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THE IMPACT OF BRAND-VOICE INTEGRATION AND ARTIFICIAL INTELLIGENCE ON SOCIAL MEDIA MARKETING

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ABSTRACT:

Corporate identity plays an important role in the success and competitiveness of businesses in today's dynamic business environment. It encompasses brand identity, organisational culture, values, and reputation, and is key in building relationships with stakeholders. An ethical corporate identity, in particular the perception of a company as ethical and socially responsible, positively influences employee behaviour and engagement. Artificial Intelligence (AI) has revolutionised business management and offers innovative solutions to improve decision-making, efficiency, and transparency. Integrating AI into corporate governance can improve risk management, compliance, and accountability. In the digital age, social media are key in building and maintaining the brand voice of businesses. With the advent of AI, new tools such as Chat GPT have emerged to simplify and accelerate content creation, including social media posts. However, achieving satisfactory brand-voice results using AI requires careful analysis and extensive, representative data that travels into the prompter. Although AI-generated content is fast, it should be vetted by experienced experts to ensure it aligns with brand values and brand image. Although Chat GPT promises to generate content and brand-voice, its successful use requires collaboration with experienced experts and thoughtful consideration of its use in building and maintaining an authentic and effective brand-voice.

KEYWORDS:

artificial intelligence, brand communication, brand perception, brand-voice integration, social media marketing

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1 Introduction

A few years ago, smart technologies typically applicable in sectors such as transport, energy, space, or medicine were mentioned in the context of AI use (Bundin et al., 2018). It was also assumed that certain fields – especially creative activities – would be the domain of humans (Knihová, 2021) in the long term and would not be significantly affected by the advent of AI. However, the launch of generative models (both textual and visual) has shown that, when it comes to creative activities, the opposite is true. The way AI handles both text and image is forcing researchers to rethink their approach to text and image creation and processing, which, among other areas, is having a significant impact on marketing.

The Impact of AI on Marketing

Despite the strong emotions stirred up by the launch of GPT Chat and the subsequent expansion of various tools built on its algorithms, the fact remains that AI has played a fundamental role in marketing for several years now. AI tools help marketers create better products, deliver more relevant advertising, and understand patterns of audience data (Priyanga, 2023). Likewise, the findings of other research confirm the wide-ranging impacts on marketing communication (Al Hussein, 2023). “They are used to analysing consumer behaviour, preferences and trends, enabling businesses to tailor their marketing messages and offers to specific target audiences” (Murár, 2023, p. 353). They simplify social media management, graphic design, content creation, and customer service (Priyanka et al., 2023). Customer service, for example, is an area where AI integration is essential as it allows for a significant reduction in the cost of ongoing support. In fact, AI can answer customer queries quite well without human intervention (Mao, 2023). Another area in which AI algorithms are often used is campaign management, including planning, marketing design, implementation, and evaluation (Nirwana et al., 2023). As Shaik (2023) mentions, AI helps in understanding the target audience, tailoring marketing content, analysing consumer behaviour, and effectively monitors the performance of advertising campaigns. “With the advent of generative AI, another field that seems to have a great future ahead of it somewhat unexpectedly emerges – copywriting and content creation” (Murár & Kubovics, 2023, p. 662). In the context of LLMs (Large Language Model) such as GPT, but also models that transform text into images (e.g., MidJourney), a new term *prompt* has emerged, which refers to the instruction of a human to an AI to obtain the desired output from it. According to White et al. (2023), a prompt can influence subsequent interactions with LLMs and the generated output by providing specific rules and instructions, with context setting being extremely important – defining what information is important and what the desired form and content of the output should be. Although the essence of prompting is the same – specifying the type of output and guidelines as to what it should look like – the structure of the prompts for each AI type can be very different as can be clearly seen, for example, when comparing the prompts for ChatGPT and some of the text-to-image AIs (e.g., MidJourney). Also, the relevance of the output data is important for the correct perception by the target audience (Kubovics et al., 2021). It is for this reason that it is important to correctly define all aspects that may arise from a business’ marketing communication strategy in the output.

