Content Creation with GenAI: Use Case on ClimaClic´s Instagram Marketing

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Abstract. The availability of generative artificial intelligence (GenAI) tools has substantially increased, resulting in numerous positive impacts on the marketing sector. However, issues related to misinformation and deepfakes, biases and fairness, privacy, and ethical concerns, among others, have been highlighted. This research aims to examine the effects of utilizing GenAI for text, image, and audio creation in Instagram marketing. Employing the Customer Experience Tracking method, the study evaluated the differences between traditionally created and AI-generated Instagram Reels. The findings indicated that AI-generated content can garner higher levels of user attention, thereby enhancing brand interest. Negative effects such as mistrust or ethical concerns associated with AI were not substantiated in this study. These results suggest that companies can enhance their social media campaigns by integrating AI tools for content creation.

Keywords: Content Creation; CXT; GenAI; Instagram Marketing

1 Introduction

The recent widespread of ChatGPT and other GenAI tools has highlighted its vast array of use cases [1]. The emergence of large language models (LLMs) has made AI-powered user interfaces accessible to ordinary users, thereby increasing interest in the use of artificial intelligence [2]. In the marketing context, GenAI offers the potential to overcome important productivity limits by increasing the quantity of content without sacrificing the quality and vice versa. GenAI can assist in generating high-quality content across various modalities, including text, images, and certain types of videos [3].

Nevertheless, the use of GenAI agents has also raised concerns about the challenge of differentiating between human and AI authorship and has renewed discussions about the significance of traditional human endeavors [4]. Also, companies are concerned about the brand reputation and the trust of consumers in the technology and brand. Recent research in content marketing found that questions on how GenAI can be applied in the realm of visual advertising need to be addressed [3], especially focusing on the reaction of consumers on AI-driven manipulated advertising [5]. With this background, the present study aims to explore the impact of AI-generated Instagram content on customers.

We contribute to the debate on the use of GenAI in content marketing in several ways. We first test GenAI-tools for Instagram content creation. Based on our findings, then we assess and discuss the acceptance of this content for applied Instagram marketing. Another contribution lies

in the setting of the research; extant studies are of conceptual nature while this paper provides empirical evidence. The present use case is part of a postdoctoral industry-company collaboration between Offenburg University and BurdaDirect, which is a division of Hubert Burda Media, one of Germany's largest publishing houses. This use case was developed for ClimaClic, a social lottery with focus on climate projects under BurdaDirect, as part of the applied marketing project within the Marketing Management course of the Dialogue Marketing and E-Commerce Master's Program at Offenburg University.

The remaining part of the paper is organized as follows. In the second part, we explain the concept of content creation with GenAI and describe the situation of the German social lottery market building the theoretical framework of this paper. Afterwards, in the methodology part, we discuss the experimental setup of the study and provide information on the design of the study and participants. After that, we present the results of the study followed by a discussion of these. The paper closes with a conclusion providing main findings, practical implications, future avenues as well as limitation of the study.

2 Theoretical Framework

2.1 Content Creation with GenAI

According to their systematic literature review, AI is playing an increasingly significant role in the content creation domain of advertising [5]. Studies in this domain emphasize GenAI´s potential to improve marketing communications, especially content marketing and content design [6], [7]. What sets GenAI apart as groundbreaking is its capacity to enhance the value system of marketing content management Recent developments have shown that GenAI can overcome the quality-quantity trade-off through the generation high-quality content across different content types.

GenAI allows to generate new, original content by learning data distribution patterns [8]. Large Language Models (LLMs) enable the understanding and production of text the processing of inputs and the prediction of the next word or token (part of the next word) in a sequence. In November 2022, OpenAI made the generative pre-trained transformer (GPT) ChatGPT available to the public; GPTs utilize large databases of text as input, train the model using a self-supervised language modeling objective, and employ reinforcement learning from human feedback [9]. This methodology enables LLMs to emulate human response behavior [10], [11].

GenAI's specific applications in advertising content creation primarily involve three modules: image/video creation, copywriting, and content planning [12]. AI can generate custom images and certain kinds of videos in real-time based on individual user data and preferences, enhancing personalization and engagement [8].

While AI possesses the potential to transform the advertising industry, it also introduces challenges and ethical concerns. A primary challenge is the potential for biases embedded within training data, which could result in unfair or discriminatory targeting and dissemination of information. Another concern pertains to privacy; advertisers must ensure transparency and ethicality in the gathering and utilization of consumer data, respect privacy rights, and provide

clear opt-out options. Moreover, AI technologies raise concerns related to accountability and trust, posing regulatory and legal challenges [5].

