Artificial Empathy and Brand Anthropomorphism: An Advertising Experiment

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Abstract__ This study aims to examine a specific consumer – brand relationship. Seizing the originality of incorporating an empathic speech in brand, the research seeks to investigate how consumers perceive empathetic advertising and its influence on their tendency to anthropomorphize the advertised brand. Through various mood-inducing techniques, our empirical study aims to explore the cause-to-effect relationship between consumers' perception of empathetic advertising as an emotional regulator of their mood, and their inclination to anthropomorphize the brand being advertised. We employed experimental methods to verify the proposed causality hypotheses. Mood induction stimuli were carefully chosen and pre-tested. The selection of the product type and the advertised brand was well-justified as well. Additionally, we meticulously designed and pre-tested different empathetic advertisements, ensuring congruence or incongruence conditions with the consumer's mood. We believe that our research provides a new impetus for the design and development of empathetic advertisements under the umbrella of artificial intelligence contributions in the marketing field.

Keywords__ Artificial Empathy, Brand Anthropomorphism, AI, Mood Induction, Advertising Experiment, Emotional Regulation, Mood Congruency

I. INTRODUCTION

Marketing communication serves as a channel through which companies aim to inform, persuade, and remind consumers, both directly and indirectly, about the products and brands they offer. It acts as the company's "voice," allowing them to initiate dialogue and foster connections with consumers [1].

However, Consumers are becoming increasingly weary and desensitized by the array of brands/products available. They are bombarded by facts and images: advertisements are everywhere, and instead of being persuaded, consumers react by turning away! There are few efforts to capture the thoughts of contemporary consumers and genuinely make them want to listen to what one wants to convey. Researchers suggest that advertising messages should target emotions. In other words, if brands can evoke feelings of connection and intimacy, where consumers feel understood and cared for through advertising, a more profound link and a closer relationship with the brand are likely to develop [2].

The importance placed on the emotional characteristics of the product/service in contemporary exchange is also justified by

the significance of social orientations specific to the postmodern era [3]. One of the trajectories characterizing contemporary marketing is the creation of empathy between the company (the brand) and the consumer. Empathy, in this context, is the ability toput ourselves in situations or conditions faced by others and understand their feelings [4] [1].

The necessity for creating marketing communication rooted in empathy became prominent during the destabilizing period of the COVID-19 pandemic. Empathetic communication, attuned to the consumer's mood and emotional state, fosters shared interests and kindness towards others [1]. Such marketing practices lead consumers to form connections with products/brands akin to interpersonal relationships. He would voluntarily attribute human traits and intellectual awareness to the brand, a concept referred to as brand anthropomorphism [5][6].

II. DEVELOPMENT OF RESEARCH HYPOTHESES

Based on our research question and taking consideration of the very limited similar studies, a review of the literature has allowed us to develop the hypothesesrelated to our study.At this stage, we reiterate our research objectives. In fact, this study aims to:

- Explore the effectiveness of using an "empathetic language" for consumer's emotional regulation in brand promotion.
- Understand how the connection between anthropomorphic associations and brands could enhance the effectiveness of marketing communication.

The absence of a neutral language in everyday life has made it practically impossible to avoid anthropomorphism [7]. Marketing specialists take advantage of the fact that our ordinary language is anthropomorphic[8]. They use a more metaphorical language, such as deliberately describing brands/products in the first person, making themlook and sound more human-like and relatable to the targeted consumer [9]

On the other hand, consumers use advertising messages to fulfill their needs and desires, to provide companionship, address frustrations and insecurities, or to use them as a form of escape and fantasy [10]. Advertisers can incorporate specific language in their advertisements targeting the emotional sensitivities of their audience. These ads can elicit favorable responses and act as a mechanism for emotional regulation for consumers[11]: a positive mood enhances the expectation that a message which is congruent with that mood will make consumers feel even better, whereas a negative mood leads to the expectation that incongruent messages will make them feel better [12].

Therefore, the use of empathetic language in advertising, endowing the brand with an empathetic interpersonal role, is likely to stimulate the anthropomorphizing of the advertised brand. Thus, our research hypotheses are as follows:

H: The perception of empathetic advertising stimulates the anthropomorphism of the advertised brand.

H1a: For a consumer induced into a **positive mood**, perceiving **mood-congruent** empathetic advertising stimulates the anthropomorphism of the advertised brand.