Brand Voice in Marketing Communication

“In the context of generative models and the different kinds of text outputs we can generate with AI, respecting the brand voice is an important topic. Brand voice is reflected in copy-texts and in the everyday communication of the brand with the audience” (Jurišová, 2019, p. 52). An appropriately set voice conveys the overall identity and personality of the brand. As early as the 1990s, Keefe noticed that the relationship between a company’s identity and its product brands is crucial for business success (Keefe, 1995). As she states, “a strong corporate voice can be an effective tool for furthering corporate business strategies and for building brand awareness in product markets” (Keefe, 1995). The importance of a recognisable corporate or brand voice has become even more important with the advent of social media. Today, with artificial intelligence coming into play, the pressure for a unique expression

of communication is even stronger. In the onslaught of information and numerous competitors, a brand's voice plays a crucial role in attracting attention and reinforcing impressions.

Brand Communication on Social Media

Social media platforms like Facebook can help businesses talk to their customers and build a better brand relationship. This is particularly pronounced with Generation Z (those born after 1997), whose members spend a significant amount of time online on social media – particularly Instagram, and with Generation C, as the generation of schoolchildren and students is sometimes called, who have dropped out of school due to the COVID-19 pandemic in the online environment (see, for example, Kusá & Piatrov, 2020; Krajčovič, 2019). However, this is also true for other generational cohorts and other social media (Vanko et al., 2021) such as Facebook, Tik Tok, etc. Social media-based brand communities improve consumer relationships, increase customer advocacy, and generate unique product and marketing ideas. Brand visibility on social media platforms helps consumers to remember the brand easily (Kumari, 2022). In addition, posting good content on social media can motivate the community to support the brand (Cooper et al., 2015). The role of social media in this process is also highlighted by Rodríguez-Moran (2020), who considers the specific voice of the brand as the basis for creating a relationship with the audience. According to Yuowono, “building a distinct, recognisable identity for products and brands is essential for successful social media marketing communication – it is the only way to be competitive” (Yuowono, 2023, p. 898).

2 Methodology

Based on a review of existing literature and theoretical frameworks, the aim of the study is to explore the role of AI in generating outputs in marketing communication, analyse its potential impact on marketing communication processes, and identify benefits and challenges for business entities. The intention is to provide a new theoretical framework and foundations for understanding the use of AI in marketing communication, by creating a practical sophisticated model of prompts for generating outputs that are commonly used in marketing communications and by exploring the ability of language models to generate outputs that mimic established brand-voice based on the characteristics of previous brand communication.

Sub-objectives:

- To provide a theoretical framework for understanding the use of AI in marketing communications and identify the benefits and challenges for businesses.
- To create and verify a prompter model that will be able to generate outputs commonly used in marketing communications.
- To investigate the ability of language models to generate outputs that mimic established brand-voice based on the characteristics of previous brand communication.

From the examination of the secondary data, the following research topic emerged, as well as research questions and hypotheses, which apply the direction to the stated goal, sub-objectives and devote space to the researched issue, which has not been defined so far.

Research questions and hypotheses:

RQ1: What are the abilities of language models to generate outputs that mimic established brand-voice based on the characteristics of previous communication?

H1: In most cases, the outputs of language models reach the quality of at least moderately good human-written papers.

RQ2: How do the generated outputs of language models that have studied samples of existing papers with the brand-voice characteristic differ from outputs without this characteristic?

H2: According to practitioners, the outputs of language models with the brand-voice characteristic will better reflect the brand identity and its communication style compared to outputs without this characteristic, generated only by studying a sample of existing contributions.

RQ3: To what extent can social media posts generated by language models be used immediately or only with cosmetic modifications?

H3: Contributions produced by language models will achieve a similar level of usability as the human-generated contributions of the control sample.

Theoretical Framework

In this study, an extensive literature review is defined in order to identify existing theories, frameworks and concepts related to artificial intelligence in marketing communication. The review included academic journals, books, conference proceedings and relevant industry reports. The literature review provides a foundation for theoretical study and will help identify research gaps. Based on the findings of the literature review, a theoretical framework is developed that integrates existing theories and concepts related to artificial intelligence and marketing communication. This framework should provide a comprehensive understanding of the role of AI in marketing communication and its impact on various marketing processes.

Research Part

In this section, qualitative and quantitative methods are applied, which covers expert evaluation and expert validation, respectively. The resulting model is verified through expert evaluation of social media through a questionnaire that includes both closed and open-ended questions.

