Audience Engagement With Electric, Hybrid and Internal Combustion Vehicle Content Among Automotive Creators

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The transition from internal combustion engine (ICE) vehicles toward hybrid and fully electric vehicles (EVs) is reshaping both the automotive industry and audience interest in mobility technologies within digital media environments. This study investigates whether audience engagement differs between online review videos focused on electric, hybrid, and internal combustion vehicles. The analysis is based on 75 videos published by five established European automotive content creators, with engagement compared using quantifiable platform metrics such as views, likes, comments, video duration, publication date, and channel subscriber counts. The study combines descriptive analysis with non-parametric statistical testing, including Kruskal-Wallis tests, Spearman correlation analysis, and the Mann-Whitney U test. The descriptive results indicate that EV videos achieved the highest average normalized view performance and comment intensity; however, statistically significant differences between powertrain categories were not confirmed. The findings further suggest that video length and the distinction between reach and engagement intensity represent important factors in evaluating automotive content performance. The study contributes to a better understanding of digital audience engagement in automotive review content and provides exploratory implications for automotive brands and content creators seeking to optimize communication strategies across different powertrain categories.

Keywords:
social media metrics, online video platforms, consumer interest, mobility transition, digital marketing analytics

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1 Introduction

1.1 Industrial Transformation and Strategic Tensions in the Transition to Electromobility

The transition toward electromobility is frequently presented as a necessary and technologically inevitable pathway toward decarbonisation. However, existing research suggests that this transition is embedded in structural, economic, and political tensions that may limit its transformative potential. At the European level, industrial policy has been strongly oriented toward supporting green transformation within the automotive sector. Nevertheless, critical perspectives argue that such policies may primarily reinforce existing industrial structures rather than fundamentally transforming them. Pichler, Krenmayr, Schneider et al. (2021) contend that EU automotive industrial policies predominantly defend economic growth and competitiveness, focus narrowly on innovation policy, and promote ecological modernisation through efficiency improvements rather than absolute emission reductions. As a result, the transformation may at best modernise the existing system and at worst conserve structurally unsustainable pathways. A related strategic dilemma concerns the organisation of production. Girke et al. (2025) emphasise the importance of maintaining core technological capabilities in-house, particularly in the context of EV development. Their findings highlight design capabilities and customer centricity as key drivers of competitiveness and introduce the concept of a "Technology Multiplier" to capture the long-term strategic value of internal production in terms of innovation and adaptability. This perspective suggests that the transition is not merely technological but deeply strategic, involving decisions about capability retention and industrial sovereignty. At the same time, the material and institutional embeddedness of the automotive sector constrains rapid transformation. Pichler, Krenmayr, Maneka et al. (2021) identify interconnected material features and competing imaginaries of improvement, diversification, and transformation within the Austrian automotive industry. Although incremental change is widely perceived among the workforce, strong confidence in existing expertise may also support more systemic transformation. The industry thus embodies both strategic dilemmas and latent transformative capacities. The economic and ecological implications of battery electric vehicles (BEVs) further complicate the transition narrative. Morgan (2020) argues that although BEVs may represent a superior alternative to internal combustion engines, a substitution-based

transition that maintains current scales of private transportation could contribute to exceeding the remaining carbon budget under the Paris Agreement. In such a scenario, electrification may become a "successful failure," delivering technological change without achieving systemic sustainability goals. These structural constraints are particularly visible in smaller, export-oriented economies. Gažo et al. (2022) demonstrate that the transformation of the Czech and Slovak automotive industries is constrained by path dependency in public institutions and foreign ownership of automotive firms. This ownership structure limits the ability of local actors to steer transformation proactively, reinforcing a reactive rather than strategic position within global value chains. Taken together, the literature indicates that the transition to EVs is shaped not only by technological progress but also by industrial policy priorities, ownership structures, material constraints, and strategic production decisions. The effectiveness of the transition therefore depends on whether it remains a form of incremental ecological modernisation or evolves into a more systemic restructuring of mobility systems.

