

AI for slogans?

A cross-platform, cross-language comparison of AI-generated slogans for sustainable brands

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Abstract

Slogans play a central role in branding: they contribute to brand image and are primary touching points between brands and consumers. Slogan generation is not easy because slogans need not only to be in touch with the brand, but they also need to be memorable, catchy, and overall appealing. New technologies, however, such as Generative Pre-trained Transformers (GPT), by different AI platforms, may help in slogan generation. Although AI is researched in many contexts, more research is needed on specific marketing-connected tasks. The current study analyzes and evaluates AI-generated slogans: General and specific slogans connected to sustainable brands are created in English and Hungarian using different AI platforms. The linguistic characteristics of the generated slogans are analyzed, and university students rate Hungarian slogans in five dimensions. Results show that a given software performs differently depending on the criteria used for evaluation, language, the prompt used, and the time of slogan generation; thus, results are hardly generalizable. Due to the results and ethical considerations, AI platforms are recommended for use for brainstorming during slogan generation.

1 Introduction

Although Generative Pre-trained Transformers are analyzed and discussed in many ways in recent literature, for example how they impact advertising industry in general (cf. Osadchaya et al. 2024), revolutionize branding (cf. Cui et al. 2024), on how they impact small and medium enterprises (cf. Rajaram/Tinguely 2024), there is less research on specific how these platforms perform on specific marketing-related creative tasks such as slogan generation.

Slogans are one of the primary touch points of brands: They contribute to brand positioning by underlining brand characteristics or values (cf. Kohli/Suri/Thakor 2002). Slogans exert their impact by using various stylistic and/or linguistic devices. Creating good slogans thus presumes specific knowledge of these devices and creativity. Recent advancements in Artificial Intelligence, however, open up the possibility of using AI platforms for creative tasks like slogan creation.

Previous research has already shown that software can be used for the analysis (cf. Dowling/Kabanoff 1996) and the creation of slogans (cf. Alnajjar/Toivonen 2021; Jin et al. 2023;

Yamane/Hagiwara 2015). However, these are specialized programs and methods rather unsuitable for everyday use. Since the end of 2022, however, there has been the possibility of creating slogans with the help of AI: free or paid-for online services can be used to enhance marketing efforts and the productivity of companies.

The current study analyzes the possibility of using Artificial Intelligence, more exactly Generative Pre-trained Transformers to generate slogans. To see whether Generative Pre-trained Transformers can be used for slogan generation, we need to see how different platforms perform on this specific task. The first research question (RQ1) asks “What are the linguistic characteristics of slogans generated on different platforms?”. The linguistic characteristics of slogans (e. g., length) do not implicate, however, that consumers will like and remember the generated slogans. The second research question includes into the analysis the opinion of consumers by seeking answer to the question “How do humans rate slogans created by different platforms?” (RQ2). Research, however, often excludes the fact, that these AI platforms are often used in languages other than English. Thus, the performance such platforms needs to be evaluated not only with native English-speaking users and English as a target language in mind, but also considering other languages. The third research question takes a step into this direction, by seeking an answer to the question “How do Generative Pre-trained Transformers perform on slogan generation in a language different from English?” (RQ3).

In the first step, we provide a general overview of the possibilities for using AI for marketing purposes and then present the characteristics of slogans. In the next step, we generate slogans for sustainable brands in English and Hungarian by different AI platforms: We analyze the linguistic characteristics of the generated slogans and we use human raters to evaluate them. Based on the results we formulate implications, which the management of smaller or larger companies or advertising agencies may use.

1.1 Artificial Intelligence and Generative Pre-trained Transformers

Artificial intelligence is changing how businesses use marketing (cf. Davenport et al. 2020). Artificial Intelligence (AI) in marketing may be used for marketing research, strategy building, and actions (cf. Huang/Rust 2021), it may change advertising and retail practice (cf. Barnes/de Ruyter 2022), and it impacts consumer research and customer services (cf. Paul/Ueno/Dennis 2023).

AI gained wider attention in marketing practice with the introduction of more sophisticated platforms that use Large Language Models like Generative Pre-trained Transformer (GPT) to generate content and to answer human questions (cf. Ding/Dong/Grewal 2024; George/George/Martin 2023; Dwivedi et al. 2023). These models are trained on large amounts of data: the underlying neural networks find patterns and structures in the training data and use them to create new texts (cf. Ding/Dong/Grewal 2024). Generative Pre-trained Transformers are likely to increase productivity and efficiency in marketing (cf. Kshetri et al. 2023). The most known such technology is ChatGPT of OpenAI.

Generative Pre-trained Transformers, in general and ChatGPT, in particular, can help marketing experts in many ways. In marketing research, GPT platforms are able to analyze the marketing practice and performance of a company and recommend marketing channels or plan campaigns

(cf. Haleem/Javaid/Singh 2022) or test the performance of generated content (cf. Dwivedi et al. 2023). Connected to customers, these systems can help to gain new and/or deeper consumer insights (cf. Jain et al. 2023; Paul/Ueno/Dennis 2023) and may provide customer-based services enhancing customer experience (cf. Dwivedi et al. 2023). They can also be used for generating new marketing-related content (cf. Dwivedi et al. 2023; Zhou et al. 2023). The content creation can include smaller, less creative tasks, like writing an e-mail, but GPT-s can also be used for more complex tasks like creating customized content for consumers (cf. George/George/Martin 2023) or designing marketing and advertising campaigns (cf. Dwivedi et al. 2023; Gołąb-Andrzejak 2023; Reyes/Villaverde 2024).

Although the widespread use of Generative Pre-trained Transformers in marketing-related content generation has a past of merely 3 years (as of December 2025), the capabilities and future possibilities of the technology seem to change marketing profoundly. ChatGPT and AI, in general, add to a democratization of marketing: with these new, affordable tools, small enterprises and startups can perform better on more difficult marketing tasks (cf. Peres et al. 2023; Noy/Zhang 2023).

Using AI for marketing also has limitations, challenges, and risks. Both a challenge and a limitation come from the fact that the questions asked from the AI may largely influence results (cf. Dwivedi et al. 2023). In this regard, ChatGPT generates the need for new skills – for example, prompting – in marketing (cf. Peres et al. 2023; cf. in a broader context Santana/Díaz-Fernández 2023).

All of the above authors hypothesized that the use of AI will change marketing in the near future. Some authors even speak of a new era of advertising (cf. Osadchaya et al. 2024). All above-mentioned usage possibilities are, however, still in their infancy: although real-world usage of these technologies is done on an everyday basis, the research on the impact of these technologies on marketing has just started, and the first evaluations of results are published today.

The question arises, therefore, how these new systems perform on specific, marketing-related creative tasks. First, we have to take a look at how creative GPT-generated texts are in general. ChatGPT (GPT-4) was tested on the Torrance Tests of Creative Thinking (cf. Guzik/Byrge/Gilde 2023). As the authors summarize, “[t]he GPT-4 model generated impressive results for the TTCT dimensions of fluency, flexibility, and originality, suggesting that AI systems have the potential to produce viable creative output. Indeed, for the first time, an AI model demonstrated the ability to generate new, unique, and unexpected ideas that match or exceed the abilities of human originality” (Guzik/Byrge/Gilde 2023: 7). The creativity rating of human and GPT-generated short stories revealed that both GPT-3 and GPT-4 are able to generate short stories which are similar in creativity to human-generated stories (cf. Orwig et al. 2024). In addition, specifically trained LLMs are able to rate the creativity of metaphors similar to human raters (cf. DiStefano/Patterson/Beaty 2024). Connected to specific marketing-related tasks, Zhang/Prebsen (2024) show that ChatGPT-generated creative texts for tourism marketing materials are perceived similar to human-generated content.

All this research has, however, two peculiarities: 1) the generated texts were longer texts, 2) texts were generated in English. Thus, we do not know how GPT performs on shorter texts

created for a very specific, narrow purpose and we do not know how GPT performs in languages other than English.

As we can see, GPT platforms seem to be creative – at least their creativity is similar to that of humans (cf. de Rooij/Biskjaer 2025; Desdevises 2025). The tested texts are, however, longer texts, generated in English. Thus, two questions arise:

- 1) how creative is GPT software while creating slogans, which are much shorter texts created for a specific purpose, and
- 2) how do they perform on the task when generating such text in languages other than English?

In a next step, we describe the characteristics of slogans and examine how Generative Pre-trained Transformers perform on the task of slogan creation.

1.2 Slogans

Along with the brand name and logo, the slogan plays a central role in brand identification (cf. Kilian 2019; Kohli/Suri/Thakor 2002). Slogans have two primary functions: firstly, they reinforce brand awareness, and secondly, they play a crucial role in positioning and creating the brand image (cf. Kohli/Suri/Thakor 2002). Slogans also function as carriers of brand equity (cf. Dahlén/ Rosengren 2006). Good slogans connect the brand name to the slogan; they position the brand and are consistent with the company's goals (cf. Kohli/Leuthesser/Suri 2007; Papp-Váry 2023).

The benefits of slogans are twofold: they describe specific brand attributes in more detail than the brand name, and they can be relatively easily changed to respond to changing consumer needs and changes in the brand position or product characteristics (cf. Danesi 2013; Kohli/Leuthesser/Suri 2007). Slogans can be subject to legal protection (cf. Petty/Leong/Lwin 2010; Schröder 2019) and best perform when used for extended periods (cf. Kohli/Thomas/Suri 2013). To see the characteristics/ingredients of slogans that have the potential to add to the value of the company or brand, it is necessary to find evaluation criteria that are not connected to the success of the brand or company the slogan belongs to. To evaluate slogans independently of brand success, we can rely on their linguistic characteristics and consumer perception.

1.2.1 Linguistic characteristics of slogans

While analyzing slogans, researchers often describe and compare their linguistic characteristics. These characteristics include semantic and phonological devices, sentence length and sentence structure, and words used in slogans (cf. Reece/Van den Bergh/Li 1994).

Devices. Danesi (2013) points out, that slogans use among other metaphors, metonymy, alliteration and polyesmy and are like poems and language-playing games. Miller/Thoman (2016) identify 33, Musté/Stuart/Botella (2015) 25, McQuarrie/Mick (1996) 19 different rhetorical, semantical, and phonetical devices. Often used phonological devices in slogans are, for example, rhymes (“Don’t just book it, Thomas Cook it”; Thomas Cook), assonance (“See what we mean”; Canon), consonance (“Ariston...and on...and on”; Ariston), rhythm (“Live your life, love your home”; IKEA), onomatopoeia (“Zoom-zoom”; Mazda), alliteration (“Today, Tomorrow, Toyota”; Toyota); and often used semantic devices are, for example, simile (“Easy as Dell”; Dell), metaphor (“It gives you wings”; Red Bull), metonymy (“Do you have the bunny

inside?"; Energizer) or hyperbole ("Takes You Miles Away in Seconds"; Lexus) (devices and examples: cf. Skorupa/Dubovičienė 2015: 111–116; on rhymes, cf. Benczes 2019).

Above-mentioned devices used in slogans are language-specific: alliteration, assonance, and rhythm are more common in English slogans than in Russian ones (cf. Smirnova 2016), while in Hungarian slogans, rhymes, alliteration, and repetition are more common (cf. Papp-Váry 2023).

Length. Anwar (2015: 369) showed – based on more than 300 slogans – that most slogans are a single sentence between 1 and 13 words long.

Words. According to Anwar (2015: 369), in slogans, frequently used words are: world, energy, life, people, good, business, value, work, excellence, innovation, performance, quality, health, technology, power, success, and strength. The words used in slogans depend also on the product: slogans connected to yachts use extensively the following words: life, style, elegance, emotions, imagination, dreams, independence, exploration, solitude, harmony, perfection (cf. Skračić/Kosović 2016: 45f.). Slogans also use often neologisms – newly created words (cf. Musté/Stuart/Botella 2015).

1.2.2 Consumer perception of slogans

Above characteristics describe slogans. The question is, however, how the characteristics of slogans influence consumers perception. In the next part review how devices, length, language and the brand itself influence the perception of slogans.

Devices. Rybaczewska et al. (2020) confirmed that young consumers tend to recall slogans better when slogans are concise, rhythmical, and/or function as a jingle. Consumers prefer slogans with a clear message, creative solutions, and rhymes (cf. Dass et al. 2014; for rhymes, cf. also Filkuková/Klempe 2013; and Reece/Van den Bergh/Li 1994). This contradicts, however, the results of Dass/Kohli/Acharya (2023), who showed that message clarity and creativity enhance, while jingles and rhymes weaken alignment with the brand. Thus, in some cases rhymes may be sought for, in other cases not.

Wordplays and puns in slogans have an ambivalent effect: when consumers understand them, they can help to memorize the slogans; when they are not understood, however, they may have a negative effect on memorability (cf. Kohli/Leuthesser/Suri 2007).

