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The Effect of Tangible Brand Components on the Sales of Digital Experience Brands

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EXECUTIVE SUMMARY

This thesis conducts research to explore the effects of tangible brand components on the sales of digital experience brands. It argues that while the chosen tangible brand components (COO, logo edge sharpness, difference between meaning in logo and remaining packaging, color contrast and type of vowels used in name) are not relevant to anticipated consumer product satisfaction, they still might affect product perceptions and subsequent sales. This is argued to be a consequence of consumers becoming less rational when not motivated to process all relevant information, thus using simple heuristics such as associations.

To study this, the authors used a series of multiple linear regression models. Sales numbers for video games in distinct geographical areas were used as dependent variables, while the independent variables were the tangible brand componens, quantified using coders. The coders' responses were tested for internal consistency through the use of Cronbach's Alpha.

The results show that COO has a strong effect on sales, also driving the explanatory power of the models. Additionally, it was found that sharp logo edges were associated with higher sales in all geographical areas, while consistent meaning of colors used in logo and remaining packaging was significant in Japan. Finally, the study also investigated interactions between independent variables, finding significant interactions between logo edge sharpness and front-/back vowels,

Finally, the authors discuss the results, their implications, limitations and directions of future research.

1. INTRODUCTION

It is an indisputable fact that consumers make irrational choices, and that these are not only irrational - they are systematically so. This topic has further become part of pop-culture, as books such as *Thinking Fast and Slow* (Kahneman 2011) and *Predictably irrational* (Ariely 2008) have popularized it far beyond academia. Consumers rarely make decisions in line with the thought of the economic man, and can be affected by irrelevant information from any kind of source. In this thesis, we show how tangible brand components such as the sharpness of logo edges, the meaning of colors used on packaging and vowels used in the name can affect sales of digital experience brands, despite their objective irrelevance to product satisfaction. These factors are completely within the control of a firm, and can thus actively be used to enhance sales.

Brands are viewed as one of the most valuable assets a firm has, and are applied in virtually every setting where consumer choice is involved (Keller 2013). While branding as a whole has been a highly researched topic throughout the years, research on brand components and how they may be used to create favorable attitudes and increase sales has been limited. For the purpose of this thesis, we view brand components as anything that makes up the fabric of a brand. According to the American Marketing Association (2015), this may include a name, term, design, symbol or any other feature distinct to the brand. A literature review by Chernatony and Riley (1998) shows that brand components may be classified as either *tangible* or *intangible*. The former describes components that are easily observable (e.g. name, logo and physical design), while the latter describes components that are somewhat obscure and more difficult to observe (identity, corporate brand, symbolic value, etc.). The focus of this thesis is on tangible brand components as they are more within the firm's than intangible components (as an example, symbolic value may be viewed as something that to a large degree can be created or adapted by both firm and/or customer).

The context in which consumers rely on tangible brand components is perhaps most common in the in-store environment (as reviewed in section 2), and in-store decision-making is in itself is an interesting area of study. A study by OgilvyAction showed that 28% of shoppers wait to decide which brand to buy

until they are in the store. An additional 10% decide to buy a different brand than initially intended, and yet an additional 20% buy from categories they had no intention to buy from (WPP 2015). This means that the information available in-store is likely to affect the success of a product.

The role of brands is seen as more vital to experience goods than to search goods (Srinivasan and Till 2002; Keller 2013). This is because consumers are able to evaluate the quality of search goods before trial, while they have less information about an experience product's attributes, thus creating greater felt risk in the purchase situation (Keller 2013). To illustrate, it is fairly easy to evaluate the quality of a notepad by looking through the pages in the store, while a movie will be harder to evaluate before one has watched it. While all experience products share characteristics associated with pre-purchase evaluations, the category is wide and thus encompasses products that are incomparable in other regards. For this reason, we see the need to focus the field of research. As seen in Forbes' (2016) list of most valuable brands, four of the top five brands are at least in part digital (Apple, Microsoft, Facebook and Google), exemplifying that their relevance has only increased with time. Digital experience brands are hence the product category for which the results may be generalized.

One may however question whether information from online sources has changed the dynamic of experience and search attributes. Drawing on theory from experience brands, research has suggested that additional information provided by other users/third-parties could transform experience attributes into search attributes (Ford, Smith and Swasy 1990; Klein 1998). However, recent findings indicate otherwise. Weathers et al. (2007) find that information provided by a third-party has no effect on uncertainty, and Yang and Mai (2010) find that online reviews cannot transform experience attributes into search attributes. Even if relevant information exists, there is also the question of the degree to which consumers are willing to spend the necessary time searching for it. The mere abundance of this information can lead to information overload, which in turn often leads to a reliance on rules of thumb and/or irrelevant cues (e.g. Malhotra 1982, Shiv and Fedorikhin 1999, Kahneman and Tversky 1985). Thus, brand attributes are likely to play a larger role for experience brands than search brands, despite technological developments.