1.2 Barriers to EV Adoption: Economic, Technological and Psychological Dimensions

Beyond industrial supply-side considerations, the success of the EV transition depends significantly on consumer adoption. Empirical evidence identifies multiple barriers that may slow or distort the diffusion of EVs. Infrastructure availability and total cost of ownership are consistently identified as primary obstacles. Kumar et al. (2025) highlight charging infrastructure, driving range, battery life, safety, performance, and reliability as decisive factors influencing consumer decisions. Without addressing these practical concerns, the transition risks stagnation or backlash. Similarly, Alanazi (2023) notes that proposed solutions–such as expanding charging networks, battery swapping, and technological improvements – are technically complex and financially demanding. Consumer uncertainty further shapes adoption dynamics. Bakhuis et al. (2025) find that while financial incentives constitute the strongest driver of EV uptake, perceived loss of flexibility and battery degradation remain dominant barriers. These findings suggest that economic incentives alone may be insufficient unless accompanied by trust-building measures.

Demographic and contextual factors also influence adoption. Champahom et al. (2024) show that younger adults and individuals with strong environmental values are more likely to adopt EVs, whereas rural residency and ownership of conventional vehicles reduce adoption likelihood. These results indicate that EV adoption is not homogeneous but segmented along socio-demographic and attitudinal lines. Policy recommendations frequently emphasise targeted education, communication, and differentiated incentive schemes. Bakhuis et al. (2025) and Anwar et al. (2025) advocate context-sensitive information strategies combined with accessible infrastructure and supportive regulation. Collectively, these studies imply that adoption barriers are multi-dimensional and require integrated economic, infrastructural, and communicative responses.

1.3 Communication, Perception and the Role of Digital Media

In addition to structural and economic determinants, communication plays a central role in shaping public attitudes toward EVs. The digital era has significantly reconfigured the automotive landscape, compelling industry actors to respond to rapidly evolving information ecosystems (Pérez-Moure et al., 2025). A recurring finding in the literature concerns insufficient consumer knowledge and ecological awareness. Abbasi et al. (2025) demonstrate a strong relationship between advertisement exposure, EV knowledge, and purchase intention, suggesting that communication can partially mitigate informational deficits. Lashari et al. (2021) further identify environmental and economic perceptions as the strongest predictors of EV purchase intention, while technological concerns exert a negative effect. These results indicate that the framing of EVs around environmental and cost benefits may be more effective than emphasising technological sophistication alone. Social influence and normative pressure also shape attitudes. Lashari et al. (2021) show that social influence positively affects environmental concern and brand preference. Similarly, Wang et al. (2025) find that societal concern predicts interest in innovation. These findings suggest that EV adoption is embedded in broader social narratives and identity dynamics. Digital marketing and segmentation strategies appear particularly relevant in this context. Oliver and Rosen (2010) emphasise the importance of tailoring policy and marketing techniques to distinct consumer segments, considering factors such as skepticism, technological savviness, and price sensitivity. More recent research by Henderi (2025) confirms that segmented digital marketing campaigns–emphasising luxury and innovation for

premium segments and practicality and cost-effectiveness for mainstream clusters–can enhance strategic effectiveness. Nugroho and Harjanto (2023) further stress the need to combine selling with education in marketing communication activities. Social media platforms constitute an especially influential arena for shaping green purchase intention. Charan et al. (2024) identify social media engagement as a mediating factor between brand experience and green purchase intention, while Sun and Wang (2019) find that social media marketing positively affects subjective norms and product knowledge. However, sentiment analysis suggests that online discourse may not be uniformly positive. Li and Ullah (2025) observe increasing contestation in infrastructure discussions, with sentiment converging toward negativity despite growing volume. User-generated content and reviews provide additional insight into public perceptions. Wyskwarski (2024a, 2024b) identifies increasing engagement with EV-related YouTube content and a diverse range of topics discussed in comments, including technical aspects and infrastructure concerns. Yıldız et al. (2025) report that negative comments may outnumber positive ones in certain contexts, indicating persistent skepticism. At the same time, large-scale review analyses demonstrate that vehicle range and long-term performance significantly affect satisfaction (Shi et al., 2025). Despite the growing body of research on digital communication and EV adoption, limited attention has been devoted to the systematic analysis of performance metrics such as likes, shares, and comments in relation to different powertrain categories. While consumer sentiment and communication strategies are widely discussed, the interaction between content characteristics and engagement indicators remains underexplored.