Length. Concerning the ideal length of slogans Kohli/Thomas/Suri (2013) recommend using shorter slogans. Research, however, does not agree whether shorter slogans are easier recognized and recalled. Some evidence points in favor of shorter slogans (cf. Bradley/Meeds 2002; Rybaczewska et al. 2020), while other studies suggest that the length of slogans does not influence recall (cf. Kohli/Leuthesser/Suri 2007). Strutton/Roswinanto (2014) point out that slogan length should not be judged on its own: Other factors, like vagueness or preciseness, may also influence the optimal length of slogans.

Language. The language of slogans also influences their acceptance: in the Netherlands, for car brands, simple English slogans are preferred over simple Dutch slogans; in the case of more complex slogans, however, no clear preference can be found (cf. Hornikx/van Meurs/de Boer

2010). Hendriks/van Meurs/Poos (2017) received similar results: Dutch students evaluate easy English slogans better, than difficult ones.

In general, slogans in a foreign language can be misinterpreted due to culturally bound devices not known to non-native speakers (cf. Miller/Toman 2016).

Consumer characteristics. Slogan memorability depends on consumer characteristics: males and younger respondents recall slogans better (cf. Reece/Van den Bergh/Li 1994). The culture, consumers belong to, also influences slogan perception: uncertainty avoidance impacts how consumers interpret slogans with not a single, but several meanings (cf. Shahriari et al 2023).

Brand knowledge. The perception of slogans may also be influenced by how well established and known a brand is. Hodges/Estes/Warren (2024) point out, that new, less known brands are better off creating less fluent slogans, they should incorporate the brand name and use concrete, less distinct words which are less frequent while the slogans of established brands should be short, fluent, use more frequent, distinct, abstract words without mentioning the brand name.

1.2.3 Factors influencing slogan perception

As we see, slogans are complex entities. Above, partly contradicting results may be explained by the interplay of several factors influencing slogan perception (Figure 1).



Figure 1: Factors influencing the perception of slogans

As we have seen, slogan perception is influenced both by the linguistic characteristic of the slogan and by the characteristics of the consumer judging the slogan. This may explain the seemingly contradictory results of the above-mentioned research.

As shown above, language, devices, words, length, and sentence complexity are characteristics on which the slogan can be objectively described (e. g., number of words, used devices, frequency of words; blue circles). The consumer perceiving (and in experiments judging) the slogans, however, brings his or her knowledge, experiences and attitudes into the perceiving process (green circles): knows and likes (or dislikes) a brand, may be already familiar with the

slogan and has personal preferences, connected to previous experiences and preferences; For example, some consumers like rhymes (in general) while others do not or some consumers like jingles (in general), while others do not. The perception is also influenced by the cultural background of the consumers (turquoise circle): what kind of experiences and preferences do consumers connect to slogans in the given culture? If in the given culture most slogans use alliteration, consumers may recognize the device as familiar and like it; on the other hand, when alliteration is less used in the given culture, they may find it alienating and judge the slogan accordingly.

In this light creativity connected to slogans may be understood different by different consumers: some may judge a given – less known – device as creative, while others may be familiar with the device and do not find it creative.

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Knowing the influencing factors and characteristics of slogans is one thing – it is completely different, however, to create slogans. Slogans are, in most cases, created by marketing specialists or creatives in or outside a company or by specialized marketing or branding companies. It is, however, not easy – especially for small or young brands – to hire a professional to create a slogan. Thus, even a layman, like the owner of a small business, may need to create slogans. In this regard, the recent advances in AI may provide help for these smaller companies.

Today, the free or cost-effective and user-friendly solutions provided by AI may help these companies generate slogans. We do not know, however, how different platforms perform on the task of slogan creation: What are the characteristics of the slogans created by different AI platforms for the same prompt, and which platform can be considered to perform better on slogan creation? Based on the above, slogans may be judged best by using the above-mentioned characteristics: although the linguistic characteristics of slogans can be described and quantified, what finally counts, however, is how consumers rate AI-generated slogans.

The next part of the paper shows the characteristics of AI-generated slogans using different platforms.

2 Materials and method

2.1 Materials

In order to analyze and evaluate AI-generated slogans, we generated slogans with different AI platforms. One group of the slogans is general; the other group is specific.

We generated slogans in two languages: English, and Hungarian. English was an obvious choice since English is an international language for business contexts, and several international corporations use English slogans. English is an Indo-European language belonging to the Germanic languages.

Hungarian is an agglutinative language and belongs to the Uralic languages. Thus, results and AI strategies during slogan generation can be directly compared between an Indo-European and

a non-Indo-European language. Hungarian is spoken worldwide by approximately 15 million speakers as a mother tongue; most of them – around 9,5 million – live in Hungary.

For slogan generation, we use the broad topic of sustainable brands. Sustainable brands and products are increasingly important to consumers (cf. Iannuzzi 2018); thus, the need for sustainable brands will increase in the future. We may assume that partly startups will create these green brands or products and that for marketing-related tasks, they may use Artificial Intelligence, especially Generative Pre-trained Transformers.

2.1.1 General slogans connected to sustainable brands

First, in December 2022, we asked Open AI ChatGPT to generate slogans for sustainable brands. Subsequently, in July 2023, we used three well-known general AI platforms – OpenAI ChatGPT, Microsoft BingChat (in 2025: Copilot), and Google Bard (in 2025: Google Gemini) – for creating slogans for different prompts in English, and Hungarian (see Tables 1 and 2). We used two additional platforms for comparison: Copy.ai, a GPT platform for marketing, and PULI, a GPT platform for Hungarian (Table 1).

The platforms use different AI models: In the case of ChatGPT, we used in both cases the free versions of the platform, using ChatGPT 3.5, while BingChat was using the more advanced version called ChatGPT 4 (cf. Wiggers 2023). Bard was using the language mode PaLM 2 (cf. PaLM 2 2023)¹.

We used the same prompts on all platforms (Table 2).

Platform	Time	Languages
ChatGPT	2022.12.29	English, Hungarian
ChatGPT	2023.07.25	English, Hungarian
Bard	2023.07.25	English, Hungarian
BingChat (Balanced, Creative, Precise)	2023.07.26	English, Hungarian
Copy.ai	2023.07.25	English, Hungarian
PULI	2023.07.25	Hungarian

Table 1: Platforms, dates, and languages for generating slogans

¹ BingChat was renamed in November 2023 to Copilot, Google Bard in February 2024 to Google Gemini.

English	Create ten slogans for sustainable brands
	Create ten slogans for green brands
	Create ten slogans for local food brands
Hungarian	Alkoss tíz szlogent fenntartható márkákra
	Alkoss tíz szlogent zöld márkákra
	Alkoss tíz szlogent helyi élelmiszer márkákra

Table 2: Prompts used for generating slogans. The Hungarian prompts are human translations of the English prompt. We used the prompts in English and Hungarian

We used the three different prompts to generate more different slogans connected to sustainable brands. Thus, we decided against using the same prompt over and over (e. g., Generate ten more slogans...) to allow for more variability of the used words and to see which words are connected to sustainable brands in general. We used the simplest prompts: we tried to use a sentence that a non-expert in marketing and in prompting would use (zero-shot prompting).

In all cases, the same thread was used at the given platform from the same computer with the same – free – account. We used all prompts after each other, according to Table 2. In the case of BingChat, we used three threads with the settings “Balanced”, “Creative”, and “Precise”.

The results of PULI are not analyzed further: it did not generate any slogans; it barely discussed some aspects of slogans and generated some sentences connected to a competition. (The context of the results was not clear.)

2.1.2 Slogans with a specific prompt

In order to see how the software reacts to more precise prompts, we repeated the slogan generation with a more specific prompt (Table 3). We tried to use a prompt somebody with marketing knowledge but with no experience in prompting would use (zero-shot prompting).

We used the following prompts:

English: “Create ten slogans for the sustainable fashion brand LinenDream. The brand uses biofibres. Clothes are designed in classic style. Target group: green thinking young adults. Price: midrange.”

Hungarian: “Készíts tíz szlogent a LinenDream fenntartható divatmárka számára. A márka bioszálakat használ. A ruhákat klasszikus stílusban tervezik. Célcsoport: zöld gondolkodású fiatal felnőttek. Ár: közép kategória.”

The Hungarian prompts are human translations of the English prompt.

Platform	Time	Languages
ChatGPT	2023.07.26	English, Hungarian
Bard	2023.07.27	English, Hungarian
BingChat (Balanced, Creative, Precise)	2023.07.27	English, Hungarian

Table 3: Platforms, dates, and languages for generating specific slogans

2.2 Method

We analyze the created slogans in two respects: we describe their linguistic characteristics and ask consumers to rate the generated slogans.

Linguistic characteristics of slogans. To judge the linguistic characteristics of slogans, we use the corpus-based approach of Musté/Stuart/Botella (2015) by calculating the length of slogans (number of sentences and number of words) and analyzing the variance of the words in the slogans by comparing types, tokens and type-token ratio on the slogans generated by different platforms (in general cf. Brezina 2018). Type refers to the total number of different words in a text corpus, token to the total number of words; the type-token ratio is calculated by dividing the types by the tokens. A high type-token ratio indicates a high degree of lexical variation, while a low type-token ratio indicates a low degree of lexical variation. We also compare the most frequent words in the slogans generated by different AI platforms. We search for rhymes, repetitions, and neologisms as devices used in slogan creation.

Consumer perception of slogans. The human rating of slogans is performed in two tasks. First, we perform a general rating on the overall comprehensibility of the slogans with two human raters (human rating 1). Second, we perform a human rating on slogans using the method of Alnajjar/Toivonen (2021). Participants rate 52 Hungarian slogans on five dimensions: General impression (gi), memorability (m), catchiness (ca), grammatical correctness (gc), and creator (cr) using a five-point Likert scale (human rating 2).

3 Results

All generated slogans can be seen in the Appendix. The slogans were not altered, rewritten, or corrected in any way. Altogether, 520 slogans were generated: 210 general slogans in English, 210 in Hungarian, and 50 specific slogans in English and 50 in Hungarian.

3.1 General slogans

In the following, we describe some basic characteristics of the slogans.

- ChatGPT 2022: Hungarian slogans are translated from the English version. Hungarian slogans are either hard to understand and/or they use grammar incorrectly.
- ChatGPT 2023: Slogans in all languages are different; the structure is, however, the same: all slogans in all languages (!) use a colon. Some parts of the English slogans seem to be invented brand names for sustainable brands, for example, “PlanetWise”, “EcoEssentials”, “GreenGenius”, “NaturalNurtuttre”, and “GreenHeaven”.
- Bard: Slogans in all languages are different. However, the Hungarian slogans are far from creative; in many cases, only one word differs in the slogans. Hungarian slogans may be partly translated based on words and the uncommon sentence structure they use. Bard provided, in addition to the slogans, some general tips for creating slogans.
- Copy.ai: Hungarian slogans are in most cases translated English slogans, some, however seem to be original.
- BingChat, Balanced: Words in the slogans are similar, and slogans with the same words are generated for the given prompt. Hungarian slogans are translations from the English slogans: the English slogans for green brands are translated as Hungarian slogans for both

sustainable and green brands. It has resulted in receiving exactly the same 10 slogans in Hungarian for sustainable and green brands. In Hungarian, a smaller variance in words is observable. English local food slogans are translated as Hungarian slogans for local food.

- BingChat, Creative: Hungarian slogans are translated English slogans.
- BingChat, Precise: Hungarian slogans are translated English slogans.

In Table 4 we summarize whether a slogan is original or translated.

Platform	English	Hungarian
ChatGPT 2022	original	translated,
ChatGPT 2023	original	original
Bard	original	original
BingChat Balanced	original	translated
BingChat Creative	original	translated
BingChat Precise	original	translated
Copy.ai	original	translated (some original)

Table 4: Original vs. translated slogans. The translations are clear word-by-word translations

We only assume that the AI platforms use English as a primary language. We base this assumption on the generated slogans: several slogans seem to use English idioms, like *sth. is the new black* (= ‘something is very popular’) in the slogans “Sustainability is the new black” (ChatGPT 2022), “Green is the new black” (Bard 2023; BingChat Balanced 2023; BingChat Creative 2023), and “Green is the new black. Shop green” (BingChat Creative 2023). No such idiom exists in Hungarian.

3.2 Specific slogans

All generated slogans on all platforms in all languages contain the fictitious brand name “LinenDream”. Almost all slogans contain a colon connected to the brand name. Out of the 70 analyzed slogans (all English slogans and not translated Hungarian slogans), 54,3% start (first word) and 34,3% end (last word) with the brand name “LinenDream”.

In the following, we describe some basic characteristics of the slogans.

