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Capturing autonomous technology acceptance with structured text and content analysis of social media comments

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Today, the number of cities involved in the road tests of different autonomous vehicles is dynamically increasing. At the same time, it is becoming increasingly important to understand people's opinions about autonomous urban mobility. Although several social science studies address the acceptance of autonomous vehicles, most of the studies apply questionnaire methods. Furthermore, scarce information is available about how people formulate their opinion if there is no research framework, and they form their opinion spontaneously, especially in countries where the road test of autonomous vehicles is less common.
The main aim of the present study is to find out the free and spontaneous opinion of the Hungarian population regarding autonomous vehicles. The method is the analysis of Hungarian-language comments about autonomous vehicles on the most popular social media platforms (Facebook and YouTube): 1,690 comments of 10 posts in total are analyzed in the form of software-supported structured text and content analysis.

Keywords: autonomous urban mobility, comment analysis, self-driving car, autonomous urban delivery robot

1. Introduction

There are various estimations about whether autonomous vehicle-driven urban mobility will become a reality, and if yes, when it will be realized (Grindsted et al. 2022). Also, it is clear that the technological developments related to autonomous road vehicles have accelerated by now: the number of cities involved in public road testing and companies with road test permit is increasing (Zuti–Lukovics 2023). In January 2022, road tests took place in nearly 200 cities in the world, and in the state of California, up to 50 companies had road test permits while three of them also got permission to test cars without a steering wheel. The cars of Waymo offering robotaxi service have travelled over 7.14 million miles (about 11.5 million km) without a safety driver throughout the cities of the USA, having completed its 85% in the past one year. Thus, due to the speed of autonomous technology development, it is important to find out the public's opinion about autonomous vehicles, regarding which a large number of research results have been accumulated recently. The mostly questionnaire-based research papers identified which factors have higher and lower influence on technology acceptance (Keszey 2020). Wu et al. (2019) and Zhang et al. (2020) concluded that the ease of use perceived by the respondents does not play a significant role in the acceptance of autonomous technology. Koul and Eydgahi (2018), as well as Baccarella et al. (2020) found that perceived usefulness is the most important pillar of autonomous technology acceptance. Based on the results of Zhang et al. (2020), trust is a major factor of social acceptance. According to the findings of Acheampong and Cugurullo (2019), as well as of Panagiotopolous and Dimitrakopolous (2018),

subjective norms have an effect on perceived usefulness, perceived ease of use, and perceived safety. Nordhoff et al. (2020) found that hedonic motivation can be identified as the most important factor of autonomous technology acceptance. Hutchins and Hook (2017) showed that the majority of the respondents have concerns about autonomous vehicles: they questioned the safety of the vehicles, and they also expressed mistrust about the issue of legal responsibility and liability. König and Neumayr (2017), Liljamo et al. (2018), Audi–Ipsos (2019), and Havlíčková et al. (2019) identified markedly rejecting groups: women, elder people, people living in rural regions, and people with lower levels of education.

In Hungary, an increasing number of research results is published on social science issues regarding autonomous vehicles. The Hungarian researchers investigate self-driving cars' moral questions (Miskolczi et al. 2021), legal issues (Ambrus 2019, Kecskés 2020), relation with responsible innovation (Lukovics et al. 2018), effect on government budget and employment (Gyimesi 2019), effect on lifestyle and economy (Banyár 2019), relationship with cities (Lados–Tóth 2019, Smahó 2021), and social impacts and acceptance (Madarász–Szikora 2018, Szemerédi 2019, Majó-Petri–Huszár 2020, Csizmadia 2021, Páthy 2021, Nagy et al. 2022, Prónay et al. 2022, Palatinus et al. 2022, Lukovics et al. 2023). It is to be noted that the social science studies related to the social acceptance of autonomous vehicles are predominantly based on quantitative data which are collected with questionnaire surveys (Keszey 2020). At the same time, little is known about the opinions people form about autonomous vehicles if there is no research framework and they formulate their opinion spontaneously (Io et al. 2022). The spread of various social media platforms allows users to express their opinion publicly by publishing their ideas in the form of comments (Danner–Menapace 2020). They do it driven by their own motivation (i.e. without a researcher's elicitation), their publicly expressed opinion is not influenced by either a process or the effect of the researcher's physical or virtual presence (Branthwaite–Patterson 2011). The international literature includes some analyses on the social acceptance of autonomous vehicles conducted based on the analysis of social media comments (Kohl et al. 2017, Li et al. 2018, Liu et al. 2019, Pettigrew et al. 2019, Jefferson–McDonald 2019, Das et al. 2019, Io et al. 2022, Ding et al. 2021), but all of them analyze English-language comments, thus, scarce information is available about the opinion of Hungarian social media users. The main aim of the present study is to find out the free and spontaneous opinion of the Hungarian population regarding autonomous vehicles. To achieve this, an analysis is carried out on the Hungarian-language comments on the topic of autonomous vehicles on the most popular social media platforms (Facebook and YouTube), which is implemented in the form of software-supported structured text and content analysis. A total of 1,690 comments to 10 posts are studied.