The reviewed literature demonstrates that the transition to electromobility is shaped by interconnected industrial, economic, and communicative dynamics. Structural constraints, strategic production decisions, consumer uncertainty, and digital discourse collectively influence the trajectory of EV adoption. However, although prior research provides substantial insight into policy dilemmas, consumer barriers, and communication strategies, comparatively little attention has been paid to how EV-related content performs within digital platforms in comparison to alternative powertrain categories. In particular, engagement indicators such as views, likes, comments, and video characteristics have not been systematically analysed as proxies for audience interest and discussion intensity.

Addressing this gap contributes to a more nuanced understanding of how digital attention dynamics interact with broader industrial and societal transformation processes.

2 Methodology

The study builds on a structured literature review focused on three thematic areas: (1) transformation of automotive mobility and the digital media environment, (2) audience engagement and automotive content consumption, and (3) the role of social media and content creators in shaping consumer interest. The literature review primarily utilized publications indexed in Web of Science and Scopus within business, marketing, and media categories. Existing research extensively covers automotive consumer behavior, regulatory pressures supporting transition towards electric mobility and communication strategies related to EV adoption. However, limited attention is devoted to automotive content creators and their potential to influence audience interest in hybrid and electric vehicles. This gap motivated the empirical research presented in this study.

Empirical data were collected during January and February 2026 on the YouTube platform, which represents one of the dominant environments for automotive video reviews. The empirical sample was constructed using purposive sampling. The selection of creators was based on a preliminary review of automotive reviewers on YouTube and on online articles identifying relevant automotive content creators. The aim was to include established creators who regularly publish vehicle review content and for whom comparable videos focused on electric, hybrid, and internal combustion engine vehicles were publicly available.

The selected creators represented a geographically diverse sample of European automotive review channels, including creators operating in English-, German-, Dutch-, and Spanish-language online environments. Their audience size varied substantially, ranging from approximately 171,000 to 10.8 million subscribers, which enabled the study to include both large international channels and smaller, more specialized automotive creators. This diversity was intentionally included to capture engagement patterns across channels with different audience reach and market positioning. The intention was therefore not to construct a statistically representative

sample of all automotive creators, but to create a diverse exploratory sample suitable for comparing engagement patterns across powertrain categories.

For each creator, fifteen review videos were analyzed, consisting of:

- five electric vehicle (EV) reviews,
- five hybrid vehicle reviews,
- five internal combustion engine (ICE) vehicle reviews.

The final dataset consisted of 75 videos, with 25 videos representing each powertrain category. This sample size provides an initial empirical basis for identifying descriptive tendencies and relationships between selected engagement indicators, such as views, likes, and comments. However, the sample remains limited, and the findings should be interpreted as exploratory. A larger dataset including more creators, more videos, additional countries, and a longer observation period would be necessary to test the robustness and generalizability of the results in future research.

For each video, the following variables were collected:

- publishing account,
- video title,
- reviewed car brand,
- identification of vehicle powertrain type, based on information presented in the video title, description, or video content,
- number of views,
- video duration,
- number of channel subscribers,
- number of likes,
- number of comments,
- publication date,
- presence of chapter segmentation,
- recognizability of the powertrain type before clicking on the video,
- direct video link.

Data were recorded in Microsoft Excel, followed by data cleaning procedures to ensure dataset consistency. Selected variables, including vehicle category, powertrain identification, views, video duration, subscriber count, likes, comments, chapter segmentation, and recognizability of the powertrain type before clicking, were subsequently visualized to compare engagement patterns across vehicle categories.

Views were used to indicate audience reach and attention, likes were used to indicate basic positive audience feedback, and comments were used to indicate discussion intensity. These metrics represent different forms of audience engagement and were therefore interpreted separately. A higher number of comments was not automatically understood as positive engagement, as comments may also reflect controversy, criticism, or debate. To improve comparability across channels and videos with different audience sizes, several metrics were normalized. Views were normalized per 1,000 subscribers, likes were normalized per 1,000 views, and comments were normalized per 10,000 views. In addition, combined engagement was calculated as the sum of likes and comments normalized per 1,000 views.

Metrics were processed and compared across different powertrains. The following associations were visualized, tested, and commented:

- normalized views per 1,000 subscribers by powertrain category,
- release timeline of the examined videos by powertrain category to examine creators' vehicle category preferences,
- likes per 1,000 views by powertrain category,
- comments per 10,000 views by powertrain category,
- combined engagement per 1,000 views by powertrain category,
- association between video length and views per 1,000 subscribers,
- association between video length and combined engagement per 1,000 views,
- association between normalized views and combined engagement per 1,000 views,
- association between recognizability of the powertrain type before clicking on the video and views per 1,000 subscribers.

