Comparison Of Consumers Perception Between Human Generated And Ai Aided Brand Content

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Abstract

The field of advertisements is getting evolved with the inclusion of Artificial-Intelligence in terms of computational advertising; audio, video and text based automated brand generated contents; omni-channel communications and improved consumer engagement. Despite this rapid growth, the reduced involvement of human aspect in this process questions its effectiveness in the long run. In developing a model for an effective automated brand-generated content, Noort et al (2020) had raised an apprehension related to consumers' perceptions of brand content generated by AI. Our empirical paper aims to address specifically the uncertainty of creativity in AI-aided advertisements and to find if there is any significant difference in consumers' perception between AI-aided and human-alone generated advertisements. Our research design which includes convenient sampling and online survey to collect consumers' preferences between two advertisements of the same luxury car brand (one created by humans and the other AI-aided) answers to the apprehension of AI-generated advertisements.

Keywords: Brand-generated content, Artificial Intelligence, Consumer perception, Creativity, Advertisement effectiveness

Introduction

Digital revolution and ground-breaking advancements in the field of computational advertising has resulted in a paradigm shift in the marketing communications. The change in the brand marketing and advertising are researched from various angles like information technology, advertising, interactive marketing and consumer behaviour and data privacy regulations.

Computational advertising, applying machine learning algorithms has changed the way brands communicate with the consumers. (Yang et al, 2017) Automated brands-generated communication is gaining momentum, but it has its own challenges too. The integration of brand data, content characteristics and the form of delivery channel are relevant for optimum Brand-generated communications. Even though automated brand communications are programmed based on informed decisions, the reduced engagement of human aspect in the process questions the creativity level of the automated brand communications. With the importance of advertising creativity in generating consumer impact being widely accepted, the possibility of automated brand communications sound bleak in the long run. This uncertainty of acceptance of automated brand communication forms the base for our empirical study which aims to identify the significance between human-generated and AI generated brand communications from consumers' perceptive. The conceptual framework by Noort et al (2020) is used as a base model to support our empirical study.

Theoretical background

Digital revolution has changed the consumption pattern, and this has eventually influenced traditional marketing. Ground-breaking advancements in technology has radically changed the concept of brand communication. Traditional advertising is no longer effective, the shift is towards computational advertising: the use of machine learning algorithms to analyse consumer data, tailor the brand content and facilitate the delivery of brand communication across media channels and touch points. (Yang et al, 2017).

Social media research often interchanges the term 'content' and 'messages' for brand related information. Brand content is a broader concept of branded entertainment which is explicitly used to convey the values of a brand and not specific to its product. The brand messages, on the other hand follows native form of advertising by brand as well as UGC. Growing number of research articles are being published in the field of advertising and interactive marketing communications which discuss about the various aspects of brand communication in social media. A review on brand communications in social media by H.A.M. Voorveld (2019) suggests the importance of source characteristics, message characteristics and channel characteristics in shaping consumer responses to brand communication. In line with Yun and colleagues (2020), we agree with the relevance of brand data (brand identity, brand trust and brand relationship quality) in optimizing the brand-generated communications. Brand identity represents a clear, distinctive set of characteristics which the consumers could associate with the brand (Keller, 2012). It is expected that a coherent brand identity across all brand communications will sustain brand's trust (Aaker, 1996) and has a positive association with perceived brand value (He, Li, and Harris 2012; Shirazi, Lorestani, and Mazidi 2013). An established body of literature has in fact identified that more trusted brands (e.g., Bleier and Eisenbeiss 2015) and brands with higher BRQ scores (Smith, Chen, and Yang 2008) have benefited more from automated brand-generated content. With respect to channel characteristics, the attitude towards social media, the motivation to use social media and the attitude towards social media advertising are the key areas with respect to consumer behaviour towards social media brand communication. As compared with other channels, social media is unique in terms of the data they provide. The data and metrics provided by social media

platforms helps in understanding and analysing consumer behaviour towards brand communications. (Dimitrova and Matthes 2018). Unfortunately, not all social media application program interfaces (APIs) are accessible for academic researchers, as APIs are rapidly changing. Also, compliance with privacy regulations, is necessary when using social media data to ensure the users privacy. Moving on to the content characteristics, creativity is considered as an important aspect in determining the brand communication effectiveness. Although creativity has been defined using various perspectives in the marketing/advertising literature but like in psychology: creativity in marketing is identified by two main characteristics: divergence and relevance. Divergence includes elements such as originality, unusual, flexible, elaborate and synthesis. But there is only little conceptual development in terms of divergence in advertising literature (only one construct: originality is considered). While divergence is the central to creativity, the relevance of the ad pertaining to consumer-relevance and brand-relevance should be included. Thus, attributes such as meaningful, appropriate and value should be considered for an advertisement to be termed as relevant or effective (Smith and Yang, 2004). Thus, a brand communication can be considered effective if it comprises of execution elements (peripheral cues which are non-brand related) and message elements (brand/product related information) (Kim and Leckenby, 2002; Stewart and Furse, 1984).