2.2 Social Lottery Market in Germany

The German social lottery market is characterized by a variety of lotteries aimed at supporting social causes. These lotteries not only provide entertainment but also contribute to societal benefits such as environmental protection, education, and community development. In 2024, there are 8 permitted social lottery companies listed on the whitelist of permitted gambling providers in Germany: Aktion Mensch, BildungChancen, Chariety (Locasa), ClimaClic, Deutsches Hilfswerk Stiftung des Bürgerlichen Rechts (Deutsche Fernsehlotterie), DoGood (Onestly), Dreamify (Traumhausverlosung), Gewinnsparverein, Postcode Lotterie [13].

According to the 2022 annual report of the German Gambling Authority, social lotteries have a market share of 5.5% in the permitted market. The share of products in gross gaming revenue is distributed as follows: 59% Aktion Mensch, 21% Postcode Lotteries, 19% Deutsche Fernsehlotterie, and 2% Others [14]. The most prominent social lottery is the Aktion Mensch, established in 1964, which focuses on improving the lives of people with disabilities and promoting social inclusion [15]. The German Postcode Lottery is a social lottery that raises funds for charitable causes by allowing participants to win prizes based on their postal codes [16]. Another example is the Deutsche Fernsehlotterie, which has been operating since 1956 and supports various social projects [17].

2.3 Use-Case ClimaClic

In recent years, there has been a growing interest in climate-focused lotteries. ClimaClic, was founded in 2022 by the non-profit ClimaClic gGmbH, is a social purpose lottery dedicated to funding climate projects. To maintain non-profit status, ClimaClic must prioritize social impact over financial gain, in accordance with regulations from the Joint Gambling Authority. Consequently, organizers must be non-profit entities, as is the case with ClimaClic gGmbH. Burda Direct GmbH, on behalf of the organizer, handles the execution of the social lottery [18].

ClimaClic operates exclusively online and offers three different ticket types, each corresponding to separate prize categories and supporting projects in areas such as Nature & Landscape, Environment & Resources, and Education & Research [18].

Despite the emergence of new social lotteries, the market share of climate-focused lotteries remains relatively low, at less than 1%. Therefore, there is a pressing need to reinforce brand communication through technology-driven campaigns. This is central not only for customer acquisition but also for long-term customer retention amidst competition within the media and entertainment industry, where Burda Direct operates.

Social media platforms provide affordable options to reach a wider audience and are therefore especially important for ClimaClic as the brand is relatively new in the market and has a low level of brand awareness among lottery players. Thus, in the present use case the specific example for Instagram was chosen.

3 Methodology

To answer the above defined research question, a qualitative study using the at Offenburg University developed Customer Experience Tracking (CXT) method has been chosen. CXT integrates advanced technologies and novel research methods to pinpoint and assess consumer needs, enhancing product and service performance. Its innovative approach centers on merging established user experience measurement techniques with valid emotional response metrics during the purchasing journey. The CXT process included the following steps: (1) Kick-off meeting where a group of Offenburg University´s professors and researchers, the students of the Marketing Management course and Burda Direct´s ClimaClic team initiated the project, (2) Expert evaluation of previously selected best-performer Instagram content through the project team, (3) Research design and stimuli including the selection of GenAI-tools, reel generation with GenAI-tools, preparation of the questionnaire, in-depth interviews and testing scenario (4) Data gathering, (5) Data analysis.

3.1 Expert evaluation

As part of the expert evaluation, top-performing reels and the presence of ClimaClic on Instagram were analyzed by the project team. Regarding the top performing reels, the following areas of opportunity were identified: (1) The reels contain a vast amount of content including various text bubbles which are displayed in quick succession which make it difficult to understand the message, (2) the reels lack in using auditive stimuli such as music or voice-overs (3) The focus of the reels lies on winning in combination with traveling - less on the lottery's USP which is climate protection, (4) The call-to-action (CTA) is always "Buy Now" which tend to be hardly achieved in early stages of the digital funnel.

About their Instagram page, ClimaClic has had few interactions (e.g., likes or comments) by the time of the study. The few comments under the posts highlight the principal pain point of the users: lack of trust in the company or product.

3.2 Research design and stimuli

To address the presented research question, a qualitative research design was chosen. The aim was to analyze an existing Instagram Reel, create and evaluate a new Instagram Reel using GenAI tools. The study comprised two main parts: (1) content creation with GenAI tools (stimulus) and (2) the research design permitting the evaluation and comparison of the two reels.