- ChatGPT (2023): Slogans in all languages are different.
- Bard: Hungarian slogans are translated English slogans. All English slogans start with the brand name “LinenDream”. Although the slogans are translated, only 6 Hungarian slogans start with and incorporate the brand name “LinenDream”.
- BingChat, Balanced: Hungarian slogans are translated English slogans.
- BingChat, Creative: Hungarian slogans are translated English slogans. 8 out of 10 slogans start with the brand name “LinenDream”.
- BingChat, Precise: Hungarian slogans are translated English slogans.

4 Discussion

4.1 Linguistic characteristics of the generated slogans

The first research question wanted to analyze the linguistic characteristics of AI-generated slogans. First, we analyze the basic characteristics of the English and Hungarian slogans; in the next step, we see how human raters perceive Hungarian slogans.

4.1.1 Basic characteristics of the generated slogans

We summarize first the basic characteristics of the general, then the characteristics of the specific slogans.

4.1.1.1 Basic characteristics of general slogans

We summarize the characteristics of the general slogans in Table 5. Tokens: total number of words, types: number of different words. We calculate the type-token ratio by dividing the types (total number of different words) occurring in a text by the tokens (the total number of words).

Platform	Number of slogans	Token	Type	Number of sentences	Average slogan length (words)	Type/token ratio
Bard	30	232	98	30	7.73	0.42
BingChat Balanced	30	157	73	30	5.23	0.46
BingChat Creative	30	216	96	44	7.20	0.44
BingChat Precise	30	164	64	30	5.47	0.39
Copy.ai	30	193	104	30	6.43	0.54
ChatGPT 2023	30	212	130	30	7.07	0.61
ChatGPT 2022	30	207	83	30	6.90	0.40
Average		197.29	92.57	32.00	6.58	0.47

Table 5a: Characteristics of the general English slogans

Platform	Number of slogans	Token	Type	Number of sentences	Average slogan length (words)	Type/token ratio
Bard	30	152	60	30	5.07	0.39
BingChat Balanced	30	117	42	30	3.90	0.36
BingChat Creative	30	189	100	44	6.30	0.53
BingChat Precise	30	139	68	30	4.63	0.49
Copy.ai	30	182	116	30	6.07	0.64
ChatGPT 2023	30	203	122	30	6.77	0.60
ChatGPT 2022	30	174	88	30	5.80	0.51
Average		161.00	80.29	32.00	5.37	0.49

Table 5b: Characteristics of the general Hungarian slogans

In itself, the difference in the ratio only shows that the different AI platforms use slightly different algorithms. Since in our case the texts and the corpora are short, a relatively high type-

token ratio can be observed (cf. Cvrček/Chlumská 2015). A high type/token ratio indicates a high degree of lexical variation, while a low type/token ratio indicates a low degree of lexical variation (cf. Brezina 2018). In English ChatGPT 2023, in Hungarian Copy.ai. and ChatGPT 2023 show the highest rate, thus they use more different words in the slogans.

The difference in average sentence length may be because Hungarian is an agglutinative language. Thus, it uses suffixes instead of prepositions.

4.1.1.2 Basic characteristics of specific slogans

In the next step, we analyze the basic characteristics of the specific slogans. We summarize the characteristics in Table 6.

Platform	Number of slogans	Token	Type	Number of sentences	Average slogan length (words)	Type/token ratio
Bard	10	65	34	10	6.50	0.52
BingChat Balanced	10	72	38	10	7.20	0.53
BingChat Creative	10	68	41	10	6.80	0.60
BingChat Precise	10	62	34	10	6.20	0.55
ChatGPT 2023	10	61	43	10	6.10	0.70
Average		65.60	38.00	10.00	6.56	0.58

Table 6a: Characteristics of the specific English slogans
(Tokens: total number of words, types: number of different words)

Platform	Number of slogans	Token	Type	Number of sentences	Average slogan length (words)	Type/token ratio
Bard	10	56	36	10	5.60	0.64
BingChat Balanced	10	70	41	10	7.00	0.59
BingChat Creative	10	65	41	10	6.50	0.63
BingChat Precise	10	59	38	10	5.90	0.64
ChatGPT 2023	10	53	34	10	5.30	0.64
Average		60.60	38.00	10.00	6.06	0.63

Table 6b: Characteristics of the specific Hungarian slogans
(Tokens: total number of words, types: number of different words)

As we see, the type/token ratios are generally larger than those of the general slogans, while the slogans tend to be, on average, a word longer in the case of Hungarian slogans. In the case of the specific English slogans, ChatGPT 2023 shows a high degree of lexical variation; in the case of the Hungarian slogans, the platforms perform similarly, while BingChat Balanced displays a somewhat lower degree of lexical variation.

In general, we would consider a higher degree of lexical variation to be positive since it indicates that the slogans contain more distinctive words. Distinctive words could help slogans to stand out.

4.1.2 Complex characteristics of slogans

Devices. First, we analyze the English slogans generated by different platforms. We planned to categorize the generated slogans according to the categories used by Skorupa/Dubovičienė (2015). This categorization, however, failed: although some slogans use some devices, due to their length and/or complex structure, the devices do not perform as they would in the case of human-generated slogans.

In the case of the slogan “Be the change you want to see in the world with sustainable brands” (ChatGPT 2022), for example, we can identify at least alliteration, assonance, and consonance. In the case of the slogan “Go green, live clean” (Bard 2023) alliteration, rhyme, and assonance; in the case of the slogan “Local food, better mood” (BingChat Balanced 2023) rhyme and to rhyme connected assonance are present. We would, however, rate the last two slogans far better than the first one – even though they do not use more devices. In the case of the first slogan, some devices emerge just by chance and have no function, while in the latter ones, we could argue that the devices perform as intended.

For this reason, we search only for three devices used by slogans: rhymes, repetitions, and neologisms. In the English slogans, out of 260 cases, we identified 29 cases with rhymes; from these 29, however, 14 were rhymes inside the slogans, adding not much to, for example, the memorability (e. g., “Dress well, live well, with LinenDream”, BingChat Creative 2023). In generating slogans with rhymes, Bard performed best, creating 4 slogans with rhymes.

We found 41 rhyme-like structures in Hungarian slogans, of which 10 can be considered real rhymes; all others are inside the slogan. Copy.ai performed best in this case.

We found altogether 46 repetitions in the generated English slogans. BingChat Creative performed best in this regard: it generated 17 slogans using repetitions. In the case of Hungarian slogans, we found 48 repetitions. Again, BingChat Creative performed best: it generated 17 slogans using repetitions.

Words. The AI platforms used – except for ChatGPT in 2022 and 2023 – the word *green* most frequently in the generated English slogans; thus, the word *green* seems to be the strongest connection to the general idea of sustainability.

All platforms used the words present in the prompts: the words *sustainable*, *green*, and *local*, and their different variants (e. g., *sustainability*, *greener*, *locally*) are among the most frequently used words in the English slogans. ChatGPT in 2022 also used the word *brand* from the prompts. BingChat Balanced connected with the word *color* several different words in different slogans, using the sentence structure: “Green is the color of hope/life/nature/harmony/balance”.

The same is true to the Hungarian slogans: the most frequent words are *zöld* (‘green’), *helyi* (‘local’), *fenntartható* (‘sustainable’), *élelmiszer* (‘food’) and *fenntarthatóság* (‘sustainability’).

As for neologisms (newly formed words; cf. Musté/Stuart/Botella 2015), only ChatGPT 2023 generated new words in English such as *EarthFirst*, *EcoChic*, *EcoEssentials*, *EcoSmart*, *EcoVibe*, *EcoWarriors*, *GreenDreams*, *GreenEarth*, *GreenGenius*, *GreenHeaven*, *GreenLife*, *Greenovation*, *NaturalNurture* and *PlanetWise* in general slogans and *Eco-Chic* and *Green-Thinking*

in specific slogans. These neologisms are most likely partly brand names invented by AI (see Appendix 1).

In the case of Hungarian slogans, no such creativity was observed. Only three new words were identified: *öko-tudatos* ('eco-conscious') two times generated by BingChat Precise and *öko-barát* ('eco-friendly') generated by BingChat Creative (2023).

Information from the prompt. In the case of general slogans, the AI platform itself invented all brand-related information (e. g., brand names). In the case of the specific slogans, however, the prompt included specific information to help the AI to generate more specific slogans. Therefore, in the next step, we analyze whether specific information from the prompt appears in the generated slogans. As described above, the prompts we used had the following wording: "Create ten slogans for the sustainable fashion brand LinenDream. The brand uses biofibres. Clothes are designed in classic style. Target group: green thinking young adults. Price: mid-range" (LinenDream, English version).

Besides the fictitious brand name LinenDream the following characteristics of the fictitious brands were included in the prompt:

- brand characteristics: sustainable,
- product category: fashion,
- product material: biofibres,
- style of clothes: classic,
- target group age: young adults,
- price: midrange.

In the next step, we wanted to see whether these pieces of information present in the prompt also appear in the generated slogans. Table 7 shows which specific information from the prompt is present in the slogans of a given AI. Note: We do not include translated slogans.

Platform	Sustainability	Fashion	Word <i>biofibre(s)</i>	Classic style	Target age group	Price range	Altogether	Average per slogan
Bard	4	5	1	3	0	0	13	1,3
BingChat Balanced	9	6	2	3	1	0	21	2,1
BingChat Creative	5	5	3	3	0	0	16	1,6
BingChat Precise	5	6	1	1	1	1	15	1,5
ChatGPT E	7	5	4	4	1	0	21	2,1
ChatGPT H	7	5	2	4	1	1	20	2,0
Average	6,4	5,3	2,1	3,1	0,7	0,3	18	1,8

Table 7: Information from the prompt in the slogan. E=English, H=Hungarian. Number of slogans: 10 for every platform/language. BingChat Precise used the word *biofiber* (American English) instead of *biofibre* (original prompt, British English). Columns are in the order, in which the given information appeared in the prompt

Overall, ChatGPT and BingChat Balanced included most of the information from the prompt in the generated slogans. We must note, however, that in some slogans, some information was implicitly present; for example, the word *future* can be interpreted as a reference to the young generation, or the word *conscience* as a reference to a sustainable brand.

Answering the first research question (RQ1: What are the linguistic characteristics of slogans generated on different platforms?) we must conclude that each platform has its strengths and weaknesses. Some platforms (e. g., GPT 2023) tend to generate longer slogans, which poses in itself no implications, since as we have seen, slogans may be shorter or longer. GPT 2023 uses the largest lexical variety (different words), which can result in creating more distinctive slogans. GPT 2023 seems to be most creative in English regarding newly created words. All platforms create rhymes, these are, however, in a lot of cases less functional. In the case of Hungarian slogans, we could speak rather of rhyme-like structures since – although parts of the slogans rhyme, the rhymes are far from being creative or poetic. Repetitions are found in both languages in almost the same number.

As for slogans generated for specific prompts, we must note that slogans cannot include every aspect of a given brand. It seems, however, that the earlier information is mentioned in the prompt, the more likely it is included in the generated slogan. GPT and BingChat Balanced performed best on the task of including information from the prompt in the slogan.

4.2 Human ratings on Hungarian slogans

Next we analyze how human raters perceive the analyzed slogans.

4.2.1 Comprehensibility of the slogans (Human rating 1)

To analyze overall comprehensibility, two researchers categorized all 260 generated slogans into three categories: 1) slogans that could be used in the given form (they are acceptable: they can be understood and contain no grammatical errors); 2) slogans that can be used with slight modifications and/or which can be understood but are uncommon (uncommon word usage, minor grammatical errors); 3) slogans that are not suitable (cannot be understood, severe grammatical errors). In the rating, we considered only the comprehensibility of the slogans; we did not consider creativity or appellative function. Both raters are native speakers of Hungarian, both hold a PhD degree, and both teach university courses connected to marketing.

Both researchers agreed on slogans belonging to Category 1) in 117 cases, Category 2) in 58 cases, and belonging to Category 3) in 40 cases. Overall inter-rater reliability showed good agreement: Number of agreements 215 (82,69%), Cohen's Kappa 0.720 (95% confidence interval; Weighted Kappa 0,786) (cf. Cohen 1960; Fleiss/Levin/Paik 2003).

Overall, BingChat Balanced had the most agreements in Category 1) (25 out of 40; both generic and specific slogans), and ChatGPT (2022) had the least (3 out of 30; generic slogans). ChatGPT (2023) performed well overall, but it failed on the generic slogans connected to local food: none of the slogans was rated into Category 1) by either researcher. In contrast, e. g., Bard managed to generate slogans for local food good; 7 out of 10 slogans were rated in Category 1) by both researchers.

