



EXPLORING THE APPLICATION OF GENERATIVE AI BY YOUTUBE CONTENT CREATORS

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Abstract:

The purpose of this paper is to examine the effectiveness of text prompt-based AI tools for content creation within the online video sphere. The theoretical part of the paper provides an overview of prevailing trends in the online video industry, explaining features such as short and vertical videos, and offers a detailed insight into the concept of generative AI and how all the major video platforms regulate the use of this new technology.

The study's practical part displays the results of research carried out via a survey, involving 89 YouTube content creators. We asked these creators if they use artificial intelligence to help make different parts of their videos (like scripts, visuals, audio, and metadata). We also wanted to know if this AI-generated content changed how many people watched their videos and for how long they kept watching. The data gathered is shown in tables and carefully analyzed to determine which types of AI tools are the most beneficial for video creation.

Keywords:

Generative Artificial Intelligence, User-Generated Content, Video Content Creation, Online Videos, Video Platforms.

INTRODUCTION

During the period when dial-up Internet was common, people mainly exchanged information using texts and photos because videos took very long to load. Since high-speed internet started, people have increasingly been watching online videos, with statistics from 2023 revealing that 92% of internet users worldwide consume said content on a weekly basis, spending an average of 17 hours each week on this pastime. [1]

Video becoming the main source of entertainment and news has prompted the creation of numerous platforms that offer said type of content. Consequently, we are now in a time where the traditional way of watching television on big screens is changing to viewing through much smaller, handheld screens of mobile devices. [2]

The popularization of smartphones has created a really bizarre situation – horizontal aspect ratio videos were being displayed mostly on these types of devices, requiring viewers to turn them sideways so they could enjoy full-screen content.

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As per Drummond-Butt, statistics show that people nowadays typically hold their devices vertically about 94% of the time, meaning that vertical videos and ads tend to have a higher completion rate compared to those of a horizontal aspect. [3] The aforementioned trends led to the horizontal TV-like format being surpassed and replaced with a vertical layout, which is not just more pleasing but also, as noted by Zhang et al., provides extra ways of interacting while watching by using actions such as thumb up, collect, relay, and comment. [4]

Adapting content for vertical viewing shifts the users' gaze from top to bottom, eliminating the need to turn their smartphones sideways. [5] Therefore, many video experts point out the ease and approachability of vertical videos, noting that holding smartphones upright has turned into second nature for most viewers. [6]

The continually rising number of online videos has hugely shortened viewer attention spans, making them way less into longer content and prompting them to often switch between different platforms, channels, and topics to find whatever catches their eye next. Aware of this change, video platforms have implemented and begun to push the concept of short video.

The whole point of propelling short-form content is to keep up with today's quick-moving lifestyle. [7] Another feature that aligns short videos with contemporary trends is that they are tailored to be exceptionally mobile-friendly and therefore widely accessible. [8]

Over the last couple of years, using generative artificial intelligence (AI) in the process of creating online videos has become a quite popular strategy. Although this trend is widespread to the point that platforms had to adjust their guidelines to address it, there is still a noticeable lack of academic research on the topic, a situation that has motivated us to try and find out more about content creators' experiences with this new technology.

The structure of this paper is arranged in the following way. The first section serves as an introduction to the field of generative artificial intelligence. The literature review is split into three parts; sections two, three, and four. These sections describe what generative AI is, how video platforms see this new technology and the ethical considerations involved in its application. Section five goes over the methods used in our study, and section six contains research outcomes. The final section contains the conclusion and recommendations provided by the authors for further research.

2. THE CONCEPT OF GENERATIVE ARTIFICIAL INTELLIGENCE

Generative artificial intelligence is a novel term used to refer to various kinds of tools and platforms that operate using models that, when presented with text prompts, may generate apparently fresh and unique content, which is actually inspired by datasets used to train these models. [9] The author Kalota has explained that the core concept behind this technology lies in machine learning: a doctrine constructed on algorithms and methods that permit machines to acquire knowledge from data. [10] Pellas has recognized that generative artificial intelligence and machine learning give good contributions to video production process, mostly by sparking the creators' creativity and increasing the quality of their content. [11]

Nowadays, the use of generative artificial intelligence is mostly linked with video-sharing platforms, where this technology helps in producing all parts of content, beginning from audio (voiceovers or background music), scripts metadata (titles, hashtags, descriptions, tags), up to visuals (photos or smaller video clips integrated into the final video).

3. VIDEO PLATFORM PERSPECTIVES ON GENERATIVE ARTIFICIAL INTELLIGENCE

The market for online video platforms is getting bigger all the time: in 2021, it had a value of 7.21 billion US dollars and predictions say it will be worth USD 30.05 billion by 2030. [12] The idea that videos can make money through ad-powered monetization has opened up huge opportunities - now they are not just used to sell something but also become products per se.

Individuals who want to post videos online have two main choices for making their content: the first choice is to record and edit completely new material, and the second one is to use already existing things like footage and photos and combine them into something unseen and unique by using the power of storytelling. This approach is pretty common among people who wish to create content without appearing on camera. A faceless channel is essentially creators saying "no" to being on screen, placing the spotlight on the content itself, and going for voiceovers, stock footage, animations, and such to get their message across.



