Analysis of brand personality as a moderator of advertising effectiveness

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Abstract:

For differentiating brands from competition, companies have created unique brand personalities that require different communication channels. Interestingly, this often results in predominantly homogeneous media mixes. The dilemma might be rooted in the ignorance of brand-specific criteria. This article proposes a planning framework that includes brand personality into the decision making. It models the personality of a brand as a moderator for the effect of media spends on ad awareness, based on a time series data set with 110 brands from the German market and 11.000 observations. Consistent with Media Richness Theory (MRT), the authors find that brands with quasi-human characteristics can create ad awareness with less effort in low-informative media channels such as Radio and brands with non-human characteristics in high-informative channels like TV. These insights equip practitioners with an applicable framework to improve their marketing goalsetting framework and drive campaign effectiveness.

Keywords: Media planning, brand management, brand personality

Track: Advertising and Marketing Communications

1. Introduction

For differentiating brands from competition, companies have created unique brand personalities (BP) that require different marketing strategies (Aaker, 1997). Such marketing strategies include brand-individual budgeting of communication channels to support the respective goals (Keller, 1993). Literature also shows, that the effectiveness of sending information does not only depend on the content, but also on the channel (Trevino et al., 1987; Dennis, 2008; Lan & Sie, 2010). Nevertheless, the channel selection for many large brands is quite homogeneous, because decision-making is often solely based on rules of thumb or historical allocations (Doctorow, 2009; Fischer et al., 2011). However, in most cases, channel selection is driven by a reach and frequency planning approach, focusing merely on a cost perspective and excluding branding considerations from the strategic reasoning (Schultz, 2018). Given the high importance of branding elements in the marketing process, e.g. for justifying price surpluses for the consumer (Keller, 1993), it should be in the interest of firms and marketers to create marketing strategies in accordance with the brand personality and supporting it. Given that dilemma, marketers need empirical evidence to support decision-making when it comes to deriving channel selection with respect to the brand personality structure. Up to this point, there are only limited insights in the literature for this problem: Büschken (2007), Pergelova et al. (2010) and Stolyarova & Rialp (2014) have analyzed advertising campaigns and despite the insights for the contribution of specific channels to campaign success, these publications ignore the effect of brand personality on advertising effectiveness and thus lack informative power with regard to this topic. Given this background, this article makes the following contributions: First, a theoretical framework is derived that allows the analysis of the relationship between the sender and receiver of advertising messages, supporting the selection of low-informative channels for simpler information and vice versa for complex information. Second, we show that BP has a moderating influence on advertising effectiveness, suggesting the inclusion of BP dimensions into channel selection reasoning, generating a better understanding of advertising mechanics and optimizing budgeting decisions.

2. Theoretical Background

The theoretical contribution of this article stems from the interaction of Media Richness Theory (MRT) and Brand Personality (BP). In this section, both are introduced briefly, followed by the reasoning upon which hypotheses are developed. MRT states that communication channels have a varying ability to carry information (Draft & Lengel, 1986). The theory was developed to rank different kinds of communication channels, e. g. a personal talk can carry more information than an E-Mail, due to its capability to include mimics and gestures. MRT has also been applied in marketing contexts, where low amounts of information are transported more efficiently via low-informative channels and vice versa for higher amounts of information (Kwak, 2018; Liu et al., 2016; Trevino et al., 1987; Dennis, 2008; Lan & Sie, 2010). Developed as a framework to conceptualize brand personality traits, BP is known to have direct, indirect and moderating effects on consumer behavior, like purchase intent (Freling et al., 2001), brand affect (Sung and Kim, 2010) or customer satisfaction (Brakus et al., 2009). For a comprehensive overview see Eisend & Stockburger-Sauer (2013). Aaker has distinguished five dimensions into two groups (compare tab. 1): The first three dimensions are innate human characteristics; the last two dimensions are not necessarily found in human beings but might be something desirable people long to have.

Table 1

Brand Personality Dimensions according to Aaker (1997).

Sincerity	Character traits innate to human psychological structure (human-like traits, HLT)
Excitement	
Competence	
Sophistication	Character traits not innate to human psychological structure, but potentially desirable (non-human-like traits, NHLT)
Ruggedness	

MRT and BP can explain different parts of the same process: BP quantifies the proximity of a brand to a potential customer, determined by the manifestation of quasi-human traits (Aaker, 1997). MRT yields the effectiveness of a media channel with respect to the transmitted information (Draft & Lengel, 1986). When a brand acts as a sender and a potential customer as a receiver, an interaction between BP and the effort for the receiver to process the information carried across channels can be expected. The reason can be suspected in the BP

dimensions: It can be assumed, that a higher proximity of BP to the receiver requires less information and makes it easier for the receiver to process it. Proximity is driven by the first three BP dimensions, which can be found in human psychological structure as well, whereas the last two dimensions exist only in brands (Briggs, 1992). This reduces ambiguity and according to MRT, requires a low-informative channel. A low proximity on the other hand would require a higher amount of information and a high-informative channel. It is important to consider that according to MRT a low amount of information in a high-informative channel (or a small amount of information in a low-informative channel) leads to processing-intensive outcomes, such that there is only one ideal amount of information that can be carried by a channel for a specific message (Draft & Lengel, 1986). E.g., a household cleaner brand with a BP focused on competence may use a low-informative channel such as radio as opposed to a luxury brand perceived as sophisticated, which should communicate via a high-informative channel like TV. Despite the strong theoretical and practical implications, to our knowledge there is no publication concerned with either the distinction made by Aaker (1997) for BP or the interaction of BP and MRT.