Since engagement metrics on digital platforms are often unevenly distributed and the sample size was limited, non-parametric statistical tests were used. The Kruskal-Wallis test was applied to examine whether engagement indicators differed between ICE, EV, and hybrid videos. Spearman correlation analysis was used to examine associations between video length and engagement indicators, as well as the relationship between normalized views and combined engagement. The Mann-Whitney U test was used to examine whether the recognizability of the powertrain type before clicking on the video was associated with normalized view performance.

The analysis enables the identification of preliminary associations between audience engagement and content characteristics, such as vehicle category, video length, and pre-click recognizability of the powertrain type. However, the results should be interpreted as exploratory associations rather than causal effects. Several limitations were considered already in the empirical design. The study did not control for thumbnail design, title structure, creator-specific audience characteristics, brand popularity, model novelty, publication timing, or the broader media context in which individual videos were released. Furthermore, the analysis did not include sentiment analysis of comments. Therefore, a higher number of comments should not automatically be interpreted as positive engagement, as comments may also reflect controversy, criticism, or debate.

The findings provide practical implications for both automotive brands and independent content creators by supporting decision-making related to the production of automotive content optimized for social media engagement, while also offering an exploratory basis for more robust future research.

3 Results

To improve the clarity of presentation, the results were divided into two subsections. Subsection 3.1 presents descriptive statistics, while Subsection 3.2 reports the results of statistical tests examining associations between selected variables.

3.1 Descriptive statistics

Figure 1 illustrates one of the key YouTube metrics, namely view count, which was normalized as views per 1,000 subscribers due to substantial differences in subscriber counts across the examined channels.

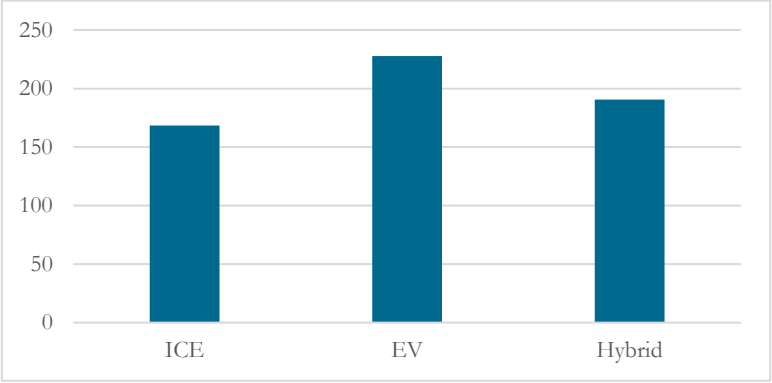

Figure 1: Normalized views per 1,000 subscribers by powertrain category
Source: own processing.

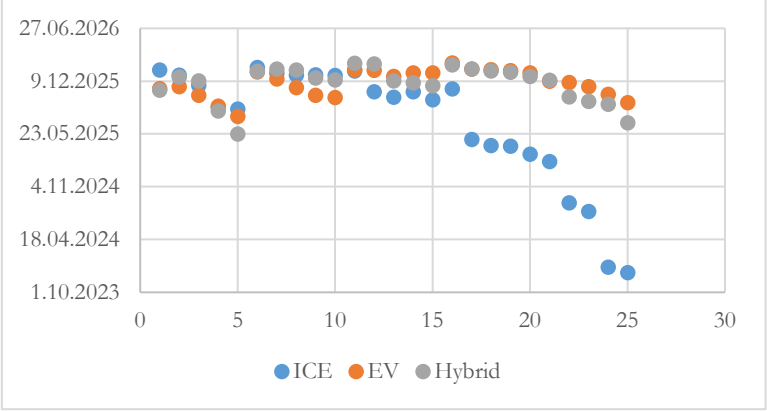

Figure 2: Release timeline of the examined videos by powertrain category
Source: own processing.

As shown in Figure 1, EV videos generated an average of 228 views per 1,000 subscribers, which represents approximately 20% more than hybrid vehicles and 35% more than ICE vehicles, the latter generating the lowest number of views

among the three categories. The number of views provides an important signal of audience reach and potential interest in specific vehicle types.

Figure 2 presents the timeline of the release dates of the examined videos.