4.2.2 Overall characteristics, memorability, catchiness and correctness of the slogans (Human rating 2)

In September 2023 we conducted empirical research on the generated Hungarian slogans: We asked research participants to rate selected AI-generated slogans on five dimensions. The large number of generated Hungarian slogans (210 general and 50 specific slogans) did not allow each slogan to be evaluated separately by human raters.

From the slogans of each platform and each prompt, we randomly choose two slogans. First, we collected all slogans into an excel table containing 210 general slogans (7 platforms x 3 prompts, 10 slogans for each prompt). To choose 2 slogans randomly out of each 10, we used a random number generator. We used Excel's `randbetween(1;10)` function: to each slogan of the 10 we assigned random numbers with `randbetween` and we chose the slogans with the smallest and second smallest assigned random values. When we could not choose from two (e. g., three slogans were assigned the same value), we added a second `randbetween` function to assign new values and chose the slogans with the smallest assigned value again. We followed the same procedure for the specific slogans. The created slogan list contained 52 slogans: 42 general slogans (7 platforms x 3 prompts x 2 slogans) + 10 specific slogans (5 platforms x 2 slogans) (Appendix 2). These sample of 52 slogans represents a good cross-section of all generated slogans: each prompt for each platform is represented by two randomly chosen slogans. For the questionnaire we randomized the order of the chosen slogans.

The questionnaire was in Hungarian, and we distributed it as a paper-pencil questionnaire in the fall semester of 2023 (between the 11th and 23rd of September) among students of Anonymized University. We choose university students, because they can be assumed to be familiar with the capabilities of Artificial Intelligence and they are the generation which will – presumably – meet and as a consumer evaluate marketing content generated by Artificial Intelligence. In this regard business students are the most relevant group of students, as they have (general) marketing knowledge.

We distributed 100 questionnaires. We excluded five – partly or wholly not filled out – questionnaires from the analysis. Of the 95 participants, 60 were female, and 35 were male. The age distribution was the following: between 18 and 25 years: 82 participants; between 26 and 35 years 9 participants; between 36 and 45 years 3 participants; between 46 and 55 years 1 participant. All participants had Hungarian as their mother tongue. 94 participants speak English (self-reported language knowledge of 3.48 on a 1–5 scale), 86 participants speak German (self-reported language knowledge of 2.21 on a 1–5 scale), and 10 participants speak other languages (self-reported language knowledge of 1.5 on a 1–5 scale, where 1 indicates students know some words and basic expressions on the given language and 5 indicates proficiency). 83 of the students are undergraduate or graduate business students. Participants read news and reports connected to Artificial Intelligence (an average of 3.20 on a scale of 1–5, where 1 means that they do not read anything connected to AI).

The categories of rating and the rating method is based on the method used by Alnajjar/Toivonen (2021). We asked participants to rate the slogans on five dimensions: General impression (gi), memorability (m), catchiness (ca), grammatical correctness (gc), and creator (cr). In each case, a five-point Likert scale was used (1=least positive, 5=most positive). In the Creator (cr)

dimension the five-point scale had the options: 1=definitely machine-created; 2=more likely machine-created; 3=I cannot decide; 4=more likely human-created; 5=definitely human-created. No additional information was given: we did not give any specific instruction how to assess, for example, memorability or catchiness. Thus, we followed the procedure used by Al-najjar/Toivonen (2021). Each participant rated each of the 52 slogans.

Figure 2 shows the average ratings of the slogans according to the AI platform.

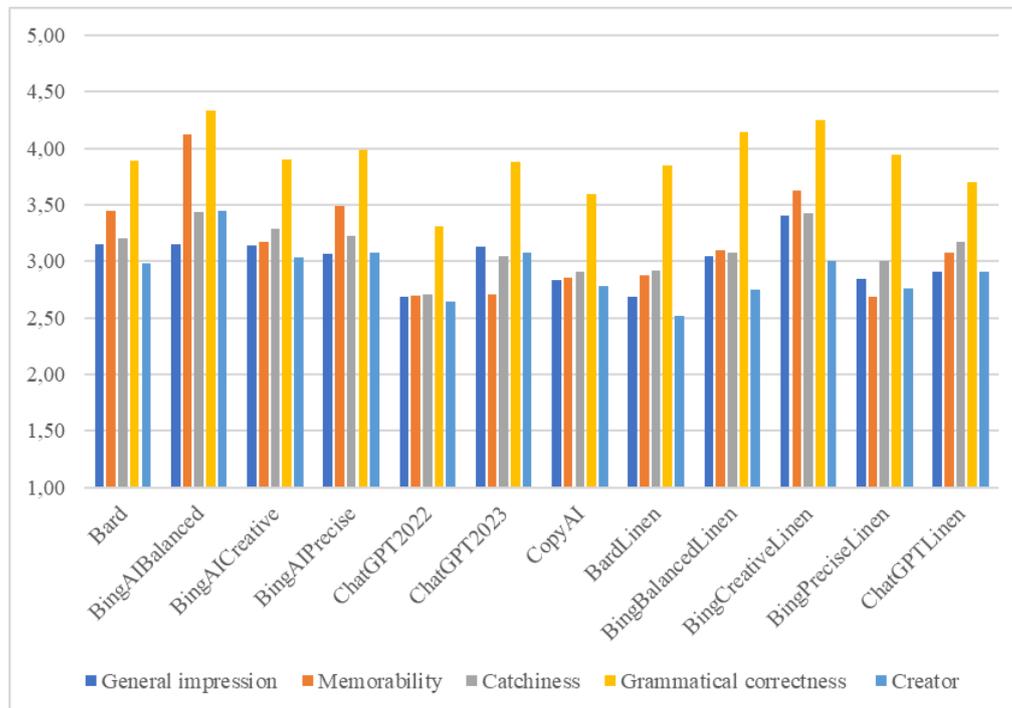


Figure 2: Human ratings of the 52 selected slogans. Linen=specific slogans. In the dimension Creator, a larger value indicates that the given slogans were assumed to have been created more likely by humans

As we can see, in the Memorability dimension among general slogans BingChat Balanced and among specific slogans BingChat Creative scored highest. Moreover, the same two platforms are perceived as having created the catchiest and grammatically most correct slogans. ChatGPT (2022) scored worst in all dimensions.

In general, the overall average ratings of general and specific slogans differ just slightly in the dimensions of General impression and Catchiness (Table 8).

	General impression	Memorability	Catchiness	Grammatical correctness	Creator
Generic slogans (average)	3,02	3,21	3,11	3,84	3,01
Specific slogans (average)	2,98	3,07	3,12	3,98	2,78
Average	3,01	3,15	3,12	3,90	2,91

Table 8: Average ratings according to general and specific slogans

As we see, however, generic slogans are rated in general as more memorable, while specific slogans are grammatically more correct, and participants assumed that they had more likely

been created by AI. These results can be partly connected to the length of the specific slogans: on the one hand slogans are, in general, expected to be short sentences and on the other hand, longer slogans are less memorable.

We measured all correlations between the five dimensions according to the judgments (Figure 3). As we see, correlations are different in the case of different platforms.

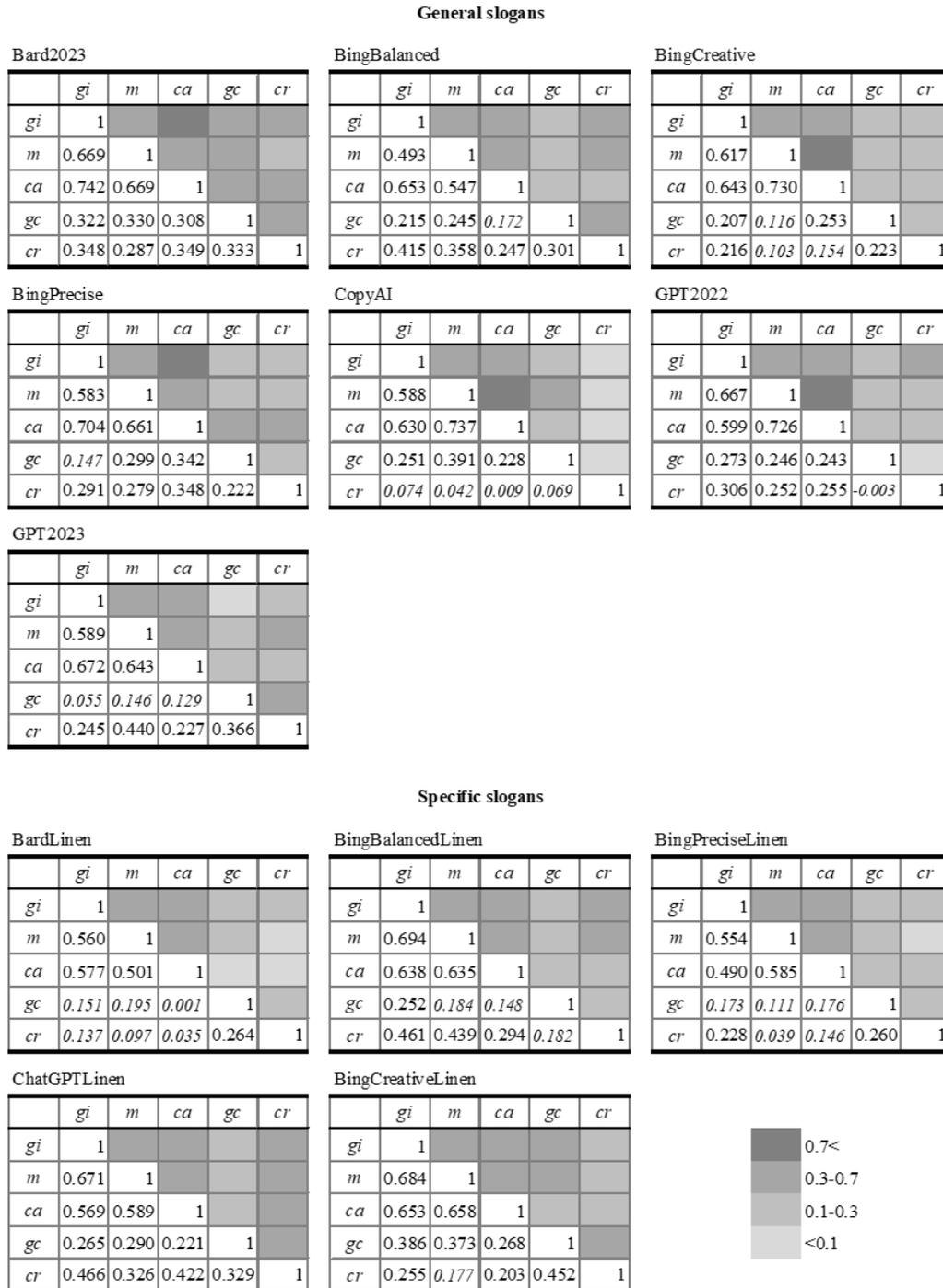


Figure 3: Pearson correlation coefficient of judgments between the five dimensions. General impression (gi), Memorability (m), Catchiness (ca), Grammatical correctness (gc) and Creator (cr). Correlations between 0 and 0.1 are very weak, between 0.1 and 0.3 weak, between 0.3 and 0.7 moderate, and above 0.7 strong (cf. Ratner 2009). Linen=specific slogans. Correlations in italic are not significant, all other correlations are significant at the 0.05 level. (Figure created in Excel)

The correlation is at least moderate between the dimensions of the general impression and memorability, between general impression and catchiness, and between memorability and catchiness. The correlation between grammatical correctness and the other dimensions is, in most cases, weak and, in some cases, moderate. Correlations between creation and all other dimensions showed a mixed picture, depending on the platform and the prompt used.

We also conducted hypothesis testing (Table 9). For hypothesis testing, we used Student's *t*-test. $H_0: \mu = \bar{x}_i$, $H_1: \mu \neq \bar{x}_i$. Degree of freedom: 11. Significance level $\alpha=0.05$, confidence interval [-2.2; +2.2].