3. Hypotheses Framework

According to MRT (Draft & Lengel, 1986), brands transporting an image with high proximity to human psychology communicate more efficient with low-informative channels. Relating to Aaker (1997), brands from the first category - scoring high in human-like traits (HLT) - are easier for consumers to relate to and the required amount of information to create awareness is lower. If the brand image is rooted in BP with non-human-like traits (NHLT) and has less proximity, high-informative channels should yield more effectiveness. In line with literature (Kahai, 2003; Trevino, 1987), the classification of high- and low-informative channels is clustered into audio-visual media as the channel (e.g. TV) with highest ability to carry information, followed by audio media (e.g. radio). The effect of advertising on the consumer side can be conceptualized as ad awareness. It is driven by advertising spending, considered a necessary requirement for other advertising effects and known to be an indicator for changes in brand perception and consumer behavior (Hennessey, 2010; Vaughan, 2016). The expected novel contribution is the interaction of BP and the channel, which has not been examined in literature. According to this, we hypothesize the following (compare fig. 2):

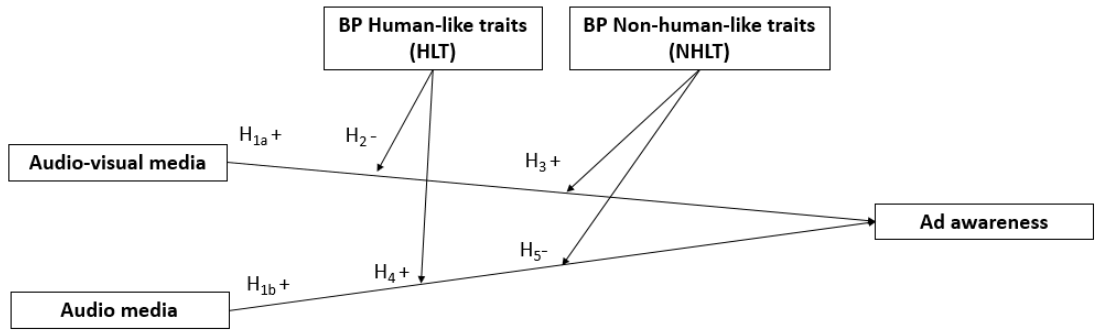

Figure 1. Hypotheses framework.

H_{1a} The higher the advertising spends on audio-visual media (TV), the higher the ad awareness.

H_{1b} The higher the advertising spends on audio media (radio), the higher the ad awareness.

H_2 The higher BP HLT, the lower the effect of audio-visual media (TV) on ad awareness.

H_3 The higher BP NHLT, the higher the effect of audio-visual media (TV) on ad awareness.

H_4 The higher BP HLT, the higher the effect of audio media (radio) on ad awareness.

H_5 The higher BP NHLT, the lower the effect of audio media (radio) on ad awareness.

4. Data collection and model specification

The necessary data to test the hypotheses has been collected from three different sources to avoid single source bias for the dependent and independent variables. It includes 110 business-to-consumer brands from Germany from the years 2017 and 2018, selected from the six largest industrial sectors: Trade (24%), food (19%), services (17%), electronics (15%), home equipment (14%), healthcare (11%). Advertising spend data (gross spends without any discounts) was raised by Nielsen and includes TV and radio. The data for advertising awareness is raised by YouGov via an online panel, where the participants are asked if they have seen advertising from the respective brand in the past two weeks. In addition, a survey was conducted for the BP data with 1.200 participants, each rating between one and five brands. The survey is based on the Brand Personality dimensions of Aaker (1997), the translation has been conducted by native speakers and was translated back into English to check for correctness. Exploratory factor analysis was done to evaluate, if the dimensions are represented well in the data. According to the nested structure of the data, a hierarchical linear model (HLM) was selected. The usage of HLM offers several advantages: Accommodation of nonindependence of observations, a lack of sphericity, missing data, small and/or discrepant group sample sizes and heterogeneity of variance across repeated measures. In addition, effect

size estimates and standard errors remain (Beaubien et al., 2001). The formal notation looks as follows:

$$Y_{ij} = ß_{0j} + ß_{1j}X_{ij} + rij \quad (1)$$

where:

Y_{ij} is the measured ad awareness for week *i* for brand *j*,
X_{ij} is the advertising spend in week *i* for brand *j*,
$ß_{0j}$ is the ad awareness for week *i* for brand *j* without advertising spend,
r_{ij} is the random error associated with week *i* for brand *j*.
It is assumed, that the error terms are normally distributed with a mean of 0 and a variance of δ^2 (Sullivan et al., 1999), such that $E(r_{ij}) = 0$; $var(r_{ij}) = \delta^2$. It is important to note, that independent variables are only present in level 1, such that the (1) is close to a linear regression.