Automated creation of brand content has its own challenges, as it can be observed as being at odds with the creative aspect and most importantly human input. Although algorithms are programmed based on informed decisions, there is less human control. We witness a rapid growth of inclusion of technology such as AI, machine learning and deep learning algorithms, in creating visual, audio and text based automated brand communications. When using such tools, it is believed that the contents are less crafted by brand or marketers and it is argued that computers relying on past data, lack creative aspect and would only generate content like the past data and not suitable for real time. Interdisciplinary teams, comprising of advertising and marketing researchers and data scientists, should be encouraged to make use of the possibilities that computational analytics have to offer for brand communications (Boumans and Trilling 2016). Research by Malthouse and Li (2017) (regrading advertising research), Huh (2017) (regarding digital advertising), and Hargittai (2018) (regarding social media) have explicitly describes the opportunities and challenges related to computational advertising and big data.

With the importance of advertising creativity in generating consumer impact (Liu Thompkins 2019; Smith, Chen, and Yang 2008) and in handling consumer grievances (Kim, 2018) being widely accepted, the possibility of an automated brand content in the long run sounds bleak. Academic research has not thus far identified the impact of content being generated by computers, as compared to human generated. Therefore, it remains unclear whether consumers will be able to identify the difference between the contents and even if so, what will the consumer behaviour related to the brand content be. We through this research have tried to address this gap of measuring the consumers' perception of brand-generated content's creative aspects. A conceptual framework describing the elements of the automated brand-generated model was developed by Noort et al., (2020); however, there is no research available yet to support empirically the effect of automated brand content on consumers' perception.

Research objectives

Against this background, the aim of this study is to address the following research questions:

Objective 1: Whether the source of content generation have an impact on consumers' perception on brand content?

Objective 2: Is there a significant difference between human-generated and AI generated brand content?

Sub-objective1: To test whether the creativity level of AI generated brand content is in par with the content created by humans

Sub-objective 2: To test the level of quality of content type between AI generated and human generated brand content

Sub-objective 3: To test the alignment of brand content of AI versus human with brand personality

The conceptual framework proposed based on the objectives is described in the Figure1:
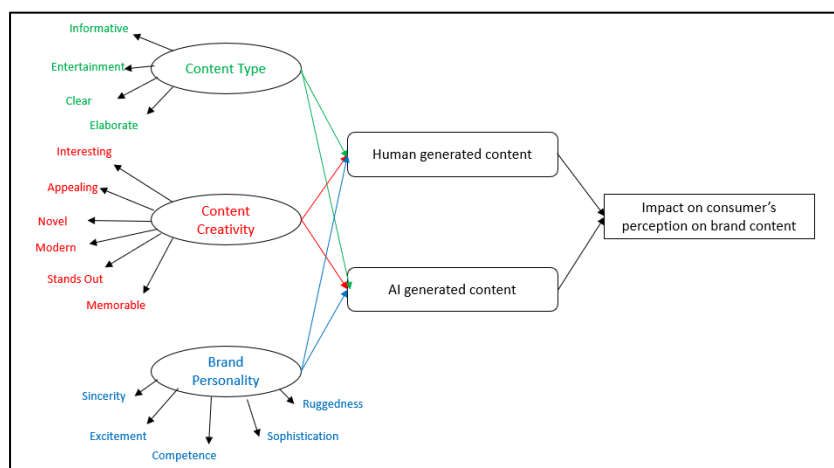

Figure 1 Research Hypothesis Model

Research Methods and Design

For the purpose of this study, we preferred to opt for convenience sampling, non-probability sampling technique. The sample population of size 123 pre-dominantly comprises of Gen Z (18-24 years) consumers followed by Gen Y (25-40 years) consumers who are the most active users of social media. This study examines two types of brand content (human generated and AI-aided brand content) based on three factors: content creativity, content type and brand personality conveyed. An online survey was conducted, and the responses were collected through Google forms. The survey comprised of the basic questions regarding respondents' demographics, social media usage (frequency of use, preferred social media and brand pages if any followed) and then two advertisements pertaining to AI created and human created contents were shown to the respondents. The advertisements of luxury car brand were shared with the sample respondents. The concept of one being developed by human and the other by AI. The source of content creation was not revealed to the respondents initially to answer our

objective of whether consumers were able to differentiate between the brand messages and to avoid response bias. The advertisements were followed by the questions covering the established variables to measure the factors considered to understand the perception of the respondents for the AI generated and human generated contents. Once the respondents viewed the advertisements, they were asked to rate them based on the three factors: creativity, type and brand personality alignment. The constructs 'content creativity' was measured using the variables adopted from a previous study by Smith and Yang (2004), 'content type' based on the study by Chandrasekaran et al., (2019) and 'brand personality' based on Aaker's model. The attributes related to each construct were measured using rating scales to compare the effectiveness of the two brand contents. The creativity aspect of brand content was measured by analysing consumers' rating of the brand messages based on the following dimensions: Novel, Interesting, Appealing, Modern, Stands Out and Memorable. Consumers' perception of the type of content conveyed and its alignment with the brand personality were also similarly rated. The research objectives were approached by analysing the collected data collected through SPSS.