For content creation, existing GenAI agents for text-, image-, and voice-generation were evaluated. Video generation was not pursued at this time due to limited alternatives. For the final reel, ChatGPT-4o was employed to generate ideas for the storyboard, captions and hashtags of the reel. All the prompt results were verified and manually improved before implementation to ensure a better match with the brand´s identity. Midjourney v6 was used to produce a series of images. As AI video production was no option to this point due to the limited alternatives, the idea was to generate a series of images for the reel. According to the ideas generated in the storyboard, these images should show a couple that matches with the characteristics of the target audience. To show the same person in different settings, character reference (cref-function in Midjourney) was applied (Figure 1). The initial prompt used for the character reference function

was the following: "*a realistic full body portrait of two people, Tom and Lucy, a happy married couple in their mid-fourties. Lucy with brown shoulder long hair, Tom with short black hair with grey strands. Tom is taller than Lucy and is wearing a watch. Create multiple poses and expressions, high resolution, white background, white floor--ar 9:16--style raw--v 6--stylize 50.*"

Fig. 1. Midjourney (v6) character references in different settings [19]

However, the outputs were not free of errors. Figure 2 illustrates outputs from different prompts that exhibited suboptimal results, such as the appearance of additional personas that were not requested, unrealistic and deformed body parts and objects (chairs, benches), disproportionate body parts like giant hands (with the inclusion of a key in the prompt), and outputs that were not photo-like.

Fig. 2. Midjourney (v6) character references fails for different prompts [19]

Elevenlabs was utilized for audio generation to create the voice-over for the reel. Eleven Multilingual v2 offers a selection of voices for text-to-speech conversion. Not all voices performed equally well. For the final reel, the voice of Serena performed best and was the most suitable for the brand's requirements.

After the content creation with the AI tools, the research design was defined. The research design comprised three different methods: (i) neurophysiological measures of visual attention through eye-tracking technology recorded during the visualization of the stimuli, (ii) an online survey administered before and in between the different stimuli, and (iii) an in-depth interview conducted after the testing. Participants' visual attention was recorded using fixed eye-tracking equipment available at the lab. Furthermore, the lab disposes two additional cameras and the screen recording that recorded the participants and their reactions in different angles. A total of three short online surveys were administered to the participants before and during the experiment, immediately following exposure to each stimulus. The first questionnaire aimed to gather sociodemographic information and behavioral data on gambling and Instagram use. The second and third questionnaires focused on attitudinal and behavioral data. All surveys were presented using Lamapoll. The experiment concluded with a semi-structured in-depth interview. The interview guide comprised a total of 14 questions on attitudinal and behavioral data, including the recall and level of understanding of the displayed message, the comparison of the videos addressing the perception of differences (e.g., the use of voices, embedded text in the video), the use of AI, the purchase intention related to AI-generated content, and concrete proposals for improvement. To minimize distractions, the whole procedure was carried out in the Customer Experience Tracking Laboratory at Offenburg University.

3.3 Data gathering and analysis

For the sample, participants were selected based on the criteria of the buyer personas provided by ClimaClic. These criteria included an age range of 34 to 65 years, residence in Germany, a gross income of over €3,500 per month, an affinity for lotteries, and active engagement with social media. The final sample included 14 participants including 4 participants from 34 to 45 years, 4 participants from 46 to 55 years and 6 participants from 56 to 63 years old. Data was collected between May 27th and June 7th, 2024. All participants explicitly gave their consent to participate in the study and to use their data for this study.

The eye-tracking data was analyzed using Tobii Lab Pro software, which provided detailed insights into participants' visual attention patterns. The questionnaires were systematically processed and analyzed using Microsoft Excel to extract and interpret the descriptive data. For the in-depth interviews, a thorough content analysis was conducted to identify and categorize recurring themes and insights. To ensure a comprehensive understanding, data triangulation was employed, integrating the results from the eye-tracking analysis, questionnaires, and in-depth interviews. This multi-method approach allowed for a deep and multifaceted interpretation of the findings.

4 Results

The CXT method facilitated the evaluation of both Instagram Reels. The results for the traditionally generated reel aligned with the pain points identified in the expert evaluation. Participants noted that the reel was too short, and the message was unclear. They struggled to understand the connection between the images and the product, leading to confusion about the product offering and reduced trust and interest in the brand. According to the questionnaire results, the reel did not spark interest in learning more about the brand. The results also indicated that a video without audio is less appealing.