2. Literature review

The increasing use of social media platforms allows people to express their opinions on social media (Cam et al. 2024), for example, on Facebook and YouTube. Social media has become widespread and important in terms of social networks and sharing opinion in the past years (Li et al. 2018). The millions of

entries and comments posted daily on Facebook, X, and YouTube are considered rich and informative data sources, which has attracted the attention of both academia and the industry (Ceron et al. 2014, Kulkarni–Rodd 2018). Comments are important sources of information about the users' emotions and opinion, which they express in the form of text (Porreca et al. 2020, Li et al. 2020, Chauhan–Meena 2019) or with the help of emojis (Tomihira et al. 2020). Comments enable the analysis of data to identify the opinions expressed in language, which can be revealed with difficulty otherwise (Palos-Sanchez et al. 2022). In this respect, understanding emotions in these opinions has become an important research topic, but the increasing quantity of these opinions makes manual processing very difficult, which has resulted in a need for automated processing (Cam et al. 2024). For this purpose, natural language processing and artificial intelligence techniques were applied to automatically analyze emotions (Nandi–Sharma 2021). The analysis of emotions is one of the most popular techniques in the computer-based analysis of people's thoughts and perceptions in a text (Lazarus et al. 2022). Several publications applied context analysis and data mining in different studies, for example, regarding online feedback on and satisfaction with hotels (Ríos-Martín et al. 2019, Saura et al. 2018), startups (Saura et al. 2019a), retail (Saura et al. 2019b), and disaster management (Khusna et al. 2023). Other articles present the role of social networks in studies which support recruitment measures in the development of user interface in mobile applications (Palos-Sanchez et al. 2018), especially in terms of the tourism sector (Palos-Sanchez et al. 2021). Furthermore, important research results were achieved from the analysis of comments related to cyber criminals and politicians (Lazarus et al. 2022), the analysis of comments related to American airlines (Rane–Kumar 2018), and the analysis of COVID-19 tweets (Kaur et al. 2021, Rustam et al. 2021, Rahman et al. 2021, Qorib et al. 2023, Osakwe et al. 2021). The latest advancements of autonomous vehicle technology have facilitated the emergence of autonomous vehicles in public interest, and autonomous vehicles have become a popular topic in social media (Li et al. 2018). Several extensive studies have been written to examine the social acceptance of, safety concerns about, and willingness to buy autonomous vehicles (Baccarela et al. 2020, Kovács–Lukovics, 2022, Cai et al. 2023). The quantitative data generated by the surveys describe the occasional concerns superficially rather than in depth (Pettigrew et al. 2019). Opinion mining based on data from social media and the latest techniques of text analysis offer new opportunities to address the disadvantages of traditional surveys (Io et al. 2022). Liu et al. (2019) emphasize that there is a limited number of studies which investigate people's subjective opinion about autonomous vehicles. In this context, Li et al. (2018) collected 50,000 comments from YouTube videos related to autonomous vehicles, highlighting that the study aimed to annotate the videos and the authors did not carry out detailed analyses. Das et al. (2019) analyzed the 15 most popular videos on YouTube related to autonomous vehicles, and the results suggested that the comments reflect a positive attitude. At the same time, the study used a small sample, and the analyzed comments were shaped by the videos. In terms of the analysis of social media, Kohl et al. (2017) conducted a long-term study to analyze tweets and categorized the tweets in different attitudes with the help of machine

learning. The results indicated a conservative attitude and showed that the acceptance of autonomous vehicles is still limited. Ding et al. (2021) rely on tweets and categorize emotions in the framework of a comprehensive model. The results show that the overall mood towards autonomous vehicles is positive, nevertheless, social media users may be emotionally biased about different autonomous vehicle terminologies. Pettigrew et al. (2019) collected people's opinions in a survey, and the results indicate that people focus on safety, while the safety of autonomous vehicles triggers mixed reactions. Jefferson and McDonald (2019) studied the tweets following the accident of the Tesla autopilot, and the results showed that people expect positive changes in the area of parking and environmental protection in the case of autonomous vehicles. Io et al. (2022) collected 10,374 comments related to autonomous vehicles from a microblog page, then they evaluated people's feelings and opinions. The results suggest that people's feelings are not only influenced by autonomous vehicles (e.g. their safety and comfort), but also by the effect of autonomous vehicles on society, such as unemployment and legislation.

