Critical Thinking of Internet Users and Trust in the Information Sources: Comparison of the Survey Results between Slovakia and Ukraine

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Abstract
The paper focuses on a summary of the views of Slovak and Ukrainian respondents on Internet sources. We investigate whether they trust the video. We verify differences in attitudes to the statement: "If I see a video with a person, I believe what he/she is saying." We also test their relationship to the Internet as a source of information; and whether he/she thinks the Internet can make people a better-informed person. The paper suggests the need to draw attention to new possibilities of video editing and counterfeiting. It indicates the need to include in ICT training services that verify photo editing and verify that videos have been edited.

Keywords: Critical Thinking, Fake News, Fake Video,

JEL Classification: O30, I21, I26

1. Introduction
At present, there is probably no doubt that the Internet and social networks influence attitudes and opinions of society in a significant way. We are in a situation where many computer users can obtain information but cannot judge its veracity.

The current situation is described in e.g. research by By Soroush Vosoughi, Deb Roy, and Sinan Aral, who dealt with The spread of true and false news online. Their question from the beginning accurately describes the current situation: “Adding to the confusion is speculation about what’s behind such developments—is the motivation deliberate and political, or is it a case of uninformed misinformation? And who is spreading the word online—rogue AI bots or agitated humans?” (Vosoughi, 2017)

Usually, research focuses on monitoring the spread of individual false claims, which topics are most common. They use quantitative methods to examine the number of shares and statistically analyze it. For example, Italian Facebook was researched by Alessandro Bess in Trend of Narratives in the Age of Misinformation. (Bessi, 2015)

There are fewer psychologically oriented surveys using the Likert scale and measuring attitudes. However, they are important and can help us understand the differences between different groups of Internet users. e.g. how they perceive information and what are the determinants of their attitudes. We can use this with precisely targeted access to individual groups of Internet users. Research of differences according to gender, education we see e.g. at Susanne Dida in “Gender, education, and digital generations as determinants of attitudes toward health information for health workers in West Java, Indonesia.” (Dida, 2021)
focused on comparisons by gender, education The purpose of this study was to outline the attitudes of health professionals towards health information, which is determined by gender, educational attainment and age differences. In this paper, we tried to obtain indicative information about how people trust selected information sources in two surveys. In this paper, in two surveys, we tried to obtain indicative information on how people trust selected information sources.

2. Starting points and implementation of the survey

The surveys were scheduled at the beginning of the COVID-19 pandemic. In the Slovak version of survey, we focused on the questions that detect from where the respondents draw information about COVID-19, how important information is obtained from friends, etc. In parallel, a survey focused on Ukrainian-speaking respondents was created. It had a different orientation and respected the differences of the local society. It focused on the Internet and trust in the information obtained from various sources, including social networks. It tried to find out how much money Ukrainian respondents are willing to spend on newspapers and other information. The questionnaire for Ukrainians was created in Russian language. The co-authors of the survey had the opportunity to change the exact wording of the questions and to adapt the answers offered. We focused on their knowledge of the environment in which they deploy questionnaires. Several questions proved problematic. Respondents in Ukraine asked who these answers are for.

3. Aims of the survey

The survey focuses on the level of trust in fake video messages among Slovak and Ukrainian Internet users. It means, the survey is focusing on the differences between users of both nations. The following aims have been set out in this paper:

To compare if both groups (Slovak and Ukrainian) think the Internet has made them more informed people. We also researched "How much they trust video in the news."

We tested the hypotheses:

H10: There are no statistically significant differences between Slovak and Ukrainian respondents in the answers to question no.16. (Thanks to the Internet, I am better informed...)

H20: There are no statistically significant differences between Slovak and Ukrainian respondents in the answers to question no.17. (If I see a video of a person, I believe that he/she said it. ...)

4. Methods and Survey Sample

To obtain the opinions and attitudes of the Slovak and Ukrainian respondents, we chose the questionnaire method. In total, the Slovak questionnaire had 19 questions. The questionnaire was anonymous and was created in electronic form in Google Docs. We distributed the questionnaire via e-mail and social networks. Only the first part - demographic questions (gender, age, education and the size of the city, where respondents spend most of the year) were set as mandatory questions.
For the Ukrainians, the questionnaire was written in Russian language. At the time of its creation and distribution, it did not seem to be a problem of war and many Ukrainian respondents stated that they spoke Russian at home. The questionnaire for Ukrainians had 17 questions and they were aimed at finding out what information sources they use. Second question was “How much do you pay for newspapers and subscriptions to paid channels?”. Both questionnaires, finally, had questions focused on trust in video and photography.