H1b: For a consumer induced into a **positive mood**, perceiving **mood-incongruent** empathetic advertising **does**

not stimulate the anthropomorphism of the advertised brand.

H2a: For a consumer induced into a **negative mood**, perceiving **mood-incongruent** empathetic advertising stimulates the anthropomorphism of the advertised brand.

H2b: For a consumer induced into a **negative mood**, perceiving **mood-congruent** empathetic advertising **does not** stimulate the anthropomorphism of the advertised brand.

III.   RESEARCH METHODOLOGY

Our research aims to test cause-and-effect relationships between an explanatory metric variable and a metric variable to be explained. Therefore, experimentation appears to be the most appropriate method for data collection. Indeed, experimentation is a highly useful procedure for providing data that guide decision-making in the field of advertising [13].

This methodology is most suitable for testing hypotheses as it enables the description of causal links between one or more manipulated independent variables and one or more measured dependent variables, while imposing a high degree of control over sources of variation.

A.   Conducting the Empirical Study: Experimental Design

There are two main options for conducting experimental studies: laboratory experiments and field surveys (in an outdoor environment). Online surveys are a form of field survey that allows observation, tracking, and drawing conclusions in situations closer to the real-

life experiences of the target audience, minimizing the risk of rationalization [14], [15], [16].

1)   Development of the Factorial Design

An experimental plan is developed to meet the objectives of our research. We opt for the type of experimental design with independent groups.Each group of participants only participates in one experiment representing a single modality of the independent variable, which, in our case, is the perception of empathetic advertising[17].

We aim to induce groups of participants into either a positive or a negative mood state. For participants induced into a positive mood, we expose one group to empathetic advertising congruent with the positive mood (enthusiastic advertising) and another group to empathetic advertising incongruent with this positive mood (non-enthusiastic advertising). Similarly, for participants induced into a negative mood, one group is exposed to empathetic advertising congruent with the negative mood (unhappy advertising), and another group to empathetic advertising incongruent with this negative mood (happy advertising).

TABLE I: FACTORIAL EXPERIMENTAL DESIGN

Condition	Consumer MoodInduction	EmpatheticAdvertising
1	Positive	Congruent with positive mood
2	Positive	Incongruent with positive mood
3	Negative	Congruent withnegativemood
4	Negative	Incongruent withnegativemood

The use of this experimental design allows studying the influence of multiple main variables and the interaction between them [18].

The factors implemented in our study consist of two video sequences inducing the consumer's mood, each with two conditions (Positive and Negative), and empathetic advertisements, also with two conditions (congruent with the consumer's mood and incongruent with the consumer's mood).

Thus, there are 4 (2*2) experimental cells created for the experiment (see table). In this type of experimental design, comparisons will focus on the results obtained from each experimental condition (that is, from each modality of the explanatory independent variables).

2) *Sampling Method*

We have chosen the convenience sampling method. Our sample primarily consists of Tunisian students from various disciplines. Chen and Wells (1999) justify the recommended use of a student sample for online surveys due to their interest and proficiency in using communication technologies, making them an attractive target for electronic advertising. Participants are randomly assigned to one of the (4) experimental conditions. The groups are independent to avoid order effects, learning effects, or interference (Légal).

B. Conducting the Empirical Survey: Selection of Advertised Product and Brand, and Design of Stimuli

Before embarking on the fieldwork andstarting our empirical study, the type of the advertised product must be well selected, the choice of the brand of this product must be justified, the stimuli for inducing the consumer's mood must be carefully chosen and pre-tested, and the various empathetic advertisements (congruent and incongruent to the consumer's mood) must be delicately designed and pre-tested as well.

1) *Choice of Product*

According to Pham (1998)[19], consumers with hedonic incentives to buy a product, as opposed to utilitarian incentives, are more likely to perceive the feelings evoked by the advertisement as relevant. Since our study focuses on empathetic language in advertising, the designed advertisements are emotional, incorporating affective language. The choice of a hedonic product seems most appropriate. We selected a food product due to the universal appeal of food. A sample of 50 students was asked to list foods they might consume to feel better [20], or maintain a positive mood. Chocolate was listed in the top five foods, alongside ice cream, cola, pizza, and cakes.