None of the examined EV and hybrid videos were released before May 2025, and a similar publication frequency can be observed between these two categories. However, ICE vehicles exhibit a lower upload frequency overall. As illustrated in Figure 2, some of the five most recent ICE review videos on the examined channels were released as early as 2024. This may reflect the ongoing transition toward an EV/Hybrid-dominated market environment, which also relates to the findings presented in Figure 1. The observed release pattern may correspond with increased attention to EV and hybrid vehicles, although it may also reflect market availability, creator strategy, or model release timing.

Figure 3 compares the number of likes per 1,000 views across the three examined powertrain categories.

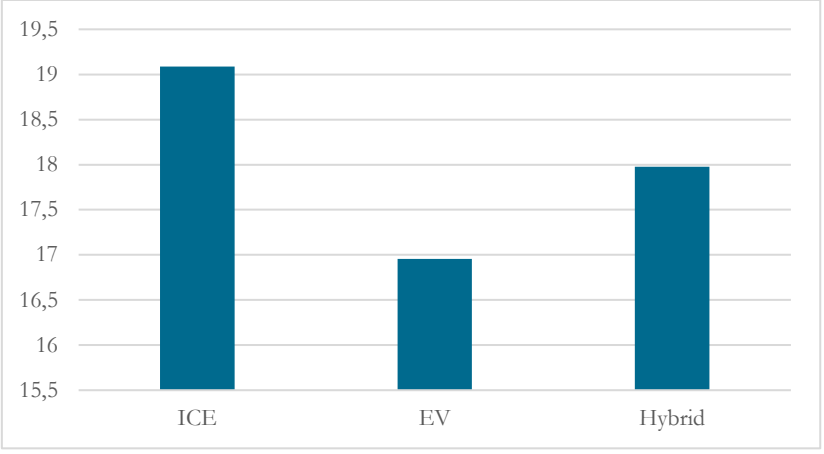

Figure 3: Likes per 1,000 views by powertrain category
Source: own processing.

To ensure comparability, the number of likes was normalized per 1,000 views in Figure 3. Although ICE vehicles received the lowest overall view counts and are currently less frequently reviewed, they performed best in this metric, achieving 19

likes per 1,000 views. Hybrids reached 18 likes per 1,000 views, while EV videos achieved 17 likes per 1,000 views. Given the relatively small differences between the categories, no conclusions can be drawn regarding relative popularity based solely on this metric.

Figure 4 compares the number of comments per 10,000 views across the three examined powertrain categories.

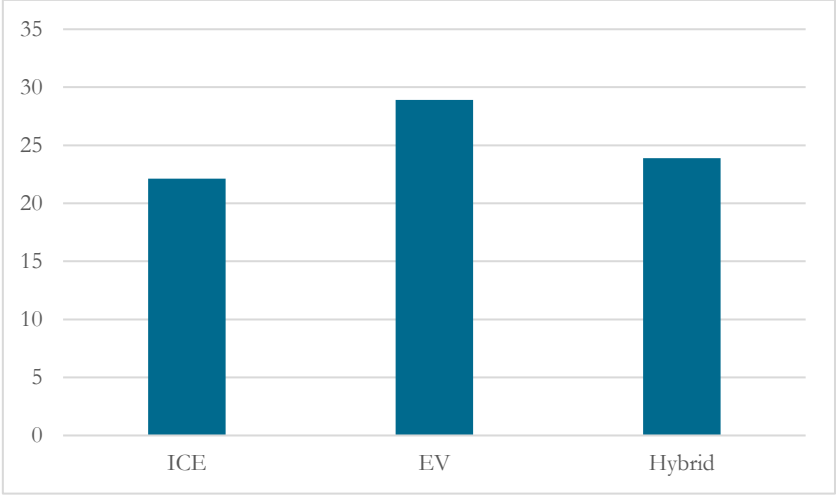

Figure 4: Comments per 10,000 views by powertrain category
Source: own processing.

Due to the lower absolute number of comments, the data were normalized per 10,000 views in Figure 4. In contrast to Figure 3, the ranking differs, with ICE vehicles placing last at 22 comments per 10,000 views, hybrids at 24 comments per 10,000 views, and EVs at 29 comments per 10,000 views. While the difference between ICE and hybrid vehicles is minimal, EV videos generated approximately 31% more comments per 10,000 views compared to ICE vehicles, suggesting that EV-related content may stimulate more audience discussion. However, this should not automatically be interpreted as positive engagement, as comments may also reflect criticism, controversy, or debate.