For example, we asked (Q17):

- In Slovak questionnaire: How much do you agree with the statement? "If I see a video with a speech of politician, I believe he/she said it (I always see and hear it happened!)”
- In Russian questionnaire: Do you agree with the statement: "If I see a video of a person, I believe that he/she said it."?

Respondents could answer the questions on the Likert scale. The answer 1 was "I didn't think about it, I don't understand it". In the Russian version, the offered answer was "I Didn't think about it / I don't care". Other answers represent the classic Likert 5-point scale. E.g., 2 - Strongly agree, 3 - Agree, 4 - I do not have a reserved opinion (Russian version free translation - difficult to answer neither agree nor disagree), 5 - Disagree, 6 - Strongly disagree. The respondent had to express his/her views as very much in agreement with the offered statement. After the initial phase of testing and initial dissemination, we also proceeded to the dissemination of the printed version in Ukraine to obtain the views of respondents who are not in the habit of filling in electronic questionnaires. We used a store near an unnamed nuclear power plant in the central part of Ukraine. The initial collection of attitudes was from April to August 2021. Questionnaires in electronic form were used to collect the attitudes of respondents from June 2021 to January 2021. The survey of the attitudes of students of Faculty of Management and Business of University of Prešov continued from September to January 2022. Questionnaires in electronic form were used here.

Some of the respondents who completed the questionnaire in this period are Ukrainian students studying in Slovakia. Similarly, 163 full-time and part-time students from the Faculty of Management and Business of the University of Prešov completed the Slovak questionnaire in this period. These respondents are only a supplement to the sample. The first more than 160 Slovak questionnaires and 120 Russian questionnaires were filled in by respondents from several universities and workplaces. The selection criterion was the willingness to complete the questionnaire. When testing hypotheses and analyzing respondents' attitudes, we use basic demographic data about respondents as the primary one. We compare their answers in terms of gender, education.

The Slovak version of the questionnaire was completed by 387 respondents. There were 39% of men (151) and 71% of women (236). The Russian version of the questionnaire was completed by 183 respondents. There were 43,72% of men (80) and 56,28% of women (103).
5. Selected results of the survey

Due to the limited scope of the paper, we will focus on selected issues. Among the most interesting answers were those that indicated how respondents evaluate the benefits of Internet information and how much they trust what they see in the video.

Question no. 16: How much do you agree with the statement: “I think that ICT and social media have made me a more informed person”. The answers offered were without the possibility “I did not think about it”. Respondents could choose from 1 - definitely not ... 5 - definitely yes. The results are very similar in both groups. No statistically significant differences between Slovak and Ukrainian respondents were confirmed.

Table 1: Q 16 SK - UA

<table>
<thead>
<tr>
<th></th>
<th>SK</th>
<th>N</th>
<th>UA</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-definitely not</td>
<td>1,6%</td>
<td>6</td>
<td>1,7%</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>5,0%</td>
<td>19</td>
<td>5,0%</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>22,3%</td>
<td>85</td>
<td>18,4%</td>
<td>33</td>
</tr>
<tr>
<td>4</td>
<td>35,4%</td>
<td>135</td>
<td>33,0%</td>
<td>59</td>
</tr>
<tr>
<td>5-definitely yes</td>
<td>35,7%</td>
<td>136</td>
<td>41,9%</td>
<td>75</td>
</tr>
<tr>
<td>Summary</td>
<td>100,0%</td>
<td>381</td>
<td>100,0%</td>
<td>179</td>
</tr>
</tbody>
</table>

We tested the hypothesis:

H10: There are no statistically significant differences between Slovak and Ukrainian respondents in the answers to question no.16.
Table 2: Mann-Whitney U Test  Q 16 SK-UA

<table>
<thead>
<tr>
<th>variable</th>
<th>Rank Sum (Group 1)</th>
<th>Rank Sum (Group 2)</th>
<th>U</th>
<th>Z</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q 16. Thanks to the Internet, I am better informed</td>
<td>104578,5</td>
<td>52501,50</td>
<td>31807,50</td>
<td>-1,28334</td>
<td>0,199376</td>
</tr>
</tbody>
</table>

Z (adjusted) p-value Valid N (Group 1) Valid N (Group 2)
-1,35561 0,175223 381 179

Source: author's calculations

We used a nonparametric Mann Whitney U-test for comparing two independent samples. P> 0,05 show that we do not reject the null hypothesis H10.