All major video platforms allow the monetization of no-face content as long as it is copyright-free and adds value to the elements put together to make a video. As Youtube puts it, the idea behind their policy is to ensure they reward creators whose content is genuine and adds value to viewers, which, in terms of content not originally created, involves transforming it with a humorous or insightful spin. [13] TikTok has similar rules, which suggest that they want to reward original content of good quality. [14] From their perspective, being original doesn't always mean recording a video yourself; it can also be about taking something that already exists and changing it so it becomes something different and unique. Nowadays, with the overflow of online video content, creators are increasingly turning to generative AI tools to try and shine through the competition.

4. THE ETHICAL ASPECTS OF GENERATIVE AI

The use of generative AI brings forward several moral dilemmas since it is an emerging technology that lacks suitable control from legal regulations in most countries, making it prone to different means of misapplication. Video platforms have pretty much recognized the importance of this issue, as evident from YouTube's statement that highlights both the significance of generative AI in transforming creators' expressive potential (from just coming up with ideas to trying out tools that enhance creativity) and the concern of viewers who increasingly want more transparency regarding whether the content they're watching is altered or synthetic. [15]

Tools based on generative AI algorithms undoubtedly have the potential to assist creators in the video crafting process by unlocking many fresh and creative ideas, an advantage that also raises serious ethical issues related to data security, copyright, ownership, plagiarism, and the creation and circulation of falsehoods. [16]

All major video platforms and social networks have found themselves obligated to address generative AI issues and clearly state what is allowed and what isn't, not only due to user concerns but also to meet advertisers' expectations and comply with local laws.

Monetized channels on YouTube, the leading video-sharing platform, earn 55% of the revenue generated by ads shown on long form videos and 45% of the revenue generated from ads in the shorts feed. [13] As advertisers are only willing to link their brands to family-friendly content, YouTube has crafted an extensive set

of guidelines that point-by-point explain what type of content and language can lead to losing Partner Program member status. [13]

Generative AI has advanced so much in terms of realism that YouTube vice presidents revealed in November 2023 that they were preparing a system that will require creators to disclose when they've used AI to make convincing content. The system became effective on March 18, 2024, and operates by displaying a label indicating AI-generated content in the expanded video description, except for content dealing with sensitive topics, which shows a more prominent label directly on the video. [17] TikTok has also acted promptly to address this issue by announcing that creators can mark content as AI-generated directly in the video by adding text or a sticker, as well as explaining the context in the description. [18] Meta, the company behind Facebook, Instagram, and Threads, joined in by announcing they will start labeling content made by AI from May 2024, revealing as well that they plan to revise their previous rule about removing deepfake videos by July of the same year. [19]

5. METHODOLOGY

The research into content creators' experiences with generative AI was conducted electronically via a survey made using the Google Forms platform. Participants were chosen through convenience sampling among creators who maintain channels on YouTube, the biggest and most well-known platform that provides many options for integrating new technologies. The prerequisite for participating in the research was previous experience with generative AI in the context of video content creation. Responses were gathered from 89 individuals between April 3 and April 12, 2024. Every participant had to answer all questions, making sure there were no questionnaires left unfinished.

When it comes to who took part in the survey, 53.9% of respondents stated they are male and 46.1% stated they are female. The majority of the persons interviewed were between the ages of 18 and 45 years old, with 16.9% aged 18-25, 36% aged 26-35, and 28.1% aged 36-45. Yet, the number of content creators above 45 years old was much lower; they formed just 19.1% of the sample (12.4% aged 46-55, 5.6% aged 56-65, and just 1.1% aged 66 and above). Participants were not asked about their place of residence since YouTube's Partner Program covers almost the entire world, with the same rules applying to all countries.



Additional questions were asked to understand how experienced respondents are when it comes to creating and publishing videos for YouTube. When asked about the number of subscribers across all their YouTube channels, most of them said it was between 10.000 and 100.000 (25.8%), and the next most common response was from 1.000 to 10.000 (22.5%). The third most common range was 100.000 to 500.000 (15.7%). Following closely were those with 500.000 to 1.000.000 and less than 1.000 subscribers, both groups representing 12.4% of the sample. Respondents with over 1.000.000 million subscribers were the rarest group, making up 11.2% of those surveyed. Regarding the type of content they publish, the majority selected shorts (40.4%), while those who rely solely on long videos made up 25.8%. Creators posting both short and long videos accounted for 33.7% of the sample. A question was also posed about membership in the YouTube Partner Program, with 70.8% of respondents indicating they belong to this program and 29.2% responding they don't monetize their content.

6. RESULTS AND DISCUSSION

The questions related to generative AI were divided into two parts. In the first part, respondents were asked to assess how the usage of this new technology helped their videos get more reach and views. Essentially, they were asked to evaluate how generating scripts, audio, and visual elements of content, as well as metadata, impacted the algorithm and the extent to which YouTube recommended videos and contributed to their popularity. Responses are shown in Table 1.