Although participants did not immediately recognize the use of AI for text, image, and audio generation, their perceptions varied across different content types. Interestingly, participants found the AI-generated reel's message and overall presentation more attractive. The AI-generated text helped participants better understand the product offer and increased their interest in the brand and its offer. However, participants found the images less appealing; the images featured a couple created with character references to place them in various settings, but the couple appeared older than the requested mid-forties age. The participants perceived the AI-generated couple as "old" and "little attractive". Regarding the audio, participants found the inclusion of a voice-over essential for following the information, initially not recognizing its artificial nature, though they later noted that the voice sounded somewhat unnatural. The inclusion of subtitles for the spoken part was perceived as positive and helpful.

Although having viewed the two different reels that included the brand's name, 71% of the participants did not recall the name. Participants stated that they remembered the second reel (the AI-generated reel) more, primarily due to auditory factors such as the voice-over and music.

Regarding whether participants noticed that one of the two videos was AI-generated, 13 out of 14 participants did not initially recognize the artificial nature of one of the videos. After asking them directly which one of the videos they thought was AI-generated, five out of 14 participants noticed that the second reel was AI-generated, one participant thought the first reel was AI-generated, and eight participants did not have a clear preference. After revealing which reel was AI-generated, 12 out of 14 participants indicated that the use of AI for content generation did not affect the brand's credibility. No one perceived the AI-generated content as a limitation to the company's credibility. Nearly half (6/14) would still buy a lottery ticket despite the AI-generated content. The participants who would not buy a lottery ticket expressed doubts about the brand's legitimacy, raising questions such as whether the money really goes to climate protection, if it is actually possible to win, and if the brand is legitimate.

Regarding improvements, participants stated that they would have liked to know more about the climate projects, have links to additional information, understand the percentage of money that goes to climate partner organizations, and receive information about the company itself. Furthermore, some participants mentioned the use of seals for trustworthiness.

5 Discussion and Conclusion

GenAI is a technological innovation transforming content marketing. However, despite its immense promise, there are still limitations that need to be acknowledged and addressed such as privacy concerns, ethical dimensions, and consumers' potentially negative attitudes towards GenAI in advertising. Overcoming these limitations is essential for marketers to effectively implement GenAI into their operations.

The objective of this research was to identify the impact of AI-generated text, images and audio on the customers' experience on Instagram. We tested ChatGPT, Midjourney and Elevenlabs for the created of an Instagram Reel and detected some limitations such as inaccurate text, image and speech output.
Although we support the idea of the disappearance of the quality-quantity trade-off in content marketing [3], [12], we acknowledge the gradual nature of this process. It still requires a

relatively high level of human verification, indicating that full automation of content creation is not yet recommendable. We especially highlighted the examination of different Midjourney outputs and their limitations for the use in advertising; this empirical use case helps to contribute to the call for research in content marketing, focusing especially on the use of GenAI in visual advertising [3].

Furthermore, we employed the CXT method to evaluate the differences between traditionally created and AI-generated Instagram Reels. The findings indicated that AI-generated content can capture higher levels of user attention, thereby enhancing brand interest. Particularly, the use of voice-overs was perceived positively, confirming the findings of [12] regarding the capability of GenAI-generated human-like speech to enhance the advertising experience. Negative consumer attitudes, such as mistrust or ethical concerns associated with the use of AI for generating Instagram Reels for a social lottery, were not substantiated in this study. With these insights, we shed light on the call for research to investigate consumer attitudes towards the use of GenAI in content creation [6].

The findings suggest five recommendation actions for integrating GenAI into social lottery communication.
(1) Inspire Trust. Deliver relevant data about the core objectives of the social lottery. This can be supported by testimonials, numbers, data, and facts related to the usage of money and its impact on climate protection.
(2) Include Seals of Trust. Integrate trust seals into communication content. It may be necessary to create a social lottery seal initiative, as such an instance does not currently exist.
(3) Leverage Multimedia. Explain the social lottery using all commonly available media on Instagram, such as voice, music, videos, and text.
(4) Align with Target Group Values. Identify the value attitudes of your target group and use appropriate signals for your new brand to achieve optimal value positioning for your social lottery offer.
(5) Personalize Content with GenAI. Utilize GenAI based on user data files to personalize content communication. While this requires time and interactions, customers can be better attracted by delivering exactly the information they expect.

This study offers a preliminary assessment of the use and implementation of GenAI in social media marketing for social lotteries. Companies may find this information valuable as many are in the process of evaluating this technology. Consumer responses in a laboratory setting are an important consideration before deciding on implementation. Nonetheless, the research has its limitations. To achieve a more comprehensive understanding of the acceptance and reaction to AI-generated content, additional testing is required. We suggest a quantitative approach testing different concerns with respect to AI in content marketing and direct effects to the purchase intention or credibility of the brand. Furthermore, the number and variety of participants should be increased to cover different customer profiles of the brand.

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