3. Method and data

In order to achieve the research objective, primary research was conducted, implemented in the form of software-supported structured text and content analysis. During the process, Hungarian-language comments on Facebook and YouTube posts were analyzed. The social media posts involved in the study were selected based on the relevance of the topic and the number of comments. Specifically, I applied three criteria for post selection: the posts had to be about autonomous vehicles regardless of type (car, robot, truck, etc.), be in Hungarian, and have at least 50 comments. Due to the limited number of posts meeting these criteria, I relaxed the comment threshold for YouTube posts. This approach ensured that I included relevant and sufficient data for the analysis while addressing the scarcity of suitable posts. It was considered essential to include comments in the sample from the two most popular social media platforms, Facebook and YouTube, even though there is significantly less content available in Hungarian language on YouTube on the topic of autonomous vehicles. It was also considered important to see opinions about various types of vehicles, thus, the sample includes posts both about self-driving cars and autonomous urban delivery robots. The final data set included 10 posts and 1,690 comments in all, cf. Table 1.

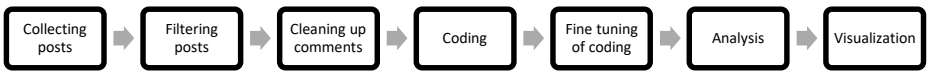
Table 1. Social media posts included in the analysis

Post title	Type	Author	Platform	Comment
Autonomous delivery robots will be tested in Debrecen	robot	Telex	Facebook	247
Level 4 autonomous driving may be closer than you think	car	Totalcar	Facebook	133
Mercedes gets new lights: turquoise is used when they go in a robot mode	car	Totalcar	Facebook	433
Would you pay 3.6 million more to let off the steering wheel?	car	Totalcar	Facebook	95
Self-driving cars: who drives last?	car	Totalcar	Facebook	70
Let's put things in order among self-driving cars	car	Bosch	Facebook	101
What is your opinion about autonomous delivery robots?	robot	EMFIE	Facebook	371
In what case would you replace your car with a self-driving one?	car	EMFIE	Facebook	83
Will self-driving cars be good for us?	car	Tech2.hu	YouTube	44
Will there ever be a self-driving car?	car	Büki Dani	YouTube	113
Total				**1,690**

Source: own construction

In the first step, the comments were cleaned and then processed with MaxQDA 2023 software, which carries out a data analysis and derives quantity information with the help of different metrics (Kuckartz–Rädiker 2019). For this purpose, coding was applied in the first step (Figure 1).

Figure 1. Logical framework of the primary study



Source: own construction

In the coding process, patterns were searched during the text analysis of the comments and based on them the original raw data were standardized with a predefined framework (Creswell 2013, Babbie 2016, Brait 2020). In this study, codes serve as an attribute, briefly summarizing the content, whether it is of any linguistic or visual nature (Saldaña 2013). By assigning the codes to the textual transcription of the comments, the contents of the comments were evaluated in a standard framework. The coding enabled to arrange the unstructured opinions on autonomous vehicles into a single structure, which contributed to exploring the patterns behind the comments. Over the course of coding, often several codes were assigned to a given coding unit, applying simultaneous coding (Saldaña 2013). When defining the codes, it was considered important to minimize the analyst's subjectivity, therefore, a framework which is accepted in wide professional circles was chosen. Consequently, the basis of the coding is formed by the four pillars of the AV Readiness Index elaborated by KPMG: (i) policy and legislation,

(ii) infrastructure, (iii) technology, and (iv) a user acceptance (KPMG 2018). They were completed with a code indicating safety, since the studies showed that people are worried about the safety of autonomous vehicles (AV) and the proper functioning of the technology (Jing et al. 2020, Kim et al. 2019, Rosell–Allen 2020, Dixon et al. 2020), which was clearly reflected in the comments as well. Also, the comments were coded based on their positive or negative attitudes.

The coding process was carried out manually in two steps, in MAXQDA software. In the first step, the seven codes derived from the literature were applied, i.e., the four pillars of KPMG, safety, and the positive or negative attitude. In the second step, the codes can be complemented by new codes and subcodes created during a deeper analysis of the texts (Saldaña 2013). In this case, a deeper analysis of the 1,690 comments required the inclusion of two new codes: the code of factual error and that of theft and criminal damage, thus the code system ultimately consisted of 9 codes:

1. Positive attitude
2. Negative attitude
3. Technology
4. Infrastructure
5. Policy and legislation
6. Social acceptance
7. Safety
8. Factual error
9. Theft and criminal damage as unemployment and legislation.

