Tipping Points of Content and Design Interaction: A Conceptual Framework to Understand Sales Through Content and Design

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Title

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Abstract:

Content Design is advocated as one of the key factors influencing consumers' attitude and buying behaviour. However, its real effects on sales performance remain largely unknown. This study is one of the first empirical studies to evaluate content design quantitatively and inclusively using textual and pictoral information alike. We employ content analysis as well as OLS regression and analyse real-life transaction data from the German publishing industry to investigate which aspects of content design can increase sales. The findings point to a model that allows uniting the concepts of management and editorial design literature. The findings further indicate that in media consumption, especially the colours purple and blue, text-image congruence, wording that leads to ease of cognitive processing and promotional activities are pivotal in sales. Implications for marketing theory and design are discussed.

Keywords: Marketing communication; Sales Promotion; Design Management

Track: Advertising & Marketing Communications

1. Introduction

Marketplaces on- and offline are saturated through complex visual communication. Product and advertising design has been a subject of great academic interest, underscoring the interdisciplinary appeal of the topic (e.g. Bruce, Murthi & Rao, 2017; Chang, 2009; Feasley & Stuart, 1987). Yet, our knowledge about the influence on a customer of the most fundamental visual products, that is editorial media products, is particularly sparse. Needless to say, existing empirically tested knowledge about those products commonly understood as publications (e.g. newspapers, magazines, books, pamphlets) and other editorial content (e.g. websites) is insubstantial, including advertorial content.

The context of our study is the publishing industry, wherein content design plays a major role in a product's success (Zhang, Wedel & Pieters, 2009; Arango-Kure, Garz & Rott, 2014). Media creators are frequently challenged to display their content in an appropriate and appealing manner while being given very limited information about the effects of their chosen display. As the cover acts as the first point of referral in a consumer's decision-making process, they are a prime example of this tacit knowledge, providing consumer research an opportunity to study the impact of appearance. Not only the lack of academic approaches but also the reluctance of the applied journalism field to measure success in terms of sales rather than attention has hitherto prevented this research's task. Yet, it is fundamentally important to understand how textual and pictoral information – assembled in what appears to contain an editorial meaning – function in terms of catching a consumer's attention and financial resources. After all, analysing the workings of content on a consumer opens the door to understanding how other complex visual stimuli (e.g. a website) affect the consumer. Using research on publications can be one of the avenues, as the shopping experience of publications in store is the only comparable experience to web-browsing: switching costs in both situations are low, excessive information and visual complexity are high (Wu et al., 2016). Evidence has suggested that the strategic capability of the first gaze is indeed a favourable strategy; the optimization of content design has been acknowledged to be a critical determinant of performance (Aslam, 2006; Schoenbach & Lauf, 2002). Many scholars have proposed that design is an important strategic tool that firms can use to advance their competitive advantage (Jindal, Sarangee, Echambadi & Lee, 2016). Yet, and again, the design of such complex visual communication, that editorial information is, has not been researched in terms of its sales outcomes. This research attempts to overcome this state of knowledge by

making major advances toward the identification of magazine cover success determinants and is one of the first studies to evaluate content design quantitatively.

A dual conceptualization, that is a combination of pictoral and textual elements, of editorial design presents a captivating challenge for companies: how should these aspects be configured and measured to create a competitive media content? This research challenge, which has significant managerial implications in terms of sales interpretations and resource allocation strategies, has not been addressed. The study is thereby of substantive and empirical contribution and is led by the following research question: *Which elements of content design influence retail sales?* We draw on data from the German media industry and code the covers of four consumer magazines from one publisher of consumer magazines. We conduct a content analysis and analyze the data via OLS regression. Controlling for various effects, we find the colours purple and blue, text-image congruence, wording that leads to ease of cognitive processing and promotional activities to positively influencing sales.

The remainder of this article is organized as follows: First, we identify the measurement dimensions of content and design and discuss them briefly in relation to the literature. Second, we outline the research design and the methods applied, followed by a presentation of the results. We then discuss results, derive implications for research and practice, and conclude with a short summary.