	General impression			Memorability			Catchiness			Gramm. correctness			Creator		
	sample mean	<i>t</i> -test	H ₀ /H ₁	sample mean	<i>t</i> -test	H ₀ /H ₁	sample mean	<i>t</i> -test	H ₀ /H ₁	sample mean	<i>t</i> -test	H ₀ /H ₁	sample mean	<i>t</i> -test	H ₀ /H ₁
General slogans															
Bard	3.15	2.37	H ₁	3.45	2.32	H ₁	3.20	1.36	H ₀	3.89	-0.14	H ₀	2.99	1.01	H ₀
BingBalanced	3.15	2.41	H ₁	4.12	7.57	H ₁	3.44	5.14	H ₁	4.34	5.41	H ₁	3.45	7.55	H ₁
BingCreative	3.14	<i>2.11</i>	H ₀	3.17	0.12	H ₀	3.28	2.68	H ₁	3.90	0.05	H ₀	3.03	1.66	H ₀
BingPrecise	3.07	1.05	H ₀	3.49	2.61	H ₁	3.22	1.67	H ₀	3.98	1.01	H ₀	3.07	2.22	H ₁
CopyAI	2.83	-2.76	H ₁	2.86	-2.30	H ₁	2.90	-3.37	H ₁	3.60	-3.70	H ₁	2.78	-1.91	H ₀
GPT2023	3.13	<i>2.07</i>	H ₀	2.71	-3.48	H ₁	3.04	-1.14	H ₀	3.88	-0.27	H ₀	3.08	2.29	H ₁
GPT2022	2.69	-5.06	H ₁	2.69	-3.60	H ₁	2.70	-6.60	H ₁	3.31	-7.25	H ₁	2.64	-3.79	H ₁
Specific slogans															
BardLinen	2.68	-5.16	H ₁	2.87	<i>-2.18</i>	H ₀	2.92	-3.11	H ₁	3.85	-0.62	H ₀	2.52	-5.59	H ₁
BingBalancedLinen	3.05	0.68	H ₀	3.09	-0.45	H ₀	3.08	-0.59	H ₀	4.15	3.06	H ₁	2.75	-2.34	H ₁
BingCreativeLinen	3.41	6.43	H ₁	3.62	3.67	H ₁	3.42	4.87	H ₁	4.25	4.35	H ₁	3.00	1.21	H ₀
BingPreciseLinen	2.84	-2.62	H ₁	2.68	-3.66	H ₁	3.01	-1.76	H ₀	3.95	0.61	H ₀	2.76	<i>-2.19</i>	H ₀
ChatGPTLinen	2.91	-1.52	H ₀	3.07	-0.61	H ₀	3.17	0.84	H ₀	3.69	-2.50	H ₁	2.91	-0.12	H ₀

Table 9: Hypothesis testing. $H_0: \mu = \bar{x}_i$, $H_1: \mu \neq \bar{x}_i$. Degree of freedom: 11. Significance level $\alpha=0.05$, confidence interval [-2.2; +2.2]. In the case of italic numbers, we could not prove the significance at the 0.05 level. All other correlations are significant at the 0.05 level

To answer or second research question (RQ2: How do humans rate slogans created by different platforms?) we rated Hungarian slogans by native Hungarian students. According to the results, overall, and in generic slogans, BingChat Balanced performed best, but BingChat Creative also produced good results with specific slogans. ChatGPT (2022) performed worst, together with Copy.ai. Table 10. shows the overall worst and best performances in the five dimensions.

	min	max
gi	2.68 BardLinen	3.41 BingCreativeLinen
m	2.68 BingPreciseLinen	4.12 BingChatBalanced
ca	2.70 GPT2022	3.44 BingChatBalanced
gc	3.31 GPT2022	4.34 BingChatBalanced
cr	2.52 BardLinen	3.45 BingChatBalanced

Table 10: Worst and best performances according to the hypothesis testing in the five dimensions. General impression (gi), Memorability (m), Catchiness (ca), Grammatical correctness (gc), and Creator (cr). Linen=specific slogans

The above analyses show how the given AI performed on the given task. For a more transparent overview, we provide a summary of human ratings to see whether the performance of a given AI can be considered successful or unsuccessful in the given dimension (see Figure 2). We consider a given platform successful when the rating in the given dimension is above 3 (Table 11, cf. Alnajjar/Toivonen 2021).

Platform	General impres- sion	Memorability	Catchiness	Grammatical correctness
Bard	successful	successful	successful	successful
BingChat Balanced	successful	successful	successful	successful
BingChat Creative	successful	successful	successful	successful
BingChat Precise	successful	successful	successful	successful
ChatGPT2022	unsuccessful	unsuccessful	unsuccessful	successful
ChatGPT2023	successful	unsuccessful	successful	successful
Copy.ai	unsuccessful	unsuccessful	unsuccessful	successful
BardLinen	unsuccessful	unsuccessful	unsuccessful	successful
BingBalancedLinen	successful	successful	successful	successful
BingCreativeLinen	successful	successful	successful	successful
BingPreciseLinen	unsuccessful	unsuccessful	successful	successful
ChatGPTLinen	unsuccessful	successful	successful	successful

Table 11: The platforms are performing successfully and unsuccessfully. A given platform in the given dimension is considered successful if the mean score is above 3

In this regard, BingChat Balanced and BingChat Creative can be considered successful: they were successful in all dimensions, both in the case of general and specific slogans.

Overall BingChat Balanced and BingChat Creative performed best on slogan generation in Hungarian.

4.3 Slogan generation in Hungarian

The last research question (RQ3: How do Generative Pre-trained Transformers perform on slogan generation in a language different from English?) asked how a given AI software performs on slogan generation in different languages.

As we have seen, all the analyzed software could generate slogans not only in English but also in Hungarian. The slogans were also rated by human raters and based on the rating the performance of several platforms can be considered as satisfactory. However, most slogans were translated from generated English slogans except for Bard (general slogans) and ChatGPT (2023). In most cases, the translations were word-by-word translations.

To avoid the possibility that the given platform uses translation as a method for slogan generation just for a given language (in our case, Hungarian), we also generated at the same time period general slogans in German on all platforms with the same prompts (“Kreiere 10 Slogans für nachhaltige Marken”; “Kreiere 10 Slogans für grüne Marken”; “Kreiere 10 Slogans für lokale Lebensmittelmarken”). The results were the same as in the case of Hungarian slogans: Bard and ChatGPT (2023) created original German slogans for German prompts, while all other platforms translated the English slogans.

Research has shown that when translating slogans, a word-by-word translation is the least successful method (cf. Lim/Loi 2015). Translating slogans is a possibility to localize advertising campaigns, especially when targeting small markets and small languages (cf. Nemčoková 2011: 59). Slogans are parts of advertising texts and have an appellative function: by translating such texts the broad context of the texts must be considered, for example, target audience, product category, culture, conventions of advertisements on the given language; and based on these considerations, different translating strategies may be applied (cf. Munday 2004; Valdés 2013).

During the translation of slogans, a word-by-word translation is not recommended: slogans often use ambiguity, stylistic devices, rhymes, puns, and phrases or contain cultural references, which provide a challenge for translators (cf. Nemčoková 2011; cf. also Dan 2015; Munday 2004). When translating slogans, all the linguistic devices that add to the meaning and function of the slogan must be considered and translated – or adapted – to achieve the best results (cf. Nemčoková 2011; Valdés 2008). This includes cultural contexts and references of the slogans; thus, for slogan translation, creativity is paramount (cf. Valdés 2008).

Thus, using Generative Pre-trained Transformers on slogan generation on languages other than English is possible, the generated slogans, however, might be translated English slogans, which may influence their usability on the given language.

4.4 General discussion

As results show, the created slogans are highly different depending on the used platform, the time the slogan was generated, and they are influenced by the prompt used. Slogans were analyzed with methods of corpus linguistics, while in the case of Hungarian slogans, we performed also two human ratings.

We have shown, that a given platform at a given time may use characteristic devices or patterns. For example, using a colon (ChatGPT 2023) or generating two-sentence slogans (BingChat Creative) was characteristic of the given platform at the given time.

In the case of English slogans, although they use rhetorical devices characteristic for good slogans (e. g., rhymes or alliteration like “from farm to fork”, ChatGPT 2023), there was no overall tendency observable that a platform makes better use of these devices. ChatGPT in 2023 can be considered creative because of the neologisms created in the slogan generation process; generating rhymes was the strength of Bard, while BingChat Creative made the most use of repetitions.

As we have seen, most AI platforms use word-by-word translations of English slogans when generating slogans in Hungarian. Although a word-by-word translation may function in several cases, such translations may fail when cultural references or culture- or language-specific devices are used in the slogans. Phonetical and rhetorical devices may also be lost when slogans are translated word-for-word. When these devices and references are translated word-by-word, the translated slogan may be understood; it may carry, however, a message completely or partly different from the original slogan (cf. Dan 2015; Nemčoková 2011). In the case of Hungarian slogans, the translations failed in several cases, either by using uncommon sentence structures or by generating grammatical or other errors.

We have seen, however, that in the case of the generated Hungarian slogans, the results of human rating were not influenced by the fact whether a slogan was translated or generated by the AI: BingChat Balanced performed best in the case of Hungarian slogans. We must note, however, that this may partly be due to the fact that, in general slogans, BingChat Balanced used the same translated slogans for both sustainable and green brands, the slogans were not longer than four words, and all contained the Hungarian word *zöld* (‘green’). Thus, the shortness and low variability of words may have contributed to favorable human ratings and good results.

Overall, with the given prompts, in the given contexts, at the given time, in Hungarian, BingChat Balanced obtained the best results, followed by BingChat Creative.

As we have seen, however, these results are hardly generalizable: changing even one variable – for example, the time of slogan creation – may result in generating completely or partly different slogans.

Based on the criteria we assess the results by, different platforms seem to perform best. For the current research, we used several different criteria – and depending on the criteria used, some platforms performed better than others. For example, GPT 2023 used the largest lexical variety (different words), which can ensure creating more distinctive slogans, while GPT (2023) and GPT and BingChat Balanced performed best on the task of including information from the prompt in the slogan. According to human raters, however, BingChat Balanced and BingChat Creative created the slogans rated highest. Thus, considering a given viewpoint, a given platform at a given time can be considered successful or performing better. This must not mean, however, that the generated slogans can be considered in every aspect as creative or potentially successful. The results call to attention that the most paramount task would be to create independent, general criteria by which slogan generation can be assessed as successful or as creative.

4.4.1 Managerial contributions

As a general recommendation, we could formulate that AI may be used for slogan generation, but results highly depend on the platform, the time the platform was used, and the prompt used. While generated slogans may sound good and acceptable in English, in other languages, caution is recommended since word-by-word translations may include idioms that are hardly understandable in the given language.

Another caution for using AI-generated slogans is connected to the uniqueness of the slogans. When using the same platforms with a similar prompt, we may get similar slogans. In our case, for example – as we have shown – the idiom *sth. is a new black* was used five times. It means that while using the creativity of AI, we may end up with slogans that are similar to competitors using the same AI, which means the slogan may fail to be distinguishable from other slogans (cf. Kohli/Leuthesser/Suri 2007). In general, in slogans frequently used words and sentence structures are, however, not recommended for new slogans because they do not allow for a unique positioning of the brand (cf. Skračić/Kosović 2016; Papp-Váry 2023). In this regard, a more specific prompt using the brand name and giving extra information about the brand/product may increase the chance of generating unique slogans and avoid brand confusion (cf. Poiesz/Verhallen 1989).

When creating slogans, both keeping them simple and using creative solutions is possible, although creative slogans may stand out more from similar slogans (Kohli/Leuthesser/Suri 2007). The created slogans were less creative in Hungarian, they may function, however, better on other languages. Although the slogans use devices frequently found in slogans, in a lot of cases they do not function as intended, they just seem to appear arbitrary in the slogans, because slogans are expected to have such devices. In this regard, the emergence of some creative devices can be expected, since this is how GPT platforms function based on the training data. The actual function of these devices is, however, less predictable. Such platforms could help, however, to create different variations of slogans to reduce competitive interference and thus make slogans more connected to the brands (cf. Rosengren/Dahlén 2006).

Currently, AI-generated slogans may be usable for small companies; nevertheless, we recommend using specific prompts instead of general ones and correcting and/or rewriting generated slogans. This is especially true when the slogan is not generated in English. The results are in line with Reisenbichler et al. (2022) and Zhang/Prebensen (2024): best results may be achieved when marketing experts and AI platforms co-create texts.

4.4.2 Ethical and copyright considerations

By speaking about AI-generated content, like slogans, we must consider ethical and copyright issues and questions (cf. Kovács 2024). Here, we do not seek to answer these questions since scientific – and legal – debates and lawsuits have just started: we merely want to point out questions that may arise while using AI for generating slogans.

The first is an ethical question, often argued in connection with AI: On what data can AI be trained not to violate any copyrights (cf. Lucchi 2023; Peres et al. 2023; Samuelson 2023)?

A solution to generating better slogans would be to train AI extensively on existing ones. This solution raises, however, several questions. Since most slogans are subject to copyright (cf. Bouchoux 2016), how do we ensure that the trained AI does not violate any copyrights? The above question is more complex since a given slogan may be copyrighted in one country for a given product category but not in another country. The best results can be reached, however, when the AI is trained not only on the slogans (and is taught some basic or complex characteristics of slogans) itself but also knows how successful the given slogan was, for example, what was the acceptance and reception of the given slogan in the given target group in the given time period. Using this information for AI training may again be subject to other copyright regulations.

Another question is whether the slogans generated by AI are, can, or must be copyrighted in any way. The question has – again – several facets.

