporate Reputation-Analysis of Selected E-commerce Entitites in Times of Global Pandemics. *Digitalized Economy, Society and Information Management (IDIMT-2020)*, 49, 297-304.
- Pollák, F., Konečný, M. & Ščeulovs, D. (2021). Innovations in the Management of E-Commerce: Analysis of Customer Interactions during the COVID-19 Pandemic. *Sustainability*, 13, 7986. doi: 10.3390/su13147986.
- 43. Quinn, E. K., Fazel, S. S. & Peters, C. E. (2021). Instagram Infodemic: Cobranding of Conspiracy Theories, Coronavirus Disease 2019 and Authority-Questioning Beliefs. *Cyberpsychology, Behavior, and Social Networking*, 24(8), 573-577. doi: 10.1089/cyber.2020.0663.
- 44. Rieger, D. & Klimmt, C. (2019). The daily dose of digital inspiration: A multi-method exploration of meaningful communication in social media. *New Media & Society*, 21(1), 97-118. doi: 10.1177/1461444818788323.
- Romero, D. M., Uzzi, B. & Kleinberg, J. (2019). Social Networks under Stress: Specialized Team Roles and Their Communication Structure. *ACM Transactions on the Web*, 13(1), 6. doi: 10.1145/3295460.
- 46. Rowland, Z., Mlsová, Z. & Šuleř, P. 2021. Transfers of healthcare workers due to the COVID-19 crisis and its impacts. *Littera Scripta*, 14(1), 107-122. doi: 10.36708/Littera_Scripta2021/1/9.
- Shuyan, L., & Fabus, M. (2019). The impact of OFDI reverse technology spillover on China's technological progress: Analysis of provincial panel data. *Journal of International Studies*, 12(4), 325-336. doi:10.14254/2071-8330.2019/12-4/21
- 48. Sella, F. & Sujmayadi, Y. (2020). The Use of the Instagram Application as Educational Media on "Jingle Covid Education Challenge" Activities in West Java. *Advances in Social Science, Education and Humanities Research*, 519, 284-286. doi: 10.2991/assehr.k.210203.061.
- 49. Sheldon, P., Antony, M. G. & Ware, L. J. (2021). Baby Boomers' use of Facebook and Instagram: uses and gratifications theory and contextual age indicators. *Heliyon*, 7(4), e06670. doi: 10.1016/j.heliyon.2021.e06670.
- Soekiman, S., J. F., Putranto, T. D., Susilo, D. & Garcia, E. M. A. (2021). Economic Sector during the COVID-19 Pandemic: Indonesian Instagram Users Behaviour. *Webology*, 18(1), 166-178. doi: 10.14704/WEB/V18I1/WEB18081.
- Srivastav, A. K., Sharma, N. & Samuel, A. J. (2021). Impact of Coronavirus disease-19 (COVID-19) lockdown on physical activity and energy expenditure among physiotherapy professionals and students using web-based open E-survey sent through WhatsApp, Facebook and Instagram messengers. *Clinical Epidemiology and Global Health*, 9, 78-84. doi: 10.1016/j.cegh.2020.07.003.
- 52. Srivastava, S. (2021). Impact of COVID-19 2nd Wave on Instagram in India. International *Journal* on Transformations of Media, Journalism & Mass Communication, 6(2), 14-18. ISSN: 2581-3439.





- 53. Sun, Y., Yangyang, L., Bao, Y., Meng, S., Sun, Y., Schumann, G., Kosten, T., Strang, J., Lu, L. & Shi, J. (2020). Brief Report: Increased Addictive Internet and Substance Use Behavior During the COVID-19 Pandemic in China. *The American Journal on Addictions*, 29, 268–270. doi: 10.1111/ajad.13066.
- 54. Trevisan, M., Vassio, L. & Giordano, D. (2021). Debate on online social networks at the time of COVID-19: An Italian case study. *Online Social Networks and Media*, 23, 100136.
- 55. Vall-Roqué, H., Andrés, A. & Saldaña, C. (2021). The impact of COVID-19 lockdown on social network sites use, body image disturbances and self-esteem among adolescent and young women. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 110, 110293. doi: 10.1016/j.pnpbp.2021.110293.
- 56. Wahyudi, E. (2020). Interdisciplinary: Instagram as an Alternative Arts Exhibition for High School Students in the Pandemic COVID-19. *The Sembadra: Journal of Arts and Education Studies*, 2(2), 89-98. doi: 10.26740/sembadra.v2n2.p89-98.
- 57. Yabe, N., Hanibuchi, T., Adachi, H. M., Nagata, S. & Nakaya, T. (2021). Relationship between Internet use and out-of-home activities during the first wave of the COVID-19 outbreak in Japan. *Transportation Research Interdisciplinary Perspectives*, 10, 100343. doi: 10.1016/j.trip.2021.100343.
- 58. Zarei, K., Farahbakhsh, R., Crespi, N. & Tyson, G. (2020). A first instagram dataset on COVID-19. arXiv:2004.12226.
- 59. Zucco, C., Calabrese, B., Agapito, G., Guzzi, P. H. & Cannataro, M. (2019). Sentiment analysis for mining texts and social networks data: Methods and tools. *WIREs Data Mining and Knowledge Discovery*, 10(1), e1333. doi: 10.1002/widm.1333.

Brief description of Author/Authors:

Ing. Radim Dušek, Ph.D.

ORCID ID: https://orcid.org/0000-0003-1381-0064

Affiliation: Department of Tourism and Marketing, Faculty of Corporate Strategy, Institute of Technology and Business, Okružní 517/10, 37001 České Budějovice, Czech Republic, www.vstecb.cz. Email: dusek@mail.vstecb.cz

Radim Dušek is an Assistant Professor at the Institute of Technology and Business, Faculty of Corporate Strategy. As a member of the Department of Tourism and Marketing, he focuses on teaching subjects related to marketing, marketing communication, and retailing. His current main research interests are the latest global trends in digital marketing communication.

Ing. et Ing. Nikola Sagapova

ORCID ID: https://orcid.org/0000-0003-1628-7758

Affiliation: Department of Tourism and Marketing, Faculty of Corporate Strategy, Institute of Technology and Business, Okružní 517/10, 37001 České Budějovice, Czech Republic, www.vstecb.cz. Email: sagapova@mail.vstecb.cz

Nikola Sagapova is a Ph.D. candidate at the University of South Bohemia. She is an economist and biologist with a particular focus on linking economics, marketing, tourism, and regional management with sustainable development. She is now working as an assistant at the Department of Tourism and Marketing (ITB) and the Department of Regional Management and Law (USB). She is actively involved in biodiversity conservation and is a member of various inter/national organizations, including WWF, IALE, ISEE, and ČSO. In addition, she is engaged in various research projects, including a Horizon 2020 - Power4BIO project.