The results show that most of the respondents, 77.5%, have tried using AI to create metadata. Also, a substantial number of them (76.4% in both cases) stated that they used AI for crafting scripts and visual elements of their videos. Respondents had the least experience with using generative AI to create audio recordings (only 47.2% of them used AI tools for this purpose), which was somewhat expected as in the past YouTube tended

to demonetize channels that used synthetic voices to narrate their stories, and still hasn't explained whether that policy has changed or not, with users reporting conflicting experiences.

A substantial 59.6% of those taking part in the research said that they felt AI-generated metadata helped them to increase their reach and views. This result is somewhat anticipated because, when supplied with a video topic or script, AI can create good titles and write descriptions, along with giving long lists of tags and hashtags. These are usually tasks that individuals tend to neglect or rush through when working without the help of said tools.

The majority of sample members feel that using AI-generated visuals benefits their growth (this is expressed by 57.3% of them). This implies they think YouTube would be more inclined to suggest and therefore lead to an increase in views for videos utilizing synthetic images within thumbnails or inside the video. In contrast, respondents who believe AI-generated audio affects reach and views are more likely to see this impact as negative (16.9%) than positive (9%), an outcome that is in line with YouTube's unclear position on this form of generative content.

For 30.3% of the content creators who took the survey, scripts written by AI are seen as something that can help get more people to find and watch their videos; however, 25.8% of respondents see them in a negative light. This difference in opinion might be related to how good the creators are at brainstorming ideas and writing. YouTube's algorithm promotes content that is predicted to be interesting for viewers, so scripts made with the help of AI might be more helpful to those who haven't been lucky enough to come up with good ideas and write down engaging scripts on their own. Negative experiences might originate from respondents whose own ideas turned out to be more interesting and therefore viral than what the AI produced for them.

The second set of questions also examined the impact of AI-generated scripts, visuals, audios, and metadata, but in terms of viewer retention. Responses are shown in Table 2.

Table 1. Experiences of YouTube content creators with generative AI tools in terms of reach and view count.

Type of content	Had a positive experience	Had a negative experience	Thinks it had no impact	Hasn't used AI for this purpose
Scripts	30,3%	25,8%	20,2%	23,6%
Visuals	57,3%	5,6%	13,5%	23,6%
Audios	9%	16,9%	21,3%	52,8%
Metadata	59,6%	5,6%	12,4%	22,5%



While most respondents said that AI-generated metadata helps them gain a wider reach and more views, most of them (55.1%) believe this type of content doesn't really affect viewer retention, an outcome that makes sense because metadata offers extra details about the videos but isn't directly related to what viewers are watching. Also, 59.6% of the sample thinks that AI-created visuals help in retaining their viewership —a result that isn't surprising at all. Given the ability of current apps to create almost any idea in numerous styles and frequently with high realism, this feeling is understandable.

From what respondents have stated, it seems that AI-generated audio has a more negative effect on viewer retention (19.1%) compared to a positive influence (14.6%). This means people still like real human voices better, even if they don't sound perfect in tone or pronunciation, over artificial voices which can sound perfectly correct but at the same time too boring. Opinions on whether AI-generated scripts help keep viewers interested are once again contrasting - 33.7% think they have a positive impact while 31.5% say their impact is negative. This might depend on how well creators can make up stories and write prompts for the AI to follow.

7. CONCLUSION

In our research, we found that most content creators have tried out generative AI tools, finding them highly useful for creating metadata and visuals that are able to capture and sustain viewer interest. But when it comes to writing scripts with AI, they have contrasting views on whether it is useful to do so or not. Also, most of them claim that audio made by AI doesn't perform well in terms of attracting and retaining viewers. These results indicate that YouTube does not have a unified stance on AI-generated video elements, and that its algorithm sees certain types of AI content as good quality while perceiving others as spam or unoriginal, thus choosing not to push videos that contain them. It should also be mentioned that the perspectives and experiences

of people who took the survey may have been to some extent shaped by their abilities, with those not so good at creating content and its parts feeling happier with AI solutions than very skilled individuals. To get a clearer picture of how useful generative AI is for making online videos, it would be necessary to survey a bigger pool of creators and investigate their results across all major video platforms because they have differing algorithms and rules regarding synthesized content. We suggest these steps as future research guidance. To sum up, we can draw the general conclusion that generative AI is certainly a technology of the future that can successfully replace human work in more than one aspect of the video crafting process, leading to a transformation of the user experience to such an extent that all major platforms have had to regulate it with guidelines, a task that in the near future will also need to be addressed at the national legislative levels.

Table 2. Experiences of YouTube content creators with generative AI tools in terms of viewer retention.

Type of content	Had a positive experience	Had a negative experience	Thinks it had no impact	Hasn't used AI for this purpose
Scripts	33,7%	31,5%	11,2%	23,6%
Visuals	56,9%	4,5%	12,4%	23,6%
Audios	14,6%	19,1%	13,5%	52,8%
Metadata	55,1%	14,6%	7,9%	22,5%



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