4. Results

In the process of coding, 1,424 codes in total were placed in the text system of 10 analyzed posts. They can be monitored both by post and overall with the help of the code matrix (Table 2). The code matrix shows the occurrence of the codes quantitatively, however, it does not analyze relationism between the codes. In the case of the code matrix, a heat map can be added on the resulting values. A scale ranging from blue to red indicates which word or code is frequent or less frequent in the system. It is conspicuous that the comments of the 10 analyzed posts are dominated by a negative attitude, 33.3% of all codes included in the entire system were negative. The number of comments with a negative value content (474) was 2.5 times the number of comments with a positive value content (190).

Table 2. Number of codes in the analyzed posts

Post / code	Vandalism, theft	Social acceptance	Legislation	Safety	Infrastructure	Technology	Factual error	Positive	Negative	Total
What is your opinion about autonomous delivery robots?	6	1			6	1	0	3	106	52
In what case would you replace your car with a self-driving one?		7					2		48	03
Would you pay 3.6 million more to let off the steering wheel?		8		3		0	4		49	28
Autonomous delivery robots will be tested in Debrecen	9				4	0		2	74	93
Mercedes gets new lights: turquoise is used when they go in a robot mode			1	3		2	7	7	45	62
Let's put things in order among self-driving cars.							0	2	28	3
Self-driving cars: who drives last?				4		9		6	21	6
Level 4 autonomous driving may be closer than you think		9	0	6		1	0	8	44	91
Will there ever be a SELF-DRIVING CAR?		5		3	6	9	2	1	46	77
Will self-driving cars be good for us?									13	9
Total	5	48	0	04	8	69	6	90	474	,424

Source: own construction

It is noteworthy that – although there are posts where the number of positive comments comes close to the number of negative comments – positive attitude is not dominant in the case of any of the posts. Following the attitude codes, technology (11.9%) and social acceptance (10.4%) codes were applied most frequently, in both cases there are posts where these aspects played a decisive role in the texts. It is to be noted that the issue of social acceptance has a stronger presence in YouTube comments proportionally, compared to Facebook. The two new codes (factual error, theft and criminal damage) both have 6.7% frequency of occurrence in the entire system, verifying the correctness of the decision to include them additionally. It should be highlighted that the criminal damage/theft code appeared exclusively in the case of posts related to autonomous delivery robots, and it strongly determined the comments of these posts. The legislation code has 6.3% in the whole system with a post where the discussion was strongly dominated by it. At the same time, the comments related to infrastructure were present only in 4.1% of the whole system, while three posts were found where the commenters did not discuss the topic of infrastructure at all. The code relations matrix reveals which code pairs occur frequently together within the same comment (i.e., the maximum distance = 0), therefore, it allows for understanding the complex relationship of the code pair occurrences. In the text system of the 10 analyzed posts, the negative attitude code moves strongly in line with the social acceptance code, i.e. the negative attitude of the commenters can be explained by the issues related to social acceptance in most cases within the same comment (Table 3). Considerable

technological concerns can be inferred explaining the negative attitude in the comments, where a large part makes an argument with the immaturity of autonomous technology. It is conspicuous that the technology code does not only move strongly in line with the negative attitude code, but also with the positive attitude code. It leads to an interesting situation where the technological aspect is present in the arguments of both the opponents and the supporters, the opponents claim that the technology is immature, while the supporters suggest that the technology is advanced. The same fragmentation occurs in terms of safety: the commenters forming a negative and positive attitude use safety risks vs. safety advantages as arguments, respectively.