2. Literature Review

Information transported on a medium can be divided into textual, pictoral or audio-visual information. All elements are placed together in a way the media creators deem worthy of the subject at hand. In an editorial, traditional medium, we are generally confronted with textual and pictoral information (Schönbach & Lauf, 2007). Hence, when studying editorial content, one needs to look at both text, here content, and pictoral information, here named design. To identify all relevant success factors, knowledge from all available research fields is drawn together resulting in an extensive literature review: 125 academic articles and 10 applied books were identified. From the 135 identified articles, only 3 deal with content design distinctly. Table 1 provides an overview of work done in this field and places the current study in context.

TABLE 1
Representative Research on Content and Design

Research Area	Study	Contribution	Variables herein used	Combination of textual and pictoral information?	Level of Analysis	Sample and Data	Outcome Variable(s) or Purpose
Advertising/Marketing	Aslam (2006)	Outlines the socio-cultural and psychological roles of colour as marketing cues	Colours	No	Secondary	Conceptual; Literature Review	Cultural Values associated with colours
	Grobelny & Michalski (2015)	Brand name location and typography are shown to improve performance in combination with gender	Background colour, typography (interletter spacing), brand logo, gender	No	Product level (virtual package design)	Experimental	Preference for package design
	Olsen et al. (2012)	When art directors use white space in advertising, it is not just of artistic nature, but to generate attention	White Space	No	Indivdual level	Experimental	Behavioral responses from art directors
	Panigyrakis & Kyrousi (2015)	Literature Review of Colour Effects in Advertising	Colours	No	Secondary	Conceptual	Agenda for future research
	Quesenberry & Garland (2003)	First tries to measure website effects along the dimensions of copy, graphic and layout elements	Copy, graphic and layout elements	No	Individual level	Experimental	Overall evaluation of the website
	Wu et al. (2016)	First analysis of pictures in comparison to other pictures	Visual complexity and visual complexity contrast	Limited (text within a picture)	Product level (Product pictures)	Experimental	Buyers' pleasantness
Media Management	Arango-Kure, Garz, Rott (2014)	There is a significantly positive correlation between the publication of explicitly negative magazine covers and sales	Topic of the cover story, Illustration of the cover page, Type of the lead image, other design elements (e.g. usage of red, numer of topics), editorial extras and series, thematic leader/follower	Yes	Product level (Magazine covers)	Experimental	Single copy sales circulation
	Schmidt-Stölting et al. (2011)	Measurement of differences in hardvover and paperback version. In the latter, customers attach greater importance to the book cover	Author popularity, genre, publisher strength, book cover design, price, critics, word-of-mouth	No	Product level (Book covers)	Experimental	Sales
	Kaltenhäuser (2005)	External factors are a greater success factor but especially the thematic topic is still important	Size of the issue, cover stories, cover picture	Yes	Product level (Magazine covers)	Experimental	Single copy sales circulation
Communications	Boomgaarden et al. (2016)	Textual and visual information shapes how male and female candidates are received	Gender, Text and Picture of newspaper article	Limited (text within a picture)	Product level (Articles)	Experimental	Visual favorability
	Schoenbach & Lauf (2002)	Cultural differences exist in the value of content versus design	Content (community orientation, multitude of articles), Design (type of picture, teaser boxes, readability)	Yes	Product level (Front Page Newspaper)	Experimental	Newspaper circulation

Table 1. Representative Research on Content Design

It becomes clear that the identification of elements that draw a recipient or consumer closer to media content is an issue relevant to various fields – for various reasons, be it to understand social and cultural workings, economic preferences or psychological underpinnings. A matter that also becomes clear is, that content design is an issue in advertising research dominating future scientific endeavours (Quesenberry & Garland, 2003; Pieters et al., 2010), but methodological problems have prevented the topic from progressing. Meanwhile, product design has already overcome this issue to a greater deal. Landwehr, Labroo and Hermann (2011) show that design affects sales across all segments in the auto industry independent of retail price, explaining up to 19% of sales variance. Jindal and colleagues (2016) find three dimensions (form, function and ergonomics) along which product design can be evaluated. Because of the different properties between product and content design, these insights are hardly transferable but can certainly inform our methodological framework.

3. Theoretical Framework and Research Hypotheses

We identify four factors that could influence sales based on our findings from Section 2.