The first question is whether an AI-generated slogan can be subject to copyright or not. On the one hand, we can argue that in the case of the generated content, no human is involved; therefore, copyright cannot be applied; on the other hand, we may also argue that a human is involved in prompting (and possibly altering) the AI-generated result; which makes the content unique and subject to copyright (cf. Peres et al. 2023).

When AI-generated slogans can be no subject of copyright, the same slogan may be used by different companies without any legal restriction.

When the slogans are subject to copyright, the first question is whether the generated slogans are copyrighted by the owner of the software or by the AI itself (cf. Abbott/Rothman 2022). When they are copyrighted by either, can the copyright be bought off by a company or a private person? If they are subject to copyright – but not copyrighted by the AI owner or the AI itself – how can they be copyrighted by a company or a private person? The questions are paramount since a company using a slogan created by AI may be worth millions of dollars in the future, implying that the slogan itself added to the worth of the company and by itself may be worth tens or hundreds of thousands of dollars.

As of November 2023, for example, in the case of OpenAI's ChatGPT all inputs and all generated outputs are owned by the user (cf. OpenAI 2023), while in the case of Bing – although the ownership is not claimed – Microsoft may use prompts and generated content (cf. Microsoft 2023a). However, regulations may change and different regulations may apply for different users (cf. Microsoft 2023b).

Another question connected to copyright arises when we use AI-generated slogans as a starting point to generate slogans by humans. In this case, the copyright goes through a continuum. On one end, we may alter the generated slogans just slightly (e. g., replacing a word with another one); in another case, we may alter it profoundly (e. g., replacing one part with a human-generated phrase), and in the last case, we use the AI merely for brainstorming and collecting ideas (e. g., words and phrases), and ultimately a creative team generates a slogan based on hundreds of AI and human inputs. Copyright issues can be clear at one end of the continuum or the other, but more blurred in between.

To complicate copyright questions more, we may ask which laws apply when the AI software owner is located in one country, the software itself works physically in another country, and the user of the software is in a third country, and each country regulates copyright issues of AI-generated content differently. The last question – again – may sound hypothetical and abstracted from reality at the time being, but it may be a real question when AI-generated content – including AI-generated slogans – will be used more widely in business contexts.

As we see, the answers to the above questions are not (yet) clear. Solutions may be found in the future; for the time being, however, only recommendations are formulated (cf. Appel/Neelbauer/Schweidel 2023).

4.4.3 Limitations and future research

The first limitation concerns the prompts used: Since no public information is available on exactly how texts – in our case, slogans – are generated, altering the prompt in the slightest way may influence results profoundly.

The second limitation is connected to the used computer: The analyzed slogans were generated at the indicated time on the given platform. All slogans were generated from the same computer, with the same IP address, using the same account. Using the same computer (IP address) may influence slogan generation: When AI platforms use previous human interactions, they may adapt their displayed result to the given user (computer).

The third limitation is connected to the time of slogan generation: As we can see, the slogans generated by AI may differ even during the same day; thus, the same platforms may generate very different slogans at different times. Therefore, the characteristics of AI enable only showing trends and describing contexts and results at a given time with a given prompt. This insight warns us to generalize the results only very carefully.

A fourth limitation is connected to human ratings. In the case of the Human rating 2, we randomly choose slogans from a given platform for each prompt. The randomly chosen slogans, however, may not be characteristic of the overall performance of the given platform.

A fifth limitation is connected to the rated slogans: We used only AI-generated slogans; we did not compare them to human-generated slogans. We also did not change the slogans' wording or correct grammatical errors.

A sixth limitation is due to the fact that only Hungarian slogans were analyzed and rated in detail. The reason for it is simple: We had no access to a large number of raters with English as a mother tongue. Since all generated slogans are presented in the Appendix, however, we encourage researchers to rate English slogans, too.

For future research it is important to analyze how AI impacts creativity in marketing (cf. Ameen et al. 2022) to understand the role of marketing experts in future marketing-related business tasks. Connected to current research, it would be interesting to compare AI-generated slogans to human-generated ones (e. g., generated by a professional and by an apprentice like a student of marketing) and also to AI-generated slogans, which are slightly or substantially changed using human creativity. It would also be interesting to compare results using different computers and using slightly different prompts. A broader cross-language comparison of generated

slogans may shed light on the mechanisms of how AI generates – or translates – slogans in different languages.

5 Conclusion

The paper has shown that AI is able to generate both general and specific slogans for sustainable brands. As we have seen, however, the results are very different in the case of generating slogans for brands: Results depend on the platform, the prompt, the exact time the software is used, and the language of the prompt. Slogans in languages other than English are, in most cases, word-by-word translations of slogans generated in English.

Results showed that AI-generated content can be analyzed and evaluated using both theoretical consideration and human ratings. As we have seen, however, some evaluating methods may fail. In our case, an analysis of stylistic devices would be possible but pointless since, although some of the devices are present, they function differently than they would in the case of human-generated slogans. We recommend carefully using existing methods and developing new approaches suitable for evaluating AI-generated content. Practitioners can, however, define the criteria, which can be used to assess the performance of human- or AI-generated slogans. When the criteria are defined, they can test different platforms according to the given criteria and decide for or against the use of the given platform.

For practitioners, Artificial Intelligence and Generative Pre-trained Transformer (GPT) technologies may democratize some fields of marketing by providing free or cheap marketing solutions for smaller companies. Caution is called for, however, since not only may the quality of generated slogans differ depending on the AI and prompt used, but the usage of AI may result in slogans generated by different companies being very similar to each other.

Companies generating slogans with AI have to consider ethical and copyright issues, as well. In itself, due to earlier-mentioned ethical considerations, AI-generated slogans may be best used for brainstorming.

For the time being, these platforms may be best used for brainstorming, and the best – and safest – results may be achieved in slogan generation when words or expressions generated by the AI are building parts of human-generated slogans.

Note on the use of Artificial Intelligence

AI software was used to generate slogans, as stated and quoted in the paper according to the recommendations of Polonsky/Rothman (2023).

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Appendix 1

General slogans

ChatGPT 2022

English slogans	
Slogans for sustainable brands	Sustainability is the new black. Think globally, shop sustainably. Reduce, reuse, recycle, and support sustainable brands. Buy once, buy well with sustainable brands. Be the change you want to see in the world with sustainable brands. Join the sustainability revolution. Sustainable brands for a healthy planet. Leave a lighter footprint with sustainable brands. Invest in the future with sustainable brands. Sustainable brands for a better tomorrow.
Slogans for green brands	Going green never looked so good. Choose green, choose sustainability. Green living starts with green brands. Be kind to the planet, choose green brands. Small changes, big impact with green brands. Go green, go sustainable. Preserve the earth, shop green brands. Green brands for a better tomorrow. Eco-friendly and fashionable with green brands. Sustainable living made easy with green brands.
Slogans for local food brands	Support local, eat delicious. Savor the flavors of your community with local food brands. Buy local, nourish your body and your community. Fresh from the farm, straight to your table with local food brands. Think global, eat local.

	<p>Reduce your carbon footprint with local food brands. Eat well, do good with local food brands. Nourish your body and support your community with local food brands. Connect with your food and your community with local food brands. Eat local, nourish your soul.</p>
Hungarian slogans	
Slogans for sustainable brands	<p>A fenntarthatóság a divat új színe. Gondolj globálisan, vásárolj fenntarthatóan. Csökkentsd, újrahasznosítsd, újrahasznosítsd és támogasd a fenntartható márkákat. Vásárolj egyszer, jól vásárolj fenntartható márkákkal. Légy az a változás, amit a világban látni szeretnél fenntartható márkákkal. Csatlakozz a fenntarthatósági forradalomhoz. Fenntartható márkák egészséges bolygóért. Hagyj kisebb lábnyomot fenntartható márkákkal. Fejlessz a jövőbe fenntartható márkákkal. Fenntartható márkák jobb holnapért.</p>
Slogans for green brands	<p>A zöld sosem nézett ki ilyen jól. Válassz zöldet, válassz fenntarthatóságot. A zöld életkezdés zöld márkákkal kezdődik. Légy kedves a bolygóval, válassz zöld márkákat. Apró változtatások, nagy hatás zöld márkákkal. Menj zöldre, menj fenntarthatóra. Őrizd meg a földet, vásárolj zöld márkákat. Zöld márkák jobb holnapért. Környezetbarát és divatos zöld márkákkal. Fenntartható életvitel könnyedén zöld márkákkal.</p>
Slogans for local food brands	<p>Támogasd a helyi élelmiszeripart, élvezd a finom ízeket. Örömozz a helyi közösséged ízeiben helyi élelmiszer márkákkal. Vásárolj helyi termékeket, tápláld testét és közösségét. Friss a farmról, az asztalodra helyi élelmiszer márkákkal. Gondolj globálisan, egyél helyi termékeket. Csökkentsd széndioxid-lábnyomodat helyi élelmiszer márkákkal. Egyél jól, cselekedj jól helyi élelmiszer márkákkal. Tápláld testét és támogasd közösségedet helyi élelmiszer márkákkal. Csatlakozz ételeidhez és közösségedhez helyi élelmiszer márkákkal. Egyél helyi termékeket, tápláld lelkedet.</p>

ChatGPT 2023

English slogans	
Slogans for sustainable brands	<p>Embrace the Green Revolution: Our Sustainable Future Starts Here! EcoChic: Where Fashion Meets Sustainability. Nature's Ally: Uniting for a Greener Tomorrow. PlanetWise: Empowering Change for a Sustainable Earth. EcoEssentials: Redefining Green Living, One Product at a Time. EarthFirst Solutions: Innovating for a Cleaner Planet. GreenGenius: Bright Ideas for a Sustainable World. Harmony in Every Stitch: Sustainable Fashion for All. Sow & Grow: Cultivating Sustainability, Nurturing Life. Revive & Thrive: Sustainable Products for a Flourishing Tomorrow.</p>
Slogans for green brands	<p>GreenLife: Living in Harmony with Nature. EcoVibe: Where Sustainability Meets Style. GreenEarth Solutions: Pioneering a Greener Future. Nature's Best Friend: Committed to a Green Planet. EcoSmart Living: Empowering Green Choices. Greenovation: Innovating for a Cleaner Tomorrow.</p>

	<p>EcoWarriors: Uniting for a Greener World. GreenDreams: Creating a Sustainable Legacy. NaturalNurture: Nourishing the Earth, Naturally. GreenHaven: Where Sustainability Finds Its Home.</p>
Slogans for local food brands	<p>Homegrown Goodness: Taste the Local Difference! From Farm to Fork: Your Local Food Connection. Locally Sourced, Made with Love: Supporting Our Community. Local Bites, Big Delights: Flavorful Foods from Nearby Farms. Taste of the Town: Celebrating Local Culinary Treasures. Farmers' Finest: Bringing the Best of Local Produce to You. Community Kitchen: Nourishing Together, Growing Stronger. Rooted in Flavor: Fresh, Local, and Delicious. Harvested Here: Supporting Local Farmers, One Bite at a Time. Fork and Field: Where Local Tastes Extraordinary.</p>
Hungarian slogans	
Slogans for sustainable brands	<p>Jövőt formálunk: Fenntartható márka, fenntartható holnap. Zöld lépések, nagy hatás: Csatlakozz a fenntarthatóság forradalmához! Környezetünkért, egészségünkért: Együtt az újrahasznosításért. Természetes választás: A fenntartható életmód iránt elkötelezve. Megtakarítunk, megújítunk: Kevesebb hulladék, több életminőség. Tiszta források, tiszta élet: Vízió a fenntartható jövőért. Gondoskodjunk közösen a Földről: Csak egy bolygónk van! Kis lépések, nagy változások: Újragondoljuk a fogyasztást. Együtt erősebbek vagyunk: Közösségünkért, bolygónkért. Fenntartható tudatosság: Az egészségesebb és boldogabb holnapért.</p>
Slogans for green brands	<p>Zöld élet, zöld jövő: Újragondolt termékek, fenntartható holnap. Fenntarthatóság vezérel: Zöld márkánk a bolygóért dolgozik. Környezetbarát választás: Az egészséges bolygó szolgálatában. Zöld technológia, zöld hatás: Az innovációért és a fenntarthatóságért. Természetesség újragondolva: Zöld megoldások mindennapjainkhoz. Fenntartható életstílus: Hozzájárulunk a zöld jövőhöz. Zöld gondolkodás, zöld eredmények: Együtt a tiszta jövőért. A természetünk megőrzése: Zöld választás mindenkinek. Zöld innovációk: A fenntarthatóság élvonalában. Közösségünkért, bolygónkért: Zöld márkánk az elkötelezettséget hordozza.</p>
Slogans for local food brands	<p>Friss ízek, helyi források: A környezetbarát választás. Tudjuk, hogy honnan származik: Élvezd a helyi ízeket! Kóstold meg a közelséget: Helyi élelmiszer, minőségi élmény. Az ízek városa: A helyi termelők összefognak. Az ízek otthona: Természetes, helyi alapanyagokból. Közösségünk asztala: Helyi termékek, közös büszkeség. Az élet frissessége: Helyi élelmiszer, telis-tele vitalitással Kézzel fogható ízek: Közeli gazdáktól, tiszta szívvel. A természettel együtt: Támogasd a helyi gazdákat. Helyi hozzáállás, globális hatás: Közösségünk fejlődéséért.</p>