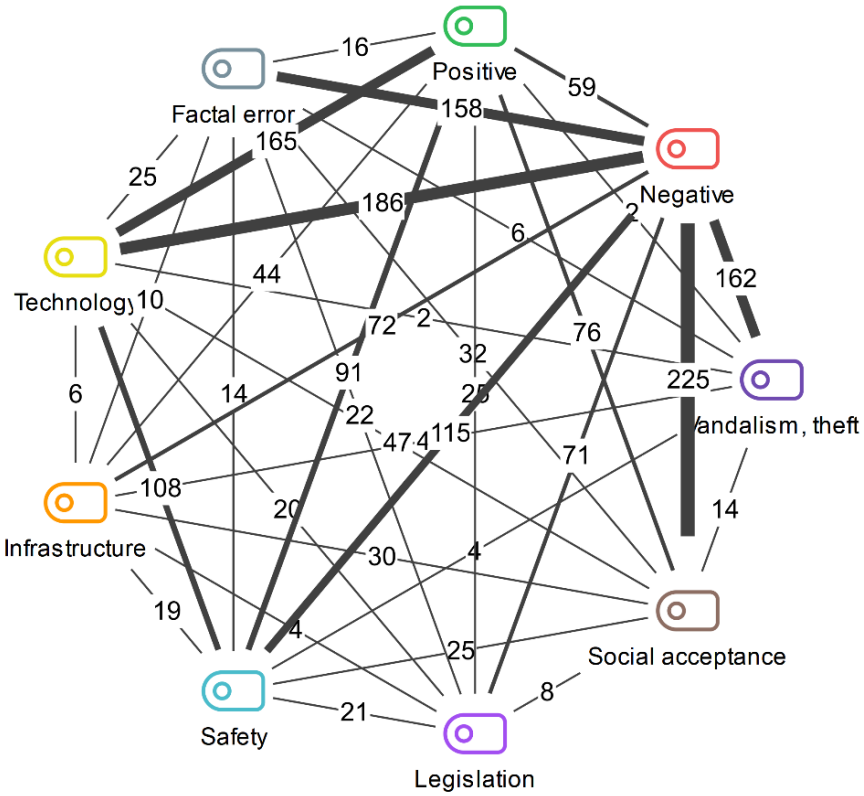
Table 3. Code relations matrix (maximum distance=0)

Code System	Vandalism, theft	Social acceptance	Legislation	Safety	Infrastructure	Technology	Factual error	Positive	Negative
Vandalism, theft	0	14	0	4	4	2	6	2	162
Social acceptance	14	0	8	25	30	47	32	76	225
Legislation	0	8	0	21	4	20	22	25	71
Safety	4	25	21	0	19	108	14	91	115
Infrastructure	4	30	4	19	0	6	10	44	72
Technology	2	47	20	108	6	0	25	165	186
Factual error	6	32	22	14	10	25	0	16	58
Positive	2	76	25	91	44	165	16	0	59
Negative	162	225	71	115	72	186	158	59	

Source: own construction

In many cases, the negative attitudes can be explained by the threat of criminal damage/theft, which is linked exclusively to autonomous delivery robots, but, interestingly, it is not associated with the idea of legislation in any case. There is significant co-movement between negative attitude and factual errors, which indicates that negative value judgements can be explained by obvious factual errors: for example, the technology will never be on a level where it can travel without a driver – the vehicles of Waymo have already travelled 10 million kilometers without a safety driver accident-free. The topic of technology and safety shows strong co-movement in the comments, i.e., the commenters argue in a way that they mention technology and safety within the same comment in many cases. If a visualization of the code relations matrix presented in Table 3 is created, the model of the text system composed based on the comments of the 10 posts is obtained (Figure 2). The model demonstrates the frequency of the co-occurrence of each code in the textual data. If two codes co-occur frequently, it indicates that the two codes are probably linked to each other or the same topic.

Figure 2. Code Co-occurrence Model (Code Proximity) of the 1,690 comments

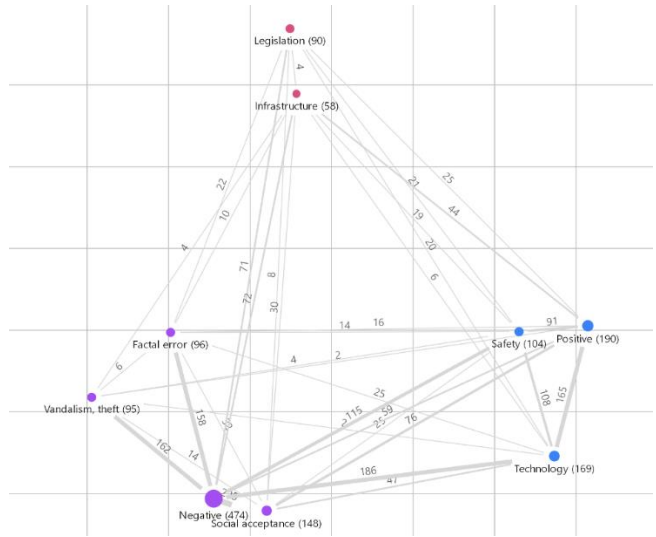


Source: own construction

Further connections can be revealed about the text system created from the comments of the 10 posts based on the code map of the 1,690 comments (Figure 3). The different codes are represented by circles, whose diameter is determined by the frequency of the occurrence of a given code. The line joining two codes demonstrates the frequency of the co-occurrence of the two given codes. The various colors of the code map show the clusters formed based on the distances, which indicates which codes' co-movement is the most significant within the entire text system created from the comments of the 10 posts. It results in 3 clusters:

- Cluster 1: negative attitude, factual error, social acceptance, criminal damage/theft
- Cluster 2: positive attitude, safety, technology
- Cluster 3: infrastructure, legislation

Figure 3. Code map of the 1,690 comments

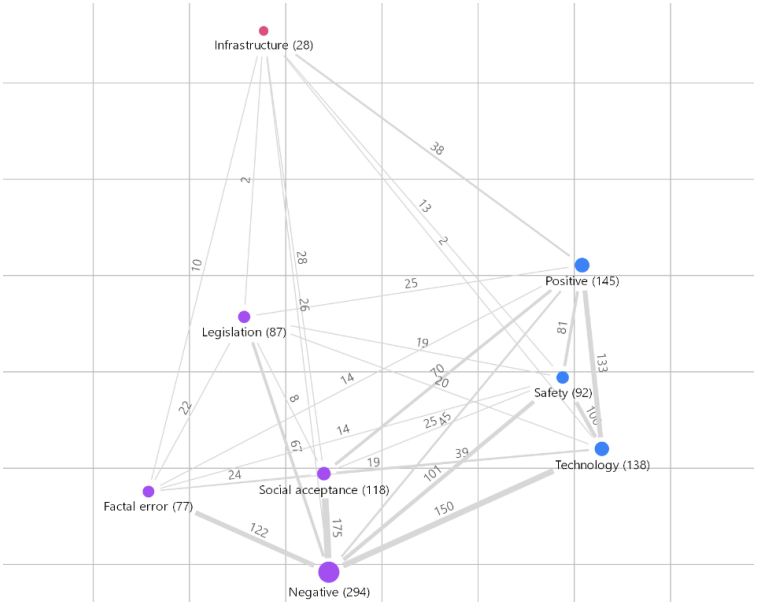


Source: own construction

It should be observed that if the entire system presented in Figure 3 is broken down and the two types of vehicles mentioned in the posts separately are analyzed, i.e. the comments discussing self-driving cars and autonomous delivery robots, a considerably different code structure and geometric representation is presented (Figure 4). If the comments of the posts which discuss self-driving cars (1,072 comments) are analyzed, it is seen that negative attitude is still dominant, which is fueled by social acceptance, technology, factual error, and safety risk, while the relative proportion of positive attitude increases, which is fueled by technology and safety in the same way as in the entire system. The risk of criminal damage/theft does not occur in any comment, thus, this code disappeared from the code map. At the same time, a substantial difference is the relative revaluation of the legislation code and its medium-strong relationship with negative attitude, which resulted in repositioning it from Cluster 3 to Cluster 1, while the cluster categorization of the other codes did not change. When only the 618 comments on the articles about autonomous delivery robots (Figure 5) are analyzed, it is seen that the strong negative attitude is highly fueled by criminal damage/theft, which appears in the comments in two ways: (i) on the one hand, the commenters merely express their concern that Hungarians steal the small-sized autonomous delivery robots, and, on the other hand, (ii) the commenters themselves express their negative attitudes by expecting criminal damage and theft if they encounter such a vehicle. Compared to the text system of self-driving cars, the relative revaluation of comments related to infrastructure is prominent: the commenters expressed their concerns about how the autonomous delivery robots travelling on pavement will be able to proceed on Hungarian streets, which are in poor condition in particularly many cases. The relationship of each type of comments (and, as a result, the codes) is rearranged significantly, resulting in the restructuring of the clusters: Cluster 1 includes legislation, social acceptance, infrastructure, safety, and