Colour: Extensive literature reveals that colours have unique and diverging effects on consumer's appraisal of products (Aslam, 2006). Colour has been recognized as a marketing tool to increase a consumer's interaction with a product (Bellizi et al., 1983). Especially the

colours purple and blue have been understood to create a sense of luxury and wealth. Considering that lifestyle magazines are hedonic, and thereby rather luxurious, we argue that content design using these colours will also attract more purchase-willing consumers, leading to H1: The colours purple and blue are positively related to magazine sales.

Tonality of the cover: The tonality of the wording and its effects has been an issue strongly debated. While Arango-Kure et al. (2014) established a positive link between negative news framing and reader demand, it was also found that negative sentiment is detrimental to the virality of non-news tweets in social media sharing activity (Berger & Milkman, 2010). We expect media content in general (that is not necessarily political journalism) to be ruled by neither, leading to H2: Tonality has no effect on magazine sales.

Ease of cognitive processing: We assume that that congruent information given through the main picture and the title has a positive effect on sales, compared to if the information presented were conflicting. This could be explained through the theoretical lens of processing theory, wherein simple, more easily processible information leads to an increased ease of cognitive processing and increased actual spending (Van Rompay et al., 2010; Simola et al., 2013). Alike, we assume that shorter sentences also relate to positive spendings. We thus expect: (H3) Text-image congruency is positively related to magazine sales and (H4) Shorter headlines and less topics overall are positively related to magazine sales.

Promotional activities: Magazine covers are foremost editorial commodities; still, all elements that can be viewed at first glance are supposed to entice the recipient not just into a reading but also into a purchasing activity, just like with any product 'packaging'. In communication, headlines and other editorial elements have been understood as tools to attract attention (Arango-Kure et al., 2016). In marketing, elements that can potentially increase intrigue are defined as product promotion and can be described as "a direct inducement that offers an extra value or incentive for the product (…) with the primary objective of creating an immediate sale" (Haugh 1983, 44). Promotional offers are important and have been studied in a variety of research efforts (Spears, 2001). They can be classified into advancing gains or receipts (AR) and delaying losses or payments (DP). Certain editorial elements headlines especially carry these AR features and hence, we describe AR by using multiple measures, including the use of stickers, quizzes and goodies. Thus, we hypothesize H5: Using AR promotions is positively related to magazine sales.

3. Data and Method

We collected data from the German publishing industry. The sample of the quantitative study comprises four outlets of a German publishing company for monthly consumer magazines. The publisher also provided us with point of sale sales figures and data on promotional spendings for the magazines that we use as control variables. We also refer to supplementary data sources for certain variables, detailed in the description of variables section. Our integrated dataset consists of 144,557 data points with N = 542 observations over a period of 11 years from 2007 to 2018. The coding steps follow the standards of media content analysis (Krippendorf, 1980). We constructed a codebook and held training sessions for four independent coders. During these, disagreements were settled through discussion. The codebook was previously confirmed deductively through in-depth interviews with six editors-in-chiefs and one art director. Reliability and validity were further verified through coding data sets randomly with at least three independent coders. For most concepts, we construct an individual dummy variable. We apply an ordinary least squares (OLS) regression to identify relevant drivers. The variables were tested in blocks as well as in total. The final list of variables includes 181 elements of the encoding, of which we choose the following for analysis:

Dependent variable. Sales at the point of sale (retail) is the dependent variable. We measured this value as single copy sales circulation of the selected issue per month as a relative number (reference: issue 1/2007 = 100).

Independent variables. Various independent variables represent the hypotheses in chapter three, namely tonality of the main topic (positive, neutral, negative), fit between main picture and title, promotional activities (booklets, CD/DVD inserts, specials), length of main title, amount of topics, and finally colour.

Control variables. Previous research informed the choice of control variables (Arango-Kure et al., 2014; Garz & Rott, 2014; Rupinder et al., 2016). We include a magazine specific linear time trend to control for the long-term decrease in sales. This measure takes the value 1 for the first month in our dataset and then moves up by one for each following month. Second, the copy price is measured to control for possibly related demand effects. Third, we included the time period each publication was sold (in days) (incl. account of national holidays) in the equation. Finally, we controlled for seasonal factors by adding dummies for each month of the year.