Sample

We analysed Facebook communication by 4 popular Slovak brands in different segments. Each of these entities has been building its brand for a long time and has a specific brand-voice:

- supermarket,
- bookstore,
- manufacturer of stylish socks and accessories,
- bank.

Dataset Creation

From their Facebook posts, we created a dataset for each brand. The dataset contained posts published in the past 6 months or so. The limit was the size of the dataset, which had to be a maximum of 7,000 characters, including spaces and emojis (a limitation of the analytics software). On average, each dataset contained 15 – 20 papers. Papers were selected with an emphasis on diversity – to reflect as wide a range of rubrics as possible. By the term rubric, we mean a type of paper created according to a predetermined formula. For example, a supermarket normally publishes in columns such as Product Promo, Discount, Launch of a Promotional Flyer, Success of a Sponsored Athlete, etc. The goal was to create as heterogeneous a set of posts as possible so that the AI could capture the essence of the brand in as much breadth as possible.

We used the datasets as the basis for creating the brand-voice. For this purpose, we used the WriterSonic tool, which uses the ChatGPT 4.0 text model and adds to it a superstructure of features aimed at copywriting and marketing communication.

Sample Design

The sample considered consisted of brands' posts published on their Facebook pages and their AI-generated equivalents. We first entered a prompt into Chat GPT to generate a Facebook post. After it was generated, we used

the Regenerate response button to have one more alternate output generated. We then added a brand-voice characteristic to the specified prompt and again let both the first and alternate versions of the output be generated. In this way, we generated 1 output for each brand in 4 different versions: 2 alternatives without the brand-voice characteristic and 2 alternatives with the brand-voice characteristic (Figure 1). To these outputs, we also added the original posts, which we tried to replicate using AI. Thus, the final sample included 20 posts: 4 original posts created by a professional social media manager (control sample) and 16 posts generated using Chat GPT.



Figure 1. Example of generated contribution in mock-up marker
Source: Lidl Slovensko (2023)

Method of Evaluation

The sample was submitted to three social media managers of prestigious Slovak brands for evaluation. Each of these experts has at least 5 years of experience in the industry. One of them manages social media for the Slovak branch of a multinational brand, the other two work in digital agencies where they manage social media for multiple brands – both local and multinational.

The sample was assessed through an electronic form with open-ended questions. In the form, the assessors were presented with each entry in turn. Under each entry there were the same questions to answer. Each post took the form of a realistic-looking mock-up of a Facebook post with a photograph. Thus, formally, it was impossible to identify which posts were man-made and actually published and which posts were merely fictitious, created by artificial intelligence. To avoid comparing identical versions of a post, the posts were not displayed to the judges sequentially by tags, but in random order.

Questions in the Questionnaire

The following section includes the individual questions in the questionnaire, which was distributed to respondents in digital form.

Qualitative part:

1. Your opinion on the brand-voice of this post – how well does it reflect the brand-voice of the brand in question?

Here you can compare how they communicate: <link>

(Open-ended question with text completion)

2. Your overall opinion on this post. At least 3 lines of text are needed.

(Open-ended question with text completion)

Quantitative part:

3. Could the brand publish this post on its Facebook page?

Likert scale, rating from 1 (least – All wrong, needs to be completely redone) to 5 (most – Can be published as is).

3 Results

The following text presents the results achieved. It includes the preparation of the model, examples of creating outputs using the model and its verification. Also, the results of the research questions and hypotheses are included.

Prompt Engineering

The following section addresses the task that the artificial intelligence needs to create the output. In the present study, space is devoted only to prompts for LLMs. Any user can generate prompts, since a prompt is any human input that prompts the AI to respond, for example, by having a “conversation” with the AI. However, when giving instructions for creating specific outputs, we realise that the AI’s output is determined by the quality of the prompt. The field of sophisticated prompt construction is called prompt engineering. Unlike conventional conversational prompts, prompts for creating a specific type of output have a stable structure: 1) defining the AI’s role or point of view; 2) specifying the task; 3) instructions/steps to accomplish/constraints; 4) describing the situation/context; 5) formal requirements and guidelines. The structure of the procedure concretises the initial vagueness, thus resembling an inverted pyramid (Figure 2); the structure of the prompt is shaped like an inverted pyramid; practice shows that for simpler prompts, some of these parts can be omitted without negatively impacting the quality of the output. The need to follow the above structure increases with the specificity of the desired output. This structure is illustrated in Figure 2, which shows the process of progressively specifying an AI requirement (Tafesse & Wood, 2024).