2) *Brand Selection*

Derbaix (1995)[21]stipulates that the chosen brand for the study should lack preexisting affective and cognitive structures. To ensure this condition, we opted for an unknown brand. This choice aims to ensure that participants' responses are solely a result of their exposure to different experimental conditions, without any form of prior learning about the brand. This approach aims to minimize confusion effects caused by prior attitudes or familiarity with the brand [22][23].

3) *Design of Empathetic Advertisements*

The conceptualization of empathy encompasses caregiving, assistance, communication, and interaction among participants in the exchange[24][25][26]. Therefore, an empathetic message differs

from other emotional messages through specific aspects and elements that must be incorporated for the message to fulfill its function: sharing the target audience's emotional state.

4) Consumer Mood Induction Stimuli

Two movie excerpts were used at the beginning of the experiment. A sad sequence of approximately 5 minutes was used to induce the consumer in a negative mood, and a pleasant sequence of approximately 5 minutes was used to induce a positive mood. These excerpts were adapted from previous studies [27][28]and, of course, pre-tested to ensure they effectively generated the desired mood.

IV. RESEARCH RESULTS AND INTERPRETATION:

To test the research hypotheses, this study employs structural modeling using second-generation data analysis methods (via the AMOS software). The main results from the study are presented and were subsequently compared with those from the literature.

TABLE II: SUMMARY OF RESEARCH RESULTS

Hypotheses	Relationship between Empathetic Advertising Perception and Brand Anthropomorphism	Validation
H	The perception of empathetic advertising **promotes** brand anthropomorphism.	Validated
H1a	For a consumer induced in a <u>positive mood</u>, perceiving advertising <u>congruent</u> with their mood as empathetic **stimulates** brand anthropomorphism.	Validated
H1b	For a consumer induced in a <u>positive mood</u>, perceiving advertising <u>incongruent</u> with their mood as empathetic **does not stimulate** brand anthropomorphism.	
H2a	For a consumer induced in a <u>negative mood</u>, perceiving advertising <u>incongruent</u> with their mood as empathetic **stimulates** brand anthropomorphism.	Validated
H2b	For a consumer induced in a <u>negative mood</u>, perceiving advertising <u>congruent</u> with their mood as empathetic **does not stimulate** brand anthropomorphism.	**Rejected**

The results indicate that using empathetic language in advertising communications, attributing empathic qualities to the advertised brand similar to a human, effectively encourages consumers to anthropomorphize the brand. Sub-hypotheses align with our expectations based on previous research: a positive mood creates an expectation that a message congruent with the mood will enhance positive feelings, while a negative mood creates an expectation that incongruent messages with the unpleasant mood will improve one's feelings [12].

However, the negative valence of the mood induced in the consumer does not seem to affect the impact of empathetic advertising perception (congruent or incongruent with the mood) on brand anthropomorphism. It appears that the design of both advertisements favored the respondents' inclination to anthropomorphize the advertised brand. This underscores the influence of using empathetic emotional language in advertising design. The aesthetics and language of the advertisement seem to stimulate the tendency of uneasy consumers to anthropomorphize the brand, regardless of whether the advertisement has a pleasant and cheerful tone or an unpleasant and unenthusiastic one.

V. CONCLUSION

Brands consistently aim to establish strong, intimate, and enduring relationships with their target consumers, and advertising serves as a key approach in building this consumer-brand relationship.

Modern consumption is linked with imitation, illusion, and the perception of what is not true and real but can be understood through symbolic meanings [3]. This perspective guides our research. By inducing consumers into different mood states, four experimental conditions were established to study the effect of incorporating artificial empathy on the consumer's tendency to anthropomorphize the advertised brand.

Our work seeks to surpass the limitation of the anthropomorphism process as a mere physical and tangible assimilation of brand characteristics with those of humans. Instead, we delve into the anthropomorphized relationship between the consumer and the brand, concentrating on the mental, intentional, and social anthropomorphizing of the brand. In our study, the brand is conceptualized as an intentional agent, an empathetic interpersonal entity capable of managing the consumer's emotional state (emotional regulator). This supports the fundamental theoretical premise that the consumer-brand relationship could be analogous to interpersonal relationships.

The results of this study are significantly valuable in the realm of artificial intelligence, where AI increasingly shapes consumer-brand interactions. AI marketing agents have often been perceived as emotionally too distant to replace genuine human interaction. Therefore, researchers suggest that artificial empathy should be integrated as a vital component in the next generation of AI marketing applications [29].

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