Figure 5 examines another important variable that may influence view performance: video length.

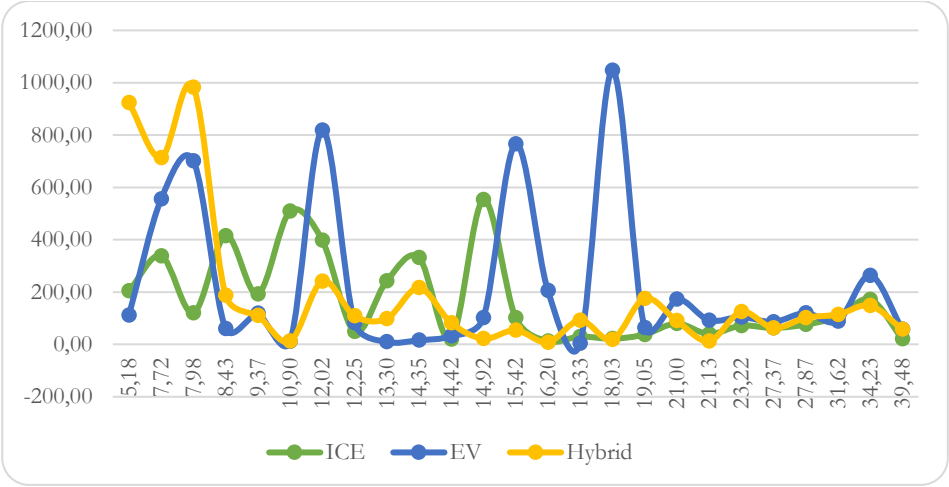

Figure 5: Relationship between video length and views per 1,000 subscribers
Source: own processing.

Figure 5 illustrates the relationship between video length (X-axis) and normalized views per 1,000 subscribers (Y-axis). The results suggest that viewers generally prefer shorter videos, regardless of powertrain type. Based on the data, videos longer than 15 minutes do not appear to generate higher performance in the ICE and hybrid categories. However, EV reviews demonstrate relatively strong performance even within the 15 to 20 minute range. Overall, shorter videos appear to represent the prevailing trend across categories. Therefore, creators should prioritize concise, information-rich content rather than artificially extending video duration to include excessive detail.

3.2 Statistical testing

3.2.1 Differences between powertrain categories

The Kruskal-Wallis test was used to examine whether ICE, EV and hybrid videos differed significantly in the selected engagement indicators in Table 1.

The Kruskal-Wallis tests did not identify statistically significant differences between ICE, EV and hybrid videos in views, likes, comments or combined engagement. Although EV videos achieved the highest average view performance and comment

intensity, these differences were not statistically confirmed in the examined sample. Therefore, the results should be interpreted as descriptive tendencies rather than evidence of clear performance differences between powertrain categories.

3.2.2 Association between video length and engagement indicators

Table 1: Kruskal-Wallis test of engagement metrics by powertrain category

Metric	Test	H-statistic	p-value	Interpretation
Views per 1,000 subscribers	Kruskal-Wallis	0.029	0.985	Not statistically significant
Likes per 1,000 views	Kruskal-Wallis	0.035	0.983	Not statistically significant
Comments per 10,000 views	Kruskal-Wallis	1.659	0.436	Not statistically significant
Combined engagement per 1,000 views	Kruskal-Wallis	0.001	0.999	Not statistically significant

Source: own processing.

Spearman correlation analysis was used to examine whether video length was associated with views and engagement intensity in Table 2.

Table 2: Spearman correlation analysis of video length, views, and engagement

Relationship	Spearman rho	p-value	Interpretation
Video length x views per 1,000 subscribers	-0.303	0.008	Weak negative, statistically significant
Video length x likes per 1,000 views	0.294	0.010	Weak positive, statistically significant
Video length x comments per 10,000 views	0.472	<0.001	Moderate positive, statistically significant
Video length x combined engagement per 1,000 views	0.327	0.004	Weak positive, statistically significant

Source: own processing.

The results indicate that longer videos were associated with lower normalized view performance, but with higher engagement intensity among those who watched them. This suggests that shorter videos may be more effective for maximizing reach, while longer videos may attract a narrower but more involved audience that is more likely to like or comment on the content.