The response dataset obtained was tested for randomness (one sample non-parametric test), correlation to test the validity of the instrument (using Kendall's Tau b), reliability test (Cronbach's alpha) and normality (one sample Kolmogorov- Smirnov test). The below table summarizes the above test for each construct-variables.

Construct	Randomness	Instrument validity	Reliability test	Normality
Content Creativity	The data set was random for all the variables	The correlations were significant for variables: Stands Out, Novel, Modern and Memorable	.502	KS Test distribution is Normal.
Content Type	The data set were random for Elaborate, entertaining and informative variables	The correlations were significant for variables: Elaborate, Similarity with other commercials and Entertaining	.206	KS Test distribution is Normal.
Brand Personality	These variables failed randomness	The correlations were also less significant	.024	KS Test distribution is Normal.

Table 1 Pre-analysis results

Results

The data collected were categorical and hence the non-metric analysis techniques were used in this study. The cross tabulations were performed to understand the strength of correlations between multiple constructs and the associated brand contents.

Brand Content	Interesting	Appealing	Novel	Modern	Stands Out	Memorable
AI	96	70	78	53	45	96
HUMAN	27	53	45	70	78	27

Table 2 Association of Brand Content and Content Creativity

Symmetric Measures for Brand Content vs Content creativity had a Cramer's V value of .322 which indicates strong association between them.

Brand Content	Clear	Elaborate	Similarity with other commercials	Entertaining	Informative
AI	89	79	43	47	76
HUMAN	61	56	90	75	48

Table 3 Association of Brand Content and Information quality

Symmetric Measures for Brand Content vs Content type had a Cramer's V value of .241 which indicates moderate association between Brand contents and content type.

Brand Content	Sincerity	Exciting	Competence	Sophistication	Ruggedness
AI	71	59	71	49	44
HUMAN	34	76	51	59	22

Table 4 Association of Brand content and Brand Personality

Symmetric Measures for Brand Content vs Brand Personality had a Cramer's V value of .202 which indicates moderate association between Brand contents and brand personality.

The correspondence analysis is used in this research to describe the relationship between the two categorical variables in a low-dimensional space, this is also a dimensionality reduction technique used for nominal data. The mass indicated the proportion of each row, the scores represent the dimensional distance, the inertia indicates the variance and the contribution of point of inertia is like factor loadings.

Brand Content vs Content Creativity						
VAR0000 1		Score in Dimension			Contribution	
				Of Point to Inertia of Dimension	Of Dimension to Inertia of Point	
	Mass	1	Inertia	1	1	Total

AI	.593	.470	.042	.407	1.000	1.000
HUMAN	.407	-.686	.062	.593	1.000	1.000
Active Total	1.000			.104	1.000	
a. Symmetrical normalization						

Table 5 Correspondence Analysis of Brand Content and Content Creativity
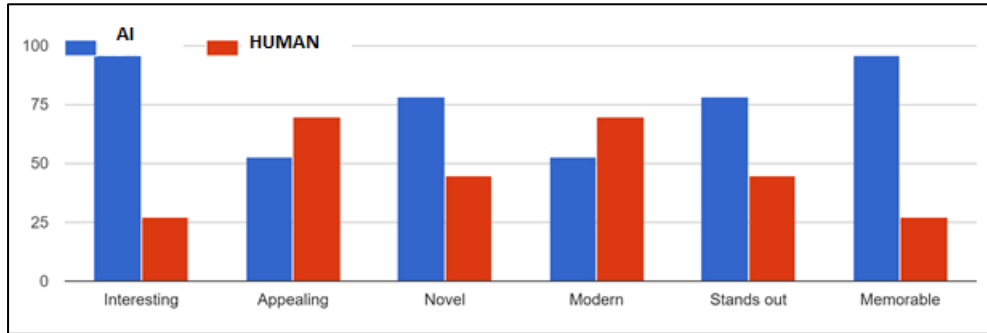
Figure 2 Brand Content and Content Creativity