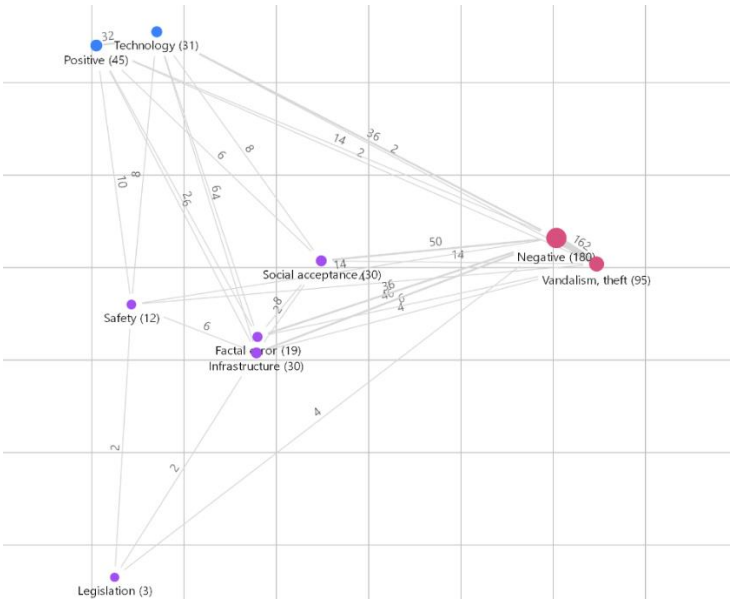
factual error, Cluster 2 consists of positive attitude and technology, while Cluster 3 includes negative attitude and criminal damage/theft.

Figure 4. Code map of the comments on self-driving cars



Source: own construction

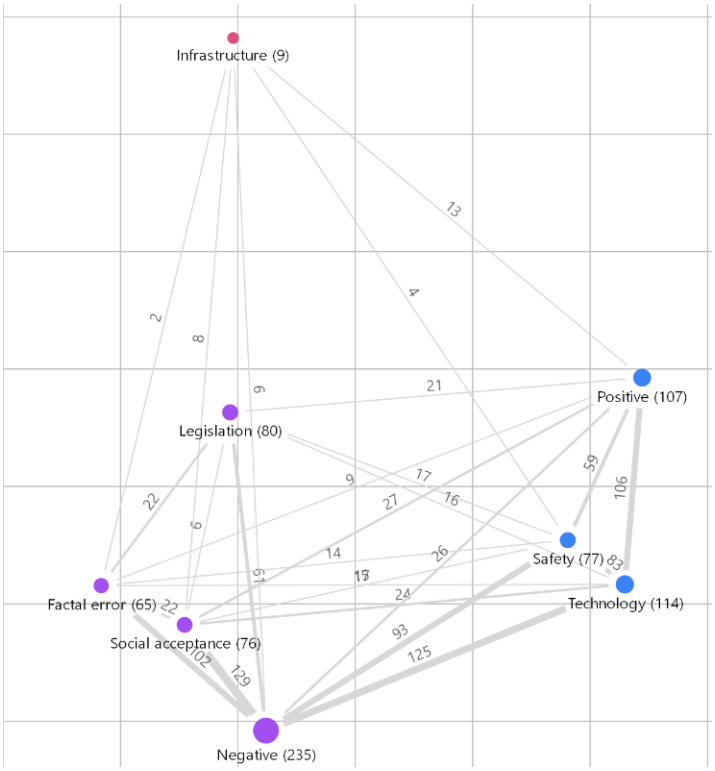
Figure 5. Code map of the comments on autonomous delivery robots



Source: own construction

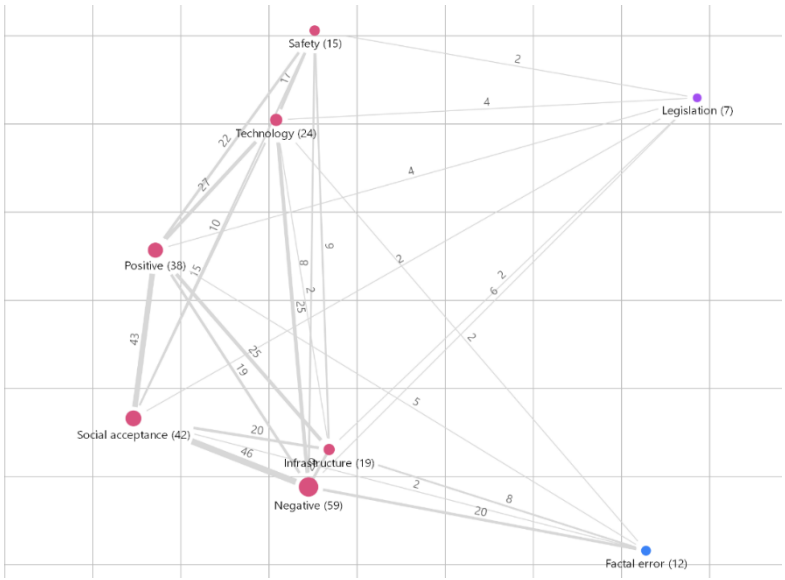
The study has also aimed to find out how the structures of the comments posted on the two most popular social media platforms included in the present study differ from each other. To examine this, first a thematic match needs to be identified. Since the Hungarian-language posts created on the topic of autonomous delivery robots on YouTube cannot be included in the analysis due to the low number of comments, a comparison was made with the comments of the posts about self-driving cars. Compared to the illustration in Figure 5, which features the comments of the posts about self-driving cars irrespective of the platform, there is no significant difference on the code map of Facebook comments: the dominant topics and codes, their relationship, and the members of the clusters are all identical (Figure 6). It is not surprising as the number of comments of Facebook posts considerably exceeds the number of comments posted on YouTube, which skews the results. At the same time, the completely different structure of the comments on self-driving cars placed on YouTube is quite interesting (Figure 7).