Bard

English slogans	
Slogans for sustainable brands	<p>Sustainable living: It's not just a trend, it's a necessity. Go green, save the planet. Together for a sustainable tomorrow. Care for the Earth, it's all we have. Sustainable living: Make it a habit. Think green, act green. Reimagine, redesign, recycle.</p>

	<p>Sustainable living: It's not just for the environment, it's for your wallet too.</p> <p>Sustainable living: It's not about perfection, it's about progress.</p> <p>Sustainable living: The future is here, it's up to us to make it happen.</p>
Slogans for green brands	<p>Green is the new black.</p> <p>Go green, live clean.</p> <p>Sustainable living: It's not a trend, it's a way of life.</p> <p>The future is green, are you?</p> <p>Green is good for the planet, and good for your wallet.</p> <p>Think green, act green, be green.</p> <p>Sustainability: It's not just a buzzword, it's a way of doing business.</p> <p>Green is the future, and we're here to help you get there.</p> <p>We're making the world a greener place, one product at a time.</p> <p>Green is more than a color, it's a way of life.</p>
Slogans for local food brands	<p>Taste the difference of local food.</p> <p>Supporting local farmers, one bite at a time.</p> <p>Fresh, local, and delicious.</p> <p>Grown with care, eaten with joy.</p> <p>Food that tastes like home.</p> <p>Eat local, eat better.</p> <p>Supporting our community, one meal at a time.</p> <p>Good food, good people, good planet.</p> <p>Local food: It's not just a trend, it's a way of life.</p> <p>Taste the difference of eating local.</p>
Hungarian slogans	
Slogans for sustainable brands	<p>Fenntarthatóság a mindennapokért.</p> <p>Változtass a világon, egy termékkel egyszerre.</p> <p>A természetért, az emberekért és a jövőért.</p> <p>Fenntarthatóság, amely stílusos is.</p> <p>A fenntarthatóság ízletes.</p> <p>A fenntarthatóság kényelmes.</p> <p>A fenntarthatóság elérhető.</p> <p>A fenntarthatóság a jövő.</p> <p>A fenntarthatóság kezdődik veled.</p> <p>A fenntarthatóság mindenkié.</p>
Slogans for green brands	<p>Zöld márkák: A jövő már itt van.</p> <p>Zöld márkák: A fenntarthatóság stílusban.</p> <p>Zöld márkák: A környezet védelméért.</p> <p>Zöld márkák: A jövő gyermekeiért.</p> <p>Zöld márkák: A fenntartható életmódért.</p> <p>Zöld márkák: A természet szeretetéért.</p> <p>Zöld márkák: A jövőért.</p> <p>Zöld márkák: A fenntarthatóság mindenkié.</p> <p>Zöld márkák: A változás kezdőpontja.</p> <p>Zöld márkák: A jövő kezdőpontja.</p>
Slogans for local food brands	<p>Ízletes, friss és helyi.</p> <p>Támogasd a helyi gazdákat, egy vásárlással egyszerre.</p> <p>A legfrissebb élelmiszerek a helyi termelőktől.</p> <p>Az íz, a minőség és a fenntarthatóság találkozása.</p> <p>A helyi élelmiszer a legjobb élelmiszer.</p> <p>Egyél helyi élelmiszert, segítsd a helyi gazdákat.</p> <p>A helyi élelmiszer a jövő élelmiszere.</p> <p>Táplálkozz egészségesen, egyél helyi élelmiszert.</p> <p>A helyi élelmiszer a környezetbarát élelmiszer.</p> <p>Egyél helyi élelmiszert, segítsd a bolygót.</p>

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English slogans	
Slogans for sustainable brands	<p>Choose a better world with our eco-friendly products. Making a difference, one green step at a time. Sustainability starts with us. Sustainable living made easy. Join the movement towards a cleaner planet. Sustainability is not a choice, it's a responsibility. We're taking the lead in eco-conscious innovation. The ultimate destination for eco-friendly solutions. Reduce, Reuse, Recycle with a purpose. Together, we can build a better future for all.</p>
Slogans for green brands	<p>Embrace the power of green. Making the world greener, one product at a time. Choose a sustainable future with our green solutions. Nature-inspired. Earth-approved. For a cleaner, greener tomorrow. Sustainability is at the heart of everything we do. Redefining green living for a better planet. Be part of the green revolution. Leading the way towards a greener planet. Think green, live green, be green.</p>
Slogans for local food brands	<p>Taste the goodness of local, farm-fresh food. From our farm to your fork, supporting local agriculture. Nourishing communities with local flavors. Rediscovering the pleasure of locally sourced foods. Keeping it local, keeping it fresh. Support local farmers, savor local flavors. Experience the taste of local authenticity. Locally grown, locally loved. Bringing the farm to your table. Choose local, taste the difference.</p>
Hungarian slogans	
Slogans for sustainable brands	<p>Válassz egy jobb világot fenntartható termékeinkkel. Tegyéél környezettudatosan, egy zöld lépés a tökéletes kezdet. A fenntarthatóság velünk kezdődik. Egyszerűbb fenntartható életet élni velünk. Csatlakozz a mozgalomhoz egy tisztább bolygóért. A fenntarthatóság nem választás, hanem felelősség. Mi vagyunk az innováció élén az ökológiai tudatosság terén. Az ultimátum az ökomegoldások területén. Megújul, újrahasznosít, fenntartható céllal. Együtt építhetünk egy jobb jövőt mindenki számára.</p>
Slogans for green brands	<p>Az erő a zöldben rejlik. Az ökológiai termékeinkkel a világot zöldebbé tesszük. Válassz egy fenntartható jövőt, zöld megoldásainkkal. Az inspiráció forrása a természet, a jóváhagyást a bolygó adja. Egy tisztább, zöldebb holnapért. A fenntarthatóság mindennél fontosabb számunkra. Az éllovasz a zöld életmód felé vezető úton. Csatlakozz a zöld forradalomhoz. Az újraderolozott anyagokban rejlő lehetőségek kihasználása. Gondolj zöldre, élj zölden, légy zöld.</p>
Slogans for local food brands	<p>Kóstold meg a helyi, friss ételek jódozatát. A farmunktól az asztalodig – támogassuk a helyi mezőgazdaságot. Tápláljuk a közösségeket helyi ízekkel. Fedezd fel újra a helyi, minőségi ételek örömét.</p>

	<p>Maradjunk helyben, tartsuk frissen. Támogasd a helyi termelőket, élvezd a helyi ízeket. Tapasztald meg a helyi hitelesség ízét. Helyben termesztve, helyben szeretve. Hozd a farmot az asztalodhoz. Válassz helyit, érezd meg a különbséget.</p>
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BingChat Balanced

English slogans	
Slogans for sustainable brands	<p>Sustainability is the new luxury. Green is the new black. Sustainable fashion for a sustainable future. Eco-friendly products for a better tomorrow. Choose green, choose life. Sustainable living made easy. Join the green revolution. Be the change you want to see in the world. Sustainability is not a choice, it's a responsibility. Small steps lead to big changes.</p>
Slogans for green brands	<p>Green is the new black Think green, act green Green is the color of hope Green is the way to go Green is the future Green is the new gold Green is the color of life Green is the color of nature Green is the color of harmony Green is the color of balance</p>
Slogans for local food brands	<p>From farm to table Fresh from the fields Locally grown, locally owned Taste the difference of local Support your local farmers Eat fresh, buy local Local food for local people Farm fresh goodness Local food, better mood Local food, better for you and the environment</p>
Hungarian slogans	
Slogans for sustainable brands	<p>Zöld az új fekete Gondolkodj zölden, cselekedj zölden Zöld a remény színe Zöld az út Zöld a jövő Zöld az új arany Zöld az élet színe Zöld a természet színe Zöld a harmónia színe Zöld az egyensúly színe</p>
Slogans for green brands	<p>Zöld az új fekete Gondolkodj zölden, cselekedj zölden Zöld a remény színe Zöld az út Zöld a jövő Zöld az új arany Zöld az élet színe</p>

	Zöld a természet színe Zöld a harmónia színe Zöld az egyensúly színe
Slogans for local food brands	A farmtól az asztalig Frissen a mezőről Helyben termelt, helyben eladott Kóstold meg a helyi különbséget Támogasd a helyi gazdákat Egyél frisset, vásárolj helyben Helyi élelmiszer helyi embereknek Friss farmtermékek Helyi élelmiszer, jobb hangulat Helyi élelmiszer, jobb neked és a környezetednek

BingChat Creative

English slogans	
Slogans for sustainable brands	Be the change you want to see. Choose sustainable. Sustainable living, happy planet. Don't compromise on quality or ethics. Go sustainable. Sustainability is not a trend. It's a lifestyle. The future is green. Join the sustainable movement. Sustainable fashion is always in style. Save money, save resources, save the planet. Switch to sustainable. Sustainable products, made with love and care. Make every day Earth Day with sustainable choices. Sustainability starts with you.
Slogans for green brands	Green is the new black. Shop green. Go green, go clean, go healthy. Green products, green planet, green future. Green is not just a color. It's a commitment. Green is good. Good for you, good for the environment. Be green, be smart, be responsible. Green is more than a choice. It's a duty. Green is beautiful. Discover the beauty of green products. Green is power. Power your life with green energy. Green is the way to go. Go green today.
Slogans for local food brands	Local food, global impact. Eat local, eat fresh, eat healthy. Local food, local flavor, local pride. Support your community. Buy local food. Local food, good for you, good for the planet. Taste the difference. Choose local food. Local food, made with passion and care. Local food, from farm to table. Local food, the best food. Local food, a delicious way to make a difference.
Hungarian slogans	
Slogans for sustainable brands	Légy a változás, amit látni akarsz. Válassz fenntarthatót. Fenntartható életmód, boldog bolygó. Ne engedj a minőségből vagy az etikából. Válassz fenntarthatót. A fenntarthatóság nem divat. Életforma. A jövő zöld. Csatlakozz a fenntartható mozgalomhoz. A fenntartható divat mindig divatos. Spórolj pénzt, spórolj erőforrásokat, spórolj a bolygón. Váltás fenntarthatóra. Fenntartható termékek, szeretettel és gondoskodással készítve. Tedd minden napot Föld napjává fenntartható választásokkal.

	A fenntarthatóság veled kezdődik.
Slogans for green brands	Zöld az új fekete. Vásárolj zöldet. Légy zöld, légy tiszta, légy egészséges. Zöld termékek, zöld bolygó, zöld jövő. Zöld nem csak egy szín. Elkötelezettség. Zöld jó. Jó neked, jó a környezetnek. Légy zöld, légy okos, légy felelős. Zöld nem csak egy választás. Kötelesség. Zöld gyönyörű. Fedezd fel a zöld termékek szépségét. Zöld erő. Töltsd fel az életed zöld energiával. Zöld az út. Lépj zöldre ma.
Slogans for local food brands	Helyi ételkészítés, globális hatás. Egyél helyit, egyél frisset, egyél egészségeset. Helyi ételkészítés, helyi íz, helyi büszkeség. Támogasd a közösséged. Vásárolj helyi ételkészítést. Helyi ételkészítés, jó neked, jó a bolygónak. Ízeled meg a különbséget. Válassz helyi ételkészítést. Helyi ételkészítés, szenvedéllyel és gondossággal készítve. Helyi ételkészítés, a farmtól az asztalig. Helyi ételkészítés, a legjobb ételkészítés. Helyi ételkészítés, egy finom módja a változásnak.