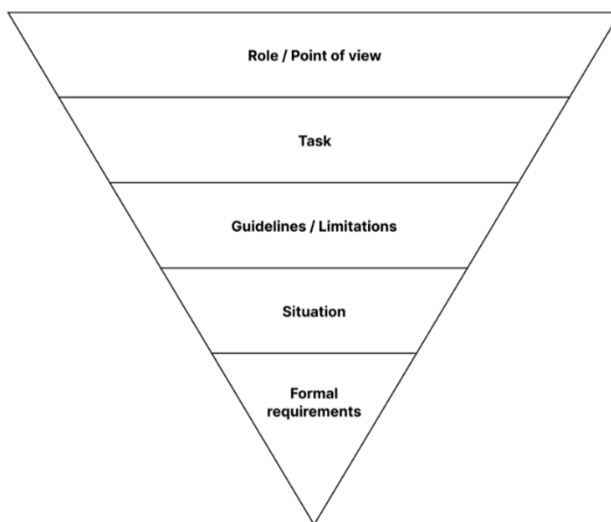


Figure 2. Prompt structure

Source: own processing, 2024

Prompt Engineering in Marketing Communication

Although in general the above structure applies to each prompt, prompting for different industries to obtain different types of outputs quickly reveals the fact that there are also significant differences between the prompts for LLMs. In particular, the following requirements are involved in prompting for marketing communication purposes:

- identification of the target group;
- understanding the problem that the target group is solving with regard to the product feature we want to present;
- product benefits;
- consideration of the purpose – e.g., to increase website traffic, to encourage people to try the product, etc.;
- adherence to the brand-voice of the brand.

Figure 3 shows these specifics by hierarchy. The last tier, brand voice, represents an imagined ideal that not every brand reaches. It depends on the overall level of marketing communication in the company, more precisely on how well the company has developed its branding. The fact is that if a company is systematically building not only its brand, but the brands of its products, respecting the existing brand voice is an elementary requirement to maintain consistency of communication.



*Figure 3. Hierarchy of information needed to maximise the quality of customer communication outputs
Source: own processing, 2024*

Figure 4 shows the sequence of different levels that artificial intelligence (AI) uses to communicate with the customer. AI must understand and preserve the core brand voice while at the same time considering the situation and adapting the tone of voice for optimal impact on the target audience.

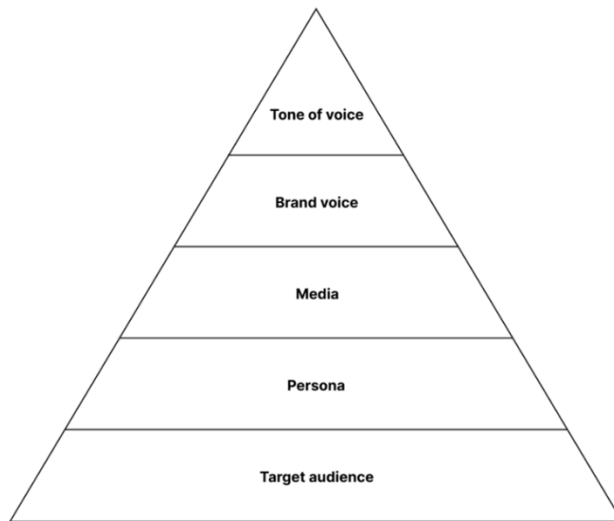


Figure 4. Hierarchy of outputs for AI to communicate with customers
 Source: own processing, 2024

Example of using the model for verification

In practice, the application of the above principles can look like this:

Role: You are the bank’s social media manager.

Task: Write a Facebook post.

Problem / Need: the bank wants to present a new article on its blog.

Guidelines / limit: Article title – Is it better to save or borrow?

Situation: the current inflation rate is high.

Formal requirements: use hashtags, don’t use emojis. Follow this brand-voice: ...