Figure 6. Code map of the comments on self-driving cars (Facebook)



Source: own construction

Figure 7. Code map of the comments on self-driving cars (YouTube)



Source: own construction

The negative comments are also dominant in the case of comments posted on YouTube, nevertheless, positive attitude is categorized in the same cluster as negative attitude only in this single case while they have strong co-movement with technology, social acceptance, safety, and infrastructure. It is also to be highlighted that the co-movement of factual errors with the other factors (including attitude codes) is relatively low, thus the code of factual errors is categorized in a separate cluster.

5. Discussion and summary

The present study has explored the patterns of the subjective opinion of the commenters of the selected 10 posts about autonomous vehicles. It is to be noted that the comments of all 10 analyzed posts are dominated by a negative attitude so much so that – although there are posts where the number of positive comments come close to the number of negative comments – a positive attitude is not dominant in the case of any post. The commenters' negative attitude was based on issues related to social acceptance in most cases, however, technological concerns were also significant in the comments, especially by referring to the immaturity of autonomous technology. Interestingly, the technological dimension is present in the arguments of both opponents and supporters, with the opponents claiming that the technology is immature while the supporters stating that it is advanced. The same fragmentation is observed in terms of safety: those expressing a negative or positive attitude both strongly argue for safety risks or advantages. There is also significant co-movement between negative attitude and factual errors, which indicates that negative value judgements can be explained by obvious factual errors. If these

results are compared with the results of the quantitative studies on the Hungarian population's technology acceptance of autonomous vehicles, the difference is visible – it is consistent with the findings of Branthwaite and Patterson (2011), as well as Io et al. (2022) suggesting that the analysis of comments can significantly differ from the results of structured questionnaire surveys due to the freedom of opinion. In fact, while the studies of Madarász–Szikora (2018), Majó-Petri–Huszár (2020), Csizmadia (2021), Páthy (2021), Nagy et al. (2022), and Prónay et al. (2022) did not record a strongly negative social attitude towards autonomous vehicles, the majority of the analyzed comments used a clearly rejecting tone. If the results are put in the context of international surveys of a similar topic found in the literature, it can be concluded that the results are radically different from the results of the analysis of English-language comments. While based on the results of Li et al. (2018), Das et al. (2019), Jefferson and McDonald (2019), Io et al. (2022), and Ding et al. (2021) the English-language comments reflect a positive attitude, the analyzed Hungarian-language comments show a clearly negative attitude. The results of Kohl et al. (2017) are closer to these results compared to the above-mentioned results because their findings indicate that the acceptance of autonomous vehicles is still limited, nevertheless, such a volume of negative attitudes cannot be observed as in the case of Hungarian-language comments.

The negative attitude of the Hungarian-language comments, which significantly differs from the positive and conservative attitude of the English-language comments, can be explained by the finding of Kovács and Lukovics (2022), suggesting that the post-socialist innovation environment itself has specificities which can also be seen in the social acceptance of autonomous vehicles. Furthermore, the considerable difference in attitude may be explained by the fact that several English-speaking commenters had the opportunity to encounter (or even travel on) the discussed autonomous vehicles in the streets. In contrast, there is only one comment based on the commenter's own experience among the Hungarian-language comments, others formed their subjective opinion based on their expectations. Despite this, a part of the results is in line with the results of the international literature: in the present text system, safety is one of the most important thematic areas and the duality (positive and negative) related to safety is evident, which was also shown by Pettigrew et al. (2019).

Overall, it can be concluded that due to the high number of factual errors, which is in strong co-movement with negative attitude, as well as the radically different beliefs about technology and safety, it is of key importance to raise public awareness about autonomous vehicles. Nevertheless, it requires patience since the analyzed texts imply that the commenters often prioritize their own beliefs over the information provided in the commented post. A solution for this can be the systematic reliance on credible data, increasing the quantity of information from validated sources, or if the author of the post replies to the comments containing factual errors with valid arguments. Also, it is a sensitive genre with serious psychological elements, which can be an excellent topic of a subsequent study.

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