BingChat Precise

English slogans	
Slogans for sustainable brands	Sustainably made, for a better tomorrow Eco-friendly products for a greener world Sustainability is our priority For the planet, for the people Green living, made easy Join the sustainability revolution Better for you, better for the Earth Eco-conscious choices for a brighter future Sustainable living, one step at a time Together for a sustainable future
Slogans for green brands	Green is the new black Eco-friendly and proud Green living, for a better tomorrow Join the green revolution Eco-conscious choices, for a brighter future Green products, for a healthier planet Sustainability is our passion For the love of the Earth Green choices, for a better world Together for a greener future
Slogans for local food brands	Fresh from the farm to your table Locally grown, locally loved Support local farmers, eat fresh food From our community, to your plate Local food, for a healthier you Eat local, live well Fresh, local, and delicious Supporting our community, one bite at a time Local food, for a sustainable future Good for you, good for the community
Hungarian slogans	
Slogans for sustainable brands	Fenntarthatóan készült, egy jobb holnapért Környezetbarát termékek egy zöldebb világért

	<p>A fenntarthatóság a mi elsődleges célunk A bolygóért, az emberekért Zöld életmód, könnyedén Csatlakozz a fenntarthatósági forradalomhoz Jobb neked, jobb a Földnek Öko-tudatos választások egy fényesebb jövőért Fenntartható életmód, lépésről lépésre Együtt a fenntartható jövőért</p>
Slogans for green brands	<p>A zöld az új fekete Környezetbarát és büszke rá Zöld életmód, egy jobb holnapért Csatlakozz a zöld forradalomhoz Öko-tudatos választások, egy fényesebb jövőért Zöld termékek, egy egészségesebb bolygóért A fenntarthatóság a mi szenvedélyünk A Föld szeretetéért Zöld választások, egy jobb világért Együtt egy zöldebb jövőért</p>
Slogans for local food brands	<p>Frissen a farmról az asztalodra Helyben termesztve, helyben szeretve Támogasd a helyi gazdákat, egyél friss ételeket A közösségünkben, a tányérodra Helyi élelmiszer, egy egészségesebb énedért Egyél helyit, élj jól Friss, helyi és finom Támogatjuk a közösségünket, egy falatnál egyszerre Helyi élelmiszer, egy fenntartható jövőért Jó neked, jó a közösségnek</p>

Specific slogans

ChatGPT

English slogans	
	<p>LinenDream: Where Sustainability Meets Classic Style. Biofibres in Fashion Harmony: LinenDream. Green Fashion, Timeless Appeal: LinenDream. Eco-Chic Wardrobe Essentials: LinenDream. Embrace Nature's Beauty with LinenDream Biofibres. Stay Timelessly Stylish, Choose LinenDream Sustainable Fashion. Classic Elegance, Sustainable Soul: LinenDream. Fashion with a Conscience: LinenDream's Biofibre Delight. LinenDream: Dressing Green-Thinking Young Adults in Style. Wear the Change You Wish to See: LinenDream Biofibres.</p>
Hungarian slogans	
	<p>LinenDream: Fenntartható divat klasszikus stílusban. Bioszálakban rejtőzik az elegancia: LinenDream. Zöld gondolkodású fiataloknak tervezve: LinenDream divat. Bioszálak, időtlen stílus: LinenDream. LinenDream: Egy lépés a fenntartható jövőért. Bio-szépség: LinenDream környezettudatos divat. LinenDream: A zöld gondolkodás divatja. Fenntartható luxus, elérhető áron: LinenDream. Stílus és felelősség kéz a kézben: LinenDream. LinenDream: Zöld szívvel tervezett divat érted.</p>

BingChat Balanced

English slogans	
	<p>LinenDream: where sustainability meets style. Biofibres for a better future: LinenDream. LinenDream: the perfect blend of fashion and eco-friendliness. Sustainable fashion for the conscious consumer: LinenDream. LinenDream: where classic style meets modern sustainability. Eco-friendly fashion for the next generation: LinenDream. LinenDream: the future of sustainable fashion. Biofibres for a cleaner planet: LinenDream. LinenDream: because fashion should never come at the cost of the environment. Sustainable fashion that doesn't compromise on style: LinenDream.</p>
Hungarian slogans	
	<p>LinenDream: ahol az ökológiai fenntarthatóság találkozik a stílussal. Bioszálak a jobb jövőért: LinenDream. LinenDream: a tökéletes elegye a divatnak és az öko-barát szemléletnek. Fenntartható divat tudatos vásárlóknak: LinenDream. LinenDream: ahol a klasszikus stílus találkozik a modern fenntarthatósággal. Öko-barát divat a következő generáció számára: LinenDream. LinenDream: a fenntartható divat jövője. Bioszálak egy tisztább bolygóért: LinenDream. LinenDream: mert a divat sosem lehet az környezet rovására. Fenntartható divat, amely nem kompromisszumos stílusban: LinenDream.</p>

BingChat Creative

English slogans	
	<p>LinenDream: Biofibres for a better tomorrow. Dress well, live well, with LinenDream. LinenDream: Classic style, sustainable materials. Feel good in your skin and in your clothes with LinenDream. LinenDream: The eco-friendly choice for fashion lovers. LinenDream: Where biofibres meet timeless elegance. LinenDream: Quality clothing that cares for the planet. LinenDream: Fashion with a conscience. LinenDream: Biofibres that look good and do good. LinenDream: The green dream of fashion.</p>
Hungarian slogans	
	<p>LinenDream: Bioszálak egy jobb holnapért. Öltözz jól, élj jól, a LinenDreammel. LinenDream: Klasszikus stílus, fenntartható anyagok. Érezd jól magad a bőrödben és a ruháidban a LinenDreammel. LinenDream: Az öko-barát választás a divat szerelmeseinek. LinenDream: Ahol a bioszálak találkoznak az időtlen eleganciával. LinenDream: Minőségi ruházat, amely törődik a bolygóval. LinenDream: Divat lelkiismerettel. LinenDream: Bioszálak, amelyek jól néznek ki és jót tesznek. LinenDream: A divat zöld álma.</p>

BingChat Precise

English slogans	
	<p>LinenDream: Sustainable fashion for the conscious generation. Biofibers for a better tomorrow with LinenDream. Classic style, sustainable future: LinenDream. LinenDream: Fashion that doesn't cost the Earth. Join the green revolution with LinenDream. LinenDream: Midrange prices, priceless impact. Sustainable fashion for young adults: LinenDream. LinenDream: Look good, feel good, do good. Fashion with a conscience: LinenDream. LinenDream: Sustainable fashion for a brighter future.</p>
Hungarian slogans	
	<p>LinenDream: Fenntartható divat a tudatos generációnak. Bioszálak egy jobb holnapért a LinenDreammel. Klasszikus stílus, fenntartható jövő: LinenDream. LinenDream: Divat, ami nem kerül a Földnek. Csatlakozz a zöld forradalomhoz a LinenDreammel. LinenDream: Középkategóriás árak, felbecsülhetetlen hatás. Fenntartható divat fiatal felnőtteknek: LinenDream. LinenDream: Jól nézel ki, jól érzed magad, jót teszel. Lelkiismerettel rendelkező divat: LinenDream. LinenDream: Fenntartható divat egy ragyogóbb jövőért.</p>

Bard

English slogans	
	<p>LinenDream: Sustainable style for the modern green thinker. LinenDream: Biofibres for a better future. LinenDream: Classic style, sustainable choice. LinenDream: Fashion that's good for you and the planet. LinenDream: Look good, feel good, do good. LinenDream: Sustainable fashion for the conscious consumer. LinenDream: The future of fashion is here. LinenDream: Wear your values. LinenDream: Fashion that's good for the soul. LinenDream: Style with a conscience.</p>
Hungarian slogans	
	<p>LinenDream: A fenntartható stílus a modern zöld gondolkodóknak. LinenDream: Bioszálak egy jobb jövőért. LinenDream: Klasszikus stílus, fenntartható választás. LinenDream: Divat, amely jó neked és a bolygónak. LinenDream: Jól nézz ki, jól érezd magad, tegyél jót. LinenDream: Fenntartható divat a tudatos fogyasztóknak. A divat jövője itt van. Viseld az értékeidet. Divat, amely jó a léleknek. Stílus lelkiismerettel.</p>

Appendix 2.

Slogans used for Human rating 2

Below are the platforms and the slogans used for Human rating 2.

In the last two columns, we indicate the assigned scores of the given slogan during Human rating 1. Rating 1=scores by Rater 1. Rating 2=scores by Rater 2.

The short explanations of the Rating scores are as follows:

1 = 1) Slogans that could be used in the given form (they are acceptable: they can be understood and contain no grammatical errors);

2 = 2) Slogans that can be used with slight modifications and/or which can be understood but are uncommon (uncommon word usage, minor grammatical errors);

3 = 3) Slogans that are not suitable (cannot be understood, severe grammatical errors).

General slogans

Platform	Slogan	Rating 1	Rating 2
Bard	Fenntarthatóság, amely stílusos is.	1	1
Bard	A fenntarthatóság kezdődik veled.	3	3
Bard	Zöld márkák: A jövő gyermekeiért.	2	1
Bard	Zöld márkák: A fenntartható életmódért.	1	1
Bard	A legfrissebb élelmiszerek a helyi termelőktől.	1	2
Bard	Egyél helyi élelmiszert, segítsd a helyi gazdákat.	1	1
BingBalanced	Zöld az új fekete.	1	2
BingBalanced	Zöld az élet színe.	1	1
BingBalanced	Zöld a remény színe.	1	1
BingBalanced	Zöld az egyensúly színe.	1	1
BingBalanced	Frissen a mezőről.	3	3
BingBalanced	Támogasd a helyi gazdákat.	1	1
BingCreative	Légy a változás, amit látni akarsz. Válassz fenntarthatót.	2	2
BingCreative	Spórolj pénzt, spórolj erőforrásokat, spórolj a bolygón. Válsz fenntarthatóra.	2	1
BingCreative	Zöld termékek, zöld bolygó, zöld jövő.	1	1
BingCreative	Zöld nem csak egy szín. Elkötelezettség.	2	2
BingCreative	Helyi élelmiszer, jó neked, jó a bolygónak.	1	1
BingCreative	Helyi élelmiszer, egy finom módja a változásnak.	1	1
BingPrecise	Fenntarthatóan készült, egy jobb holnapért.	2	2
BingPrecise	Együtt a fenntartható jövőért.	1	1
BingPrecise	Környezetbarát és büszke rá.	3	3
BingPrecise	Zöld termékek, egy egészségesebb bolygóért.	2	1
BingPrecise	Támogasd a helyi gazdákat, egyél friss ételeket.	1	1
BingPrecise	A közösségünkben, a tányérodra.	2	2

ChatGPT2022	Légy az a változás, amit a világban látni szeretnél fenntartható márkákkal.	3	2
ChatGPT2022	Fenntartható márkák jobb holnapért.	2	2
ChatGPT2022	Környezetbarát és divatos zöld márkákkal.	2	2
ChatGPT2022	Fenntartható életvitel könnyedén zöld márkákkal.	2	2
ChatGPT2022	Támogasd a helyi élelmiszeripart, élvezd a finom ízeket.	1	1
ChatGPT2022	Friss a farmról, az asztalodra helyi élelmiszer márkákkal.	3	2
ChatGPT2023	Zöld lépések, nagy hatás: Csatlakozz a fenntarthatóság forradalmához!	1	1
ChatGPT2023	Környezetünkért, egészségünkért: Együtt az újrahaznosításért.	1	1
ChatGPT2023	Természetesség újragondolva: Zöld megoldások mindennapjainkhoz.	1	2
ChatGPT2023	Zöld gondolkodás, zöld eredmények: Együtt a tiszta jövőért.	2	2
ChatGPT2023	Kézzel fogható ízek: Közeli gazdáktól, tiszta szívvel.	3	3
ChatGPT2023	Helyi hozzáállás, globális hatás: Közösségünk fejlődéséért.	3	3
CopyAI	A fenntarthatóság velünk kezdődik.	1	1
CopyAI	Mi vagyunk az innováció élén az ökológiai tudatosság terén.	3	3
CopyAI	Az éllovasz a zöld életmód felé vezető úton.	3	3
CopyAI	Az újradolgozott anyagokban rejlő lehetőségek kihasználása.	3	3
CopyAI	Támogasd a helyi termelőket, élvezd a helyi ízeket.	1	1
CopyAI	Hozd a farmot az asztalodhoz.	2	2

Specific slogans

BardLinen	LinenDream: Bioszálak egy jobb jövőért.	1	1
BardLinen	LinenDream: Divat, amely jó neked és a bolygónak.	1	1
BingBalancedLinen	LinenDream: ahol az ökológiai fenntarthatóság találkozik a stílussal.	1	1
BingBalancedLinen	LinenDream: a fenntartható divat jövője.	1	1
BingCreativeLinen	LinenDream: Klasszikus stílus, fenntartható anyagok.	1	1
BingCreativeLinen	LinenDream: Divat lelkiismerettel.	1	1
BingPreciseLinen	LinenDream: Középkategóriás árak, felbecsülhetetlen hatás.	2	2
BingPreciseLinen	LinenDream: Fenntartható divat egy ragyogóbb jövőért.	1	1
ChatGPTLinen	Stílus és felelősség kéz a kézben: LinenDream.	1	1
ChatGPTLinen	LinenDream: Zöld szívvel tervezett divat érted.	2	3