3.2.3 Relationship between reach and combined engagement

A further Spearman correlation was calculated to examine whether higher normalized view performance was associated with higher combined engagement per view in Table 3.

Table 3: Spearman correlation analysis of reach and combined engagement

Relationship	Spearman rho	p-value	Interpretation
Views per 1,000 subscribers x combined engagement per 1,000 views	-0.839	<0.001	Strong negative, statistically significant

Source: own processing.

The strong negative relationship indicates that higher reach did not translate into higher engagement intensity. Videos with broader reach may attract more passive viewers, while videos with lower reach may appeal to a more specific and responsive audience. This finding supports the need to distinguish between reach-oriented metrics and engagement-oriented metrics when evaluating automotive content performance.

3.2.4 Recognizability of powertrain type before clicking

The Mann-Whitney U test was used to examine whether videos in which the powertrain type was recognizable before clicking achieved different normalized view performance compared with videos in which the powertrain type was not clearly recognizable before clicking in Table 4.

Table 4: Mann-Whitney U test of powertrain recognizability before clicking

Metric	Recognition before clicking	n	Mean	Median	U-statistic	p-value	Interpretation
Views per 1,000 subscribers	Yes	46	224.68	107.20	705.0	0.683	Not statistically significant
Views per 1,000 subscribers	No	29	149.31	92.59	-	-	-

Source: own processing.

Although videos with recognizable powertrain type before clicking achieved a higher average number of views per 1,000 subscribers, the difference was not statistically significant. Therefore, the recognizability of the powertrain type alone cannot be considered a statistically confirmed driver of view performance in the examined sample. From a practical perspective, this suggests that explicitly communicating the powertrain type may be useful, but it is unlikely to be sufficient on its own; title attractiveness, thumbnail design, brand relevance and model novelty may play an equally or more important role.

4 Discussion

The empirical findings provide several insights into audience engagement with automotive review videos focused on ICE, EV and hybrid vehicles. Descriptive results suggest that EV-related videos achieved the highest average normalized view performance and the highest comment intensity. This indicates that EV content may currently attract higher digital attention and stimulate more audience discussion than hybrid and ICE content. This pattern is consistent with prior research emphasizing the increasing societal relevance of electromobility and the role of digital media in shaping consumer perceptions of mobility transition (Pérez-Moure et al., 2025). It also corresponds with findings showing that online discussions about EVs often involve infrastructure, performance, range and reliability concerns (Li & Ullah, 2025; Wyskwarski, 2024a, 2024b).

However, the statistical results require a more cautious interpretation of these descriptive differences. The Kruskal-Wallis tests did not confirm statistically significant differences between ICE, EV and hybrid videos in views, likes, comments or combined engagement. Therefore, the higher average performance of EV videos should be interpreted as a descriptive tendency rather than evidence of a statistically confirmed advantage of EV-related content. This finding is important because it suggests that powertrain category alone may not be sufficient to explain engagement performance. Other factors, such as the reviewed brand, model novelty, publication timing, title structure, thumbnail design or creator-specific audience characteristics, may also influence how automotive videos perform.

The results also show that different engagement indicators should not be interpreted in the same way. While EV videos achieved the highest average views and comments, ICE videos performed slightly better in likes per 1,000 views. This suggests that views, likes and comments may reflect different audience reactions. Views indicate reach and attention, likes indicate basic positive feedback, and comments indicate discussion intensity. A higher number of comments should not automatically be understood as positive engagement, as EV-related content may also generate debate, criticism or controversy. This interpretation is consistent with research showing that online discourse about EVs can include both supportive and skeptical reactions (Li & Ullah, 2025; Yıldız et al., 2025).

One of the most relevant findings concerns video length. Spearman correlation analysis showed that longer videos were associated with lower normalized view performance, but with higher engagement intensity. This suggests that shorter videos may be more effective for maximizing reach, while longer videos may engage a narrower but more involved audience. From the perspective of content creators, this means that video length should be adapted to the communication goal. If the aim is to maximize views and reach, concise and information-rich videos may be more effective. However, if the aim is to encourage discussion, explanation and deeper audience involvement, longer videos may still be valuable, especially in technically complex topics such as EVs.