4. Empirical Analysis and Results

In general, the regression has a very good model fit (adjusted R^2 value of 0.919). All control variables show robust and strong effects. The linear time trend accounts for the majority of the variance, implying that *still* a great amount of sales can be influenced by content and design variables. Results of the OLS regression across all 4 magazines (n = 542) are displayed in Table 2.

Hypo-theses	**Measured as**	**Beta-Coeffizient (unstandardized)**	**Rejection or Acceptance Individually**	**Rejection or Acceptance Hypotheses**
H1 Colour	Purple	1,689*	Accepted	Accepted
	Blue	2,167***	Accepted	
H2 Tonality	Positive tonality	-,719	Accepted	Accepted
	Negative tonality	.326	Accepted	
H3 Ease of cognitive processing	Text-image congruence	1,853*	Accepted	Accepted
H4 Ease of cognitive processing	Length of headline	,138^{+}	Declined	Accepted
	Number of topics	-,943***	Accepted	
H5 AR promotions	Booklet	2,146***	Accepted	Accepted
	Goodies (CD/DVD)	4,747^{+}	Accepted	Accepted
	Special Issues	4,798**	Accepted	Accepted
***** p< 0,001; ** p < 0,01; * p< 0,05; $^{+}$ p< 0,1.; DV = relative Sales; all p-values one-sided.**				

Table 2: Results for Hypotheses

All hypotheses are confirmed in their entirety, even though H4 (Length of headline) and H5 (CD/DVD) only show marginally significant effects. The effect of positive and negative tonality is not significant, which signals that the tonality of the wording is less important than its correspondence to the main picture.

5. Discussion and Implication

Based on detailed content analysis, this research provides evidence that media consumption is jointly determined by content and design of a media product thereby underscoring the importance of content and design for short-term sales. We contribute to, and extend, the marketing design literature in two important ways. First, we build a framework to analyse editorial products comprehensively underpinned by theories developed in marketing, psychology, communications and media management. Second, we examine the interplay between various design and content dimensions and their impact on market outcomes. While most existing work has typically focused on communicative goals or consumer-based evaluative measure, our focus on market share is new to the account of media products.

Framing the analysis with the background of consumer theory, several *universal instruments* can be found that aid in boosting sales, that is: the colour purple, text-image congruence, wording that leads to an ease of cognitive processing as well as AR promotions. The clearer content and design can be understood, the more significant are the effects on sales. In accordance with Wu et al. (2016), we also find that consumers value conspicuousness over product complexity. This result supports the effectiveness of clear communication in advertising strategies, including a fitting textual and pictoral harmonization.

This study provides valuable insights not only for academics but also for media practitioners. If the chosen factors turn out to be valid contributors to magazine sales, tests of these would be useful for predicting sales' outcomes. And even in those cases where magazines are not sold, such as a company's magazine presented at no cost in stores, the outcomes could still provide information as to the details of likings among consumer groups. When the quantitative relationships between content and design elements have been well calibrated for specific magazine categories, managers can use the data to assess the directional changes in their sales outcomes before actual releases, improve cover designs in a cost-efficient manner and substantially reduce overprinting and placement costs. Further, there is a collision of opinions between experts in the production process of journalistic and editorial products. While this collision is also due to the artistic and informational desires independent of sales, knowledge about sales effects offers a new perspective and tool of analysis.

Although this research contributes to an enhanced understanding of editorial product design, the empirical analysis has a few limitations that open up avenues for further study. First is the issue of generalizability. It would be worthwhile to examine whether the findings of the study can be replicated in industries that are both in the growth and mature phase, off- as well as online. Particularly, it would be useful to determine whether the developing knowledge of website design and the herein developed knowledge of editorial design can be integrated. For example, in an online shopping environment, product photos that entailed warmer colours were clicked more often (Wang et al., 2016). Second is the issue of cultural influences. Previous studies on marketing suggest that consumers from graphic writing systems (e.g. China) are more attuned to visual components than those from countries with phonological language systems, which could in turn also effect editorial media consumption. While it appears reasonable to argue that especially those findings that can be explained with consumer psychology (e.g. processing theory) should apply to all people regardless of country differences, it would still be worthwhile to test this empirically.

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