Brand content vs Content Type[a]						
		Score in Dimension			Contribution	
				Of Point to Inertia of Dimension	Of Dimension to Inertia of Point	
VAR00001	Mass	1	Inertia	1	1	Total
AI	.503	.488	.029	.497	1.000	1.000
HUMAN	.497	-.494	.029	.503	1.000	1.000
Active Total	1.000		.058	1.000		
a. Symmetrical normalization						

Table 6 Correspondence Analysis of Brand Content and Information quality
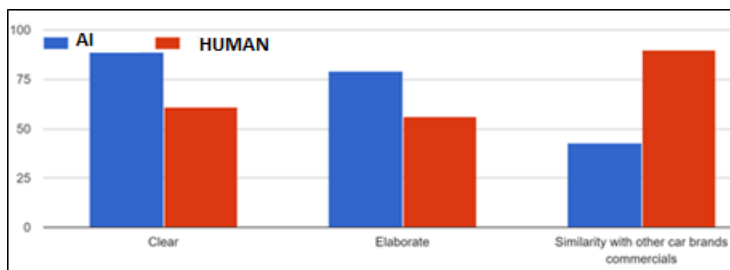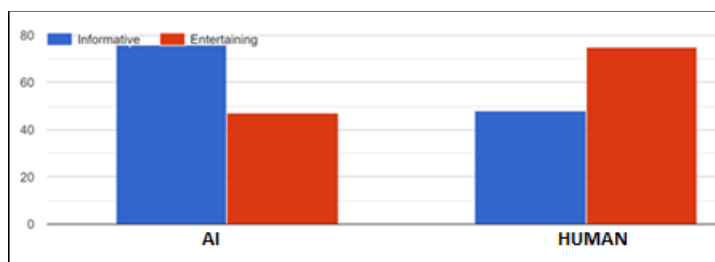

Figure 3a Brand Content and Information quality

Figure 3b Brand Content and Content Type

		Score in Dimension		Contribution		
				Of Point to Inertia of Dimension	Of Dimension to Inertia of Point	
V1	Mass	1	Inertia	1	1	Total
AI	.549	-.408	.018	.451	1.000	1.000
HUMAN	.451	.495	.022	.549	1.000	1.000
Active Total	1.000		.041	1.000		
a. Symmetrical normalization						

Brand Content vs Brand Personality

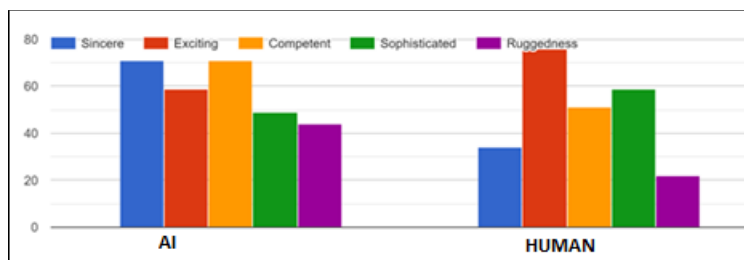Table 7 Correspondence Analysis of Brand Content and Brand Personality

Figure 4 Brand Content and Brand Personality

Discussion

The correspondence mass scores, and Cramer V's association addresses our objective to identify significant difference between human-generated and AI generated brand content. The analysis shows that there is only a minimum level of significant difference between the two contents. The luxury car brand, whose commercials were used for the survey has a persona identified by its Sophistication (luxury, smooth and ergonomics), Excitement (innovative and up to date in technology advancement), Competence (reliability) and Sincerity. Based on the survey results, we can identify that: human generated advertisement pre-dominantly reflects the Exciting and Sophistication personality while AI-aided advertisement highlights the Sincere and Competent aspects. The fact that 69% of the respondents preferred AI generated content over human-generated content supports our argument that the source of content is not evident in the generated content, and it has not affected consumer preferences.

Although this study stands as empirical evidence to support the effectiveness of computer-generated brand contents, this study too has certain limitations. Firstly, we used already developed AI generated content as we were not able to collect brand related data sets and develop a new AI-based brand content. Also, we could get consumer responses in the form of questionnaire instead of real time responses as we were not able to roll out a newly developed AI generated content. The data collected were non-metric and the sample size considered is too small and so this research could be considered as a pilot test for future research wherein the creative attributes could be tested using metric item scales and apart from the creative aspect, the effect of the source credibility and brand affinity on the consumers' perception could be studied. The future research in this area could address these limitations and could also extend the research by considering the influence of coherence among the social media platforms delivering the AI generated content.

Conclusion

The aim of this research was to provide empirical evidence to support the theoretical model proposed for automated brand generated content. This research would serve as a pilot study for future research related to AI aided advertising wherein the impact of various aspects of automated content generation on consumers' attitude and purchase intention the long run can be studied. The future research could build upon the key aspects of brand content identified in this study. One additional proposition in this area is to research upon the significance of the factors pertaining to the data sets used to develop the brand-generated content and the relevance of consumer data in content generation.

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