The strong negative relationship between normalized views and combined engagement further supports the need to distinguish between reach and engagement intensity. Higher view performance did not automatically translate into higher engagement per view. Videos with broader reach may attract more passive viewers, while videos with lower reach may appeal to a more specific and responsive audience. This finding is particularly relevant for automotive brands and content creators, as it suggests that the success of online automotive content should not be evaluated only through view counts. Depending on the campaign objective, engagement intensity, likes, comments and audience discussion may be equally important indicators.

The recognizability of the powertrain type before clicking on the video also provides an interesting practical insight. Videos in which the powertrain type was recognizable before clicking achieved a higher average number of views per 1,000 subscribers

than videos in which it was not clearly recognizable. However, the Mann-Whitney U test did not confirm this difference as statistically significant. This suggests that explicitly communicating whether the reviewed vehicle is electric, hybrid or ICE may be useful from a content positioning perspective, but it cannot be considered a statistically confirmed driver of view performance in the examined sample. The attractiveness of the title, thumbnail design, brand relevance and novelty of the reviewed model may play an equally or more important role.

Overall, the findings suggest that audience engagement with automotive content is shaped by a combination of vehicle category, video characteristics and communication factors. EV content appears to generate higher attention and discussion in descriptive terms, but the statistical results do not support strong conclusions about the superiority of one powertrain category over another. Instead, the results indicate that creators should distinguish between different engagement goals: reach, positive feedback and discussion intensity. For automotive brands and content creators, this means that content strategies should not focus only on EV-related topics, but should consider a balanced portfolio of EV, hybrid and ICE content, adjusted according to the desired audience response.

5 Conclusion

This study examined audience engagement with YouTube automotive review videos focused on electric, hybrid and internal combustion engine vehicles. The analysis was based on 75 videos published by five established automotive content creators. The study compared selected engagement indicators, including views, likes, comments, video length, combined engagement and recognizability of the powertrain type before clicking on the video.

Descriptive findings showed that EV videos achieved the highest average normalized view performance and the highest number of comments per 10,000 views. This suggests that EV-related content may currently attract higher attention and stimulate more discussion than hybrid and ICE content. However, the Kruskal-Wallis tests did not confirm statistically significant differences between ICE, EV and hybrid videos in views, likes, comments or combined engagement. Therefore, the observed differences between powertrain categories should be interpreted as descriptive tendencies rather than statistically confirmed differences.

The results also showed that video length is an important content-related factor. Longer videos were associated with lower normalized view performance, but with higher engagement intensity. This indicates that shorter videos may be more suitable for maximizing reach, while longer videos may be useful when the aim is to generate deeper audience involvement, discussion and feedback. The analysis also found a strong negative relationship between normalized views and combined engagement per 1,000 views, suggesting that higher reach does not automatically lead to higher engagement intensity. For this reason, automotive content performance should be evaluated using multiple metrics rather than view counts alone.

The recognizability of the powertrain type before clicking was also examined. Although videos in which the powertrain type was recognizable achieved higher average normalized views, the difference was not statistically significant. This suggests that clearly communicating the powertrain type may support content positioning, but it should be combined with other factors such as attractive titles, thumbnails, model relevance and publication timing.

From a practical perspective, the findings suggest several recommendations for automotive content creators and brands. First, creators should not rely only on the powertrain category as the main driver of performance, since the statistical tests did not confirm significant differences between EV, hybrid and ICE videos. Second, creators aiming to maximize reach should prioritize concise, information-rich videos. Third, longer and more detailed videos may be useful when the goal is to stimulate discussion and engagement among a more involved audience. Fourth, creators should evaluate content success through several indicators, including views, likes, comments and combined engagement, because each metric captures a different form of audience response.

The study has several limitations. The sample was exploratory and included 75 videos from five selected European automotive content creators. The analysis did not control for thumbnail design, title structure, creator-specific audience characteristics, brand popularity, model novelty, publication timing or broader media context. In addition, sentiment analysis of comments was not conducted, meaning that comment activity could not be classified as positive, negative or neutral. Future research should therefore use a larger dataset, include more creators and countries,

examine additional content characteristics, and apply sentiment analysis to better understand the nature of audience reactions to EV, hybrid and ICE content.

Overall, the study contributes to a better understanding of how automotive content performs in digital media environments. While EV content appears to attract higher attention and discussion in descriptive terms, the statistical findings suggest that engagement is influenced by a broader set of factors. For future research and practice, it is therefore important to examine not only what type of vehicle is reviewed, but also how the content is presented, structured and positioned toward the audience.

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