No significant differences were found in question 17 "If I see a video with a speech politician I believe he said it (I always see and hear it happened!)" between Slovak and Ukrainian respondents.

Similarly, no statistically significant differences were found between men and women when examining the entire sample. We also focused on the differences in this issue in the group of Slovak respondents and especially in the group of Ukrainian respondents. No significant differences were confirmed in the Slovak group.

Table 3: Mann-Whitney U Test  Q 17 SK-UA

<table>
<thead>
<tr>
<th>variable</th>
<th>SK</th>
<th>N</th>
<th>UA</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-&quot;I didn't think about it, I don't understand it&quot;</td>
<td>5,5%</td>
<td>21</td>
<td>5,6%</td>
<td>10</td>
</tr>
<tr>
<td>2-definitely not</td>
<td>3,6%</td>
<td>14</td>
<td>3,9%</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>21,8%</td>
<td>84</td>
<td>15,6%</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>33,5%</td>
<td>129</td>
<td>32,8%</td>
<td>59</td>
</tr>
<tr>
<td>5</td>
<td>28,6%</td>
<td>110</td>
<td>37,2%</td>
<td>67</td>
</tr>
<tr>
<td>6-definitely yes</td>
<td>7,0%</td>
<td>27</td>
<td>5,0%</td>
<td>9</td>
</tr>
<tr>
<td>Summary</td>
<td>100,0%</td>
<td>385</td>
<td>100,0%</td>
<td>180</td>
</tr>
</tbody>
</table>

Source: author's calculations
We tested the hypothesis:

H20: There are no statistically significant differences between Slovak and Ukrainian respondents in the answers to question no.17.

Table 4: Mann-Whitney U Test  Q 17 SK-UA

<table>
<thead>
<tr>
<th>variable</th>
<th>Rank Sum (Group 1)</th>
<th>Rank Sum (Group 2)</th>
<th>U</th>
<th>Z</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q 17. If I see a video with a speech politician I believe he / she said it</td>
<td>95057,0 0</td>
<td>47788,0 0</td>
<td>28627,0 0</td>
<td>-1,39226</td>
<td>0,16384 5</td>
</tr>
</tbody>
</table>

We used a nonparametric Mann Whitney U-test comparing two independent samples. P> 0,05 show that we do not reject the null hypothesis H20.

5. Conclusion

The findings of the survey indicate the current situation. It is important to examine the attitudes of respondents on a larger sample and to verify the current effects of Internet sources of information. About a quarter of Slovak respondents and a fifth of Ukrainian respondents expressed doubts about the truth of the video if they see it. It is quite alarming that a third of respondents (33,5% SK and 32,8% UKR) chose the option "difficult to answer neither agree nor disagree". Most respondents, therefore, believed the information, the announcement if they saw the person's statements on video (35,6% SK and 42,5% UKR - answers 5 and 6). With photos in newspapers, internet users already know that they may not be true. We also examined this issue and the results indicated better awareness of this issue. For a video, we can expect...
Internet users to be interested in new tools to verify that the video has been edited. Verification of photographs and detection of their first use is already common today.

The devices for analysing photos and verifying their potential pre-modification have appeared relatively recently (e.g., TinEye - Reverse Image Search). Many companies, such as Microsoft, Facebook, and Google, work diligently to find altered video detection tools. In addition, plugins and tools appear, e.g., InVID Verification Plugin Microsoft Video Authenticator, and their number will further increase.

According to our findings, education is the key. When educating all age groups, it will be important to teach internet users not only to obtain information but also to verify it.

When we educate students of all ages it will be important to teach internet users as well as verify information. It is important to examine their truthfulness, to verify whether they have been modified. New video editing options, even at home, will continue to provide better falsification results.

The future is going to be difficult and we cannot imagine its risks today. The preparation should be flexible and it would be ideal to prepare students for new threats that yet to come. (Alcnauer, 2018)

For the future, it will be very important to ensure that the Internet serves to better understand the world around us and not to spread false information.

Customer attributes are influenced by the community that surrounds them. The intensity how customers are influenced or how they influence the others may be an important indicator of their future behavior. Modern approaches can leverage valuable information from social networks. (Háva & Alcnauer, 2012)

Acknowledgements

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