The Resulting Sample Prompt for Artificial Intelligence:

You’re the bank’s social media manager. Write a post on Facebook. The bank wants to present a new article on its blog with the title “Is it better to save or borrow?”, because the current inflation rate is high. Use hashtags, don’t use emojis. Stick to the following brand-voice: The brand voice is professional, confident, and informative. Communicate in a straightforward manner to provide essential information, using a sophisticated and professional tone. Language portrays expertise and trusted advice; combines financial terms with common language for clarity. The brand emphasises innovation and accountability, conveying a proactive, user-centric, and modern image. Emotionally, it resonates confidence and reliability mixed with a sense of pride in its achievements and service. It appeals to consumers by presenting its commitment to convenience and modernity for customers. Overall, the brand presents itself as a reliable, modern, and customer-focused entity that uses its expertise to provide innovative financial solutions. It combines professionalism with innovation, thereby blending its traditional roots as a financial institution with a modern approach.

Verification of the Model

60 ratings (3 experts × 20 papers) were obtained and evaluated as part of the research. Each rating consisted of:

1. overall assessment of the quality of the paper (idea, stylistics, etc.);
2. brand-voice appropriateness;
3. rating the usability of the post on a scale of 1 – 5. 1 = requires a complete overhaul; 5 = can be used immediately as content for social media.

Brand-Voice Analysis

The research question concerning the abilities of language models to generate outputs that mimic an established brand-voice based on the characteristics of previous communication was clarified as follows. Brand-voice was evaluated based on the expert's statement that the contribution in question is consistent with the established brand-voice and subsequent quantification to number 1. Negative statements were left in text form. Thus, overall, each post could achieve a maximum score of 3 in brand-voice assessment. 5 posts achieved a score, with an average score of 1.87. A score of 2, i.e., the agreement of 2 experts that a given post has an appropriate brand-voice, was achieved by 6 posts. In the control sample, three out of four posts achieved a score of 3. One post achieved a score of 2 because one of the experts described it as very machine-like.

When we compared the quality of posts created based on a prompt with the brand-voice characteristic and prompts created without this characteristic, it turns out that 4 out of 5 posts (80%) that achieved a score of 0 or 1 contained this characteristic. In the group of posts with a score of 2 or 3, 4 out of 11 posts contained the brand-voice characteristic. None of the top 3 posts (highest overall score) contained the brand-voice characteristic. Although one cannot speak to the statistical significance of these numbers with such a small sample size, the data suggests that better results for Facebook posts should arise if the prompt for LLM does not contain the brand-voice characteristic. In most cases, the outputs of the language models do not reach the quality of at least moderately good posts written by humans. We reject hypothesis H1. However, the hypothesis would need to be tested by further research. At the same time, there is much room for further experiments with different prompt updates.

The research question of how the generated outputs of the language models that examined samples of existing posts with the brand-voice characteristic differed from outputs without this characteristic yielded the following answer. The average score of the posts generated under the prompt with the brand-voice characteristic was 1.62, compared to an average score of 2.12 that was calculated from the ratings of posts without the brand-voice guideline. In comparison, a control sample of posts written by humans achieved an average score of 2.75 out of a total of 5 points. In other words: AI was more successful in generating Facebook posts without brand-voice requirements. The brand-voice guideline was counterproductive. According to practitioners, language model outputs with the brand-voice characteristic are no better at reflecting a brand's identity and its communication style compared to outputs without this characteristic, generated solely by studying a sample of existing posts. The results of the data analysis showed that we reject hypothesis H2. When assessing the quality of the posts generated by the language models, we found that only 31% of them were of average quality (rating 3 on a 5-point scale). In contrast, 61% of the papers scored below average. Only 6% of the papers scored above average.

Qualitative analysis of responses

Of the 12 comments, only 2 were about poor stylistics. The remaining comments indicated stylistics as excellent, fair, average with potential for improvement. In one case, there was a criticism of the use of Anglicisms (young adult), which according to the expert is not in line with the brand-voice of the brand. In addition, in one case, the expert described the paper as very machine-like.