5. Results

All common goodness-of-fit criteria showed acceptable values and, hence, our model is considered valid and robust. The intraclass correlation coefficient (ICC) is calculated to confirm HLM selection. The ICC is 0.88, such that 88% of the variation come from differences between the brands vs. the difference within the brand, supporting the choice of HLM (Koo and Li, 2016).
The process of specifying the model follows the notion of forward selection, starting with a simple approach and then adding further variables. (Barr et al., 2013) The reporting of significances for HLM is not common, nevertheless they are presented in this paper for completeness, but not discussed further. All independent variables have been z-standardized to enable model convergence, so the model results should be analyzed primarily in terms of effect strength and direction. The derived model yields the following results:
The main results of the model are listed in tab. 2. Based on the regression coefficients, the t-values and the p-values, all five hypotheses are accepted. Most expected were the positive effects of audio-visual and audio media (H_{1a} and H_{1b}) due to the plausibility of advertising creating advertising awareness (Hennessey, 2010; Vaughan, 2016).

Table 2

Model Output.

Random effects:

Groups	Name	Variance	Std.Dev.
Brand	(Intercept)	12.742	3.57
Residual		1.693	1.301

Number of obs: 11440, groups: brand, 110

Fixed effects:

	Estimate	Std. Error	df	t-value	Pr(>|t|)	
(Intercept)	6.945	0.3518	117.3	19.744	< 2e-16	***
Audio-visual	0.2918	0.01962	11330	14.875	< 2e-16	***
Audio	0.04754	0.02035	11340	2.336	0.0194	*
AdAwareness t-1	0.6049	0.005003	11360	120.894	< 2e-16	***
Audio-visual : HLT	-0.117	0.02222	11340	-5.268	1.41e-07	***
Audio-visual : NHLT	0.07882	0.02394	11340	3.292	0.0009	***
Audio : HLT	0.09719	0.0286	11340	3.399	0.0007	***
Audio : NHLT	-0.1039	0.03963	11350	-2.622	0.0088	**

Signif. codes: 0 '*' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1**

It is interesting to note, that the effect size of audio-visual media (0.29, sig. level 0) is clearly higher than for audio media (0.05, sig. level 0.01), which is in line with literature (Cheong et al., 2014). BP with human-like traits had a negative, moderating effect (-0.12, sig. level 0) on audio-visual media (H_2) and a positive, moderating effect (0.1, sig. level 0) on audio (H_4). At the same time, non-human-like traits moderated audio-visual media positively (H_3) (0.08, sig. level 0) and audio media negatively (H_5) (-0.1, sig. level 0.001). It should also be noted that the ad awareness of the previous period does have a strong, positive effect.

6. Conclusion and implications

From the findings presented above, three important conclusions for practical purposes can be drawn.

(1) Companies who invest into advertising should consider incorporating Brand personality dimensions into their media strategy goal setting framework. The dimensions offer a comprehensive way to measure brand perception on the consumer side and quantify branding effects. The data can be conducted via survey and is easily interpretable, also enabling richer discussions about brand development.

(2) Brand personality dimensions should be considered as an additional factor for media channel selection. With respect to the individual Brand Personality profile of each brand, channels should not only be chosen according to reach and frequency goals, but also with consideration of the impact they have on the consumer side. This expanded framework can also help to drive cost effectiveness and increase campaign effect, if the media mix is optimized towards more channels with a lower cost per contact and higher brand impact.
(3) Since brand perception by nature captures the impact of all marketing and media measures, it enables marketers and media planners to take a holistic perspective when analyzing and comparing measures. With regular media analysis, only single channels like TV can be analyzed in terms of reach and frequency, leaving open how measures might interact.

7. Implication for further research and limitations

(1) Up to this point, the number of independent variables is relatively small. Based on the estimation of regression models per brand it can be detected, that explanatory power of media spends for the ad awareness is relatively low based. Additional data like e.g. competitive activities or the share of voice might yield further insights.
(2) Through the Nielsen data, much of online spends are not collected and therefore not part of the model. It would be highly interesting to include Facebook or Google advertising spends, especially because large firms tend to shift bigger parts of their budgets towards them.
(3) This study focuses only on the German market. An adaptation for other countries, especially with larger cultural differences, e.g. Asia might lead to differing results and new insights. For further research one has to keep in mind, that the brand personality framework might need adaptation when used in other cultures (Chu and Sung, 2011).

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