Applicability of Contributions

The outcome part of the third research question concerning the difference between original brand contributions and contributions generated by language models in the context of marketing communication, clarifies the following result. Regarding the overall usability of the considered posts, the average AI score of the generated posts was 2.6 and the average score of the control sample was 3.8. When assessing the quality of the contributions generated by the language models, we found that only 31% of them were of average quality (rating 3 on a 5-point scale). In contrast, 61% of the papers received a below-average rating. Only 6% of the papers scored above average. Of the AI-generated papers, only 6 papers (37.5%) achieved average or better quality (score of 3 or greater), and only 1 paper from this set received a score of min. 4. Within the control group, all 4 papers reached at least average level, with 2 papers achieving a score of 4. Posts produced by language models will achieve a similar level of usability

as the human-produced posts of the control sample. We reject hypothesis H3 as it is not supported. The distribution of scores is shown in Table 1.

Table 1. Prompt verification scores achieved

Score	AI-generated	Control Sample
1.0 – 1.9	19%	0%
2.0 – 2.9	44%	0%
3.0 – 3.9	31%	50%
4.0 – 4.9	6%	50%
5.0	0%	0%

Source: own processing, 2024

4 Discussion and Conclusion

In today’s digital age, social media play a key role in building and maintaining brand-voice for various brands. With the development of artificial intelligence, new tools are emerging that have the potential to simplify and speed up the process of generating content, including social media posts. Chat GPT is one such tool, but its use requires careful analysis and reflection. Hypothesis H1 is therefore not supported, and we reject it.

Regarding hypothesis H2, AI was more successful in generating Facebook posts without brand-voice requirements. The brand-voice guidance was counterproductive. We reject hypothesis H2. The limitations of examining the brand-voice results may stem from the limited sample size. GPT chat, although driven by advanced technologies, still depends on the availability of extensive and representative data to better understand and create content in line with the characteristics of a given brand. The level of hashtags used is another area where improvements could be made. It might be useful to provide specific guidelines for content generation, such as avoiding the use of diacritics in hashtags or being inspired by the use of hashtags that were found in a sample of successful posts. A robust and representative sample of data for brand-voice generation would be ideal.

Finally, when assessing quality in terms of the immediate usability of the generated outputs, our research suggests that even in this area the outputs of language models are not yet of a quality that can be downloaded and published without human intervention. In the usability evaluation, the contributions scored lower than the control sample. Hypothesis H3 was not supported, so we reject it. For now, it is likely that current advances in this area fall short of a tool similar to WriterSonic, which has a limited sample size and can formulate brand-voice at a high level. Using Chat GPT often only achieves an initial draft of the paper, which requires editing and proofreading by experienced practitioners. The probability of achieving at least average quality (3 out of 5) is currently only 1 in 3, which means that for every two unusable outputs there is one successful one. Even though content generation using Chat GPT is fast, it is not possible to fully rely on artificial intelligence. It is imperative that the content is checked and edited by the user to ensure a quality brand-voice that matches the brand values and image. If an inexperienced employee uses Chat GPT as a tool to create posts and does not check the content generated, this can lead to various problems such as the use of inappropriate stylistics, excessive urging to act or inappropriate language, which can damage the brand’s reputation. On the other hand, using Chat GPT as a tool to generate an initial draft, which is later checked and supplemented by experienced professionals, can be a functional and effective strategy. Finally, an interesting step would be to compare Kirkby’s et al. (2023) research data with our own research data. The likelihood that the level of generated content could be significantly affected by generation in a language other than English opens up the possibility for testing and optimisation for cross-lingual transformations.

Considering similar research, the results of the investigation are similar, the conclusions of other research point to the fact of limited human substitutability in content outcomes (Hutson & Lang, 2023). Similar investigations have addressed content creation or focused on the creative process in concert with brainstorming

(Schmidt et al., 2023). Mondal and Mondal (2023) take a similar view, pointing out the limitations of AI in creating original and accurate content. On the other hand, the exploration of Munyengeterwa et al. (2023), gives great hope to the possibilities and enhancements we will witness in the future in the realm of content production as well.

In conclusion, although Chat GPT represents a promising tool for content generation and brand voice, its successful use requires careful scrutiny, effective collaboration with subject matter experts, and consideration of the appropriate approach to implementing AI in the context of building and maintaining an authentic and effective brand voice. We also add that the rejection of all three hypotheses is only a temporary condition. It is evident that AI-powered tools are visibly improving and are already achieving shifts in a matter of months that other types of applications have taken years to achieve. It is only a matter of time before the quality of the output is so high that conclusions from an identical experiment will prove the stated hypotheses. Of course, even in that case, it will be true that, like any other AI output, these outputs will require human checking.

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