The video game industry represents a good example of digital brands that fall into the experience goods category. Research shows that consumers value video games as a form of entertainment associated with factors such as with enjoyment, self-concept, self-efficacy and self-congruity (Davis 2012). For products such as this, the majority of characteristics (such as quality, difficulty and entertainment factor) are experience attributes. To specify, it would be difficult to evaluate the degree to which a video game offers enjoyment before one has attempted to play it. Thus, we categorize video games as digital experience brands. The electronic game industry has seen significant growth over the last couple decades, reaching a customer expenditure of 21.53 billion dollars in 2013 alone (Entertainment Software Association 2014). Further enhancing the growth is the industry's recent move from operating within only niche segments, to reaching blockbuster segments. Nintendo Wii opening up the market to new segments through its blue ocean strategy is likely to have contributed to this move (Hollensen 2013). Despite its rapid growth and popularity, the electronic games industry is an area that has not been deeply researched in comparison to more established entertainment industries (Marchand and Hennig-Thurau 2013).

In summary, previous research has shown that brands are more important for experience goods than for search goods, and that the presence of reviews has not completely changed this dynamic. In addition, many decisions are made in-store, and consumers are more likely to be affected by irrelevant stimuli in such settings. However, there is still a gap in existing research concerning how one may use tangible brand components to gain preference and brand sales. Thus, our research question is as follows.

To what degree do tangible brand components, both individually and collectively, affect purchase decisions and subsequent sales of experience brands?

To answer this question, we use a combination of video game sales numbers and variables representing brand attributes, which are measured with the use of four coders. The coders' responses are tested for internal validity through Cronbach's Alpha tests performed in IBM SPSS Statistics, while the hypotheses are tested through a series of multiple regression analyses performed in R Studio. By

looking at actual historical choices, the empirical design allows us to capture both conscious and subconscious opinions, meaning the results should be applicable to real life settings. Additionally, the applied empirical approach allows us to not only see the degree to which different brand components affect sales, but also the relative importance of the attributes as compared with each other. In order to examine how the brand components differ throughout cultures, the study explores this topic in distinct geographical areas, using these areas as dependent variables in separate linear regression models.

The thesis is mainly aimed at providing practical implications for managers of experience goods, and the results are directly applicable to digital experience brands. From a practical standpoint, the study provides specific guidelines on how to design brand components of experience goods, both in terms of individual components and as combinations. From a theoretical standpoint, the study contributes to brand component theory, as well as the theory surrounding the individual brand components. While many of these are heavily researched on their own, they have to our knowledge not been combined and examined in the context of each other. For the brand components that have not been researched as heavily in the marketing context, namely package color and design, the thesis' contribution is more fundamental. Additionally, it contributes with a practical example of how irrational consumer choices may be used to enhance sales.

In the following sections, we begin with a review of relevant literature and hypothesis generation. We then present our empirical methodology and results. Finally, we discuss the findings and their implications for theory and practice, as well as areas of future research and limitations of the study.

2. THEORETICAL BACKGROUND

As previously stated, the focus within brand components in this paper lies on the tangible elements. Chernatony and Riley (1998) offer a comprehensive review of brand components. The most relevant brand components within the context of digital experience brands are presented in table 1.

Component	**Author(s)**
Slogans	Aaker 1991
Name	Bailey & Schechter 1994
Logo	Bailey & Schechter 1994
Graphics and physical design	Grossman 1994
Country of origin	Bilkey & Nes 1982
Parent brand	Dacin & Smith 1994

Table 1 Overview of brand components

The regression analyses require that all included variables can be quantified or categorized in a meaningful way. Combined with a wish to focus on components with the strongest theoretical support, this leads to the conclusion that not all of brand components in table 1 should be examined in this thesis. The components we explore in this thesis are name, country of origin (hereafter referred to as COO), logo and package design. These components are easily observable in in-store environments, and all except COO are included on the front side of the packaging for most digital experience products. COO is in information given on the back. As they are a part of the first impression received by buyers in stores, they have a high potential to influence in-store decisions. Studying these components simultaneously gives an opportunity to see how they interact in their effects on sales. Additionally, we review how package design may affect sales on a general level as well as how the components may differ across countries.

Sections 2.1-2.4 describe how logo, COO, name and package design have been found to influence sales. To complement this, we firstly discuss how the packaging of consumer goods as a whole influences sales in an in-store environment.

Multiple studies have found significant effects of packaging in in-store environments on competitive advantage (e.g. Nancarrow, Wright and Brace 1998; Rundh 2009). The elaboration likelihood model of persuasion (hereafter referred to as ELM) conceptualized by Cacioppo and Petty (1986), offers insight into how the different visual brand components may influence consumer decision-making. ELM demonstrates that while both central processing (e.g. consumers elaborate on information given) and peripheral processing (e.g. consumers rely on cues and rules of thumb) may lead to changes in attitude and behavior, the likelihood of elaboration depends on the context in which decisions are made. More specifically; elaboration happens when the consumer has motivation, ability and opportunity to process (Petty, Cacioppo and Schumann 1983). Focusing on the in-store context, buyers must choose between a wide variety of options in a limited time frame, setting boundaries for both ability and opportunity to process. When consumers lack this capacity to process or become overloaded with information, they tend to make less rational decisions (e.g. Malhotra 1982, Shiv and Fedorikhin 1999, Kahneman and Tversky 1985).

Central processing is arguably more common once the many alternatives have been narrowed down to a consideration set (evoked set). To exemplify, one would find it hard to argue that the color of a product's packaging in and of itself is predicative of the degree to which the product satisfies a consumer's needs. In other words, brand attributes such as this would be likely to have a decreased effect when central processing occurs. However, despite their irrelevance to product performance and subsequent customer satisfaction, factors such as logo edge sharpness, colors and contrasts have been found to play a role in purchase behavior. The argument that brand components are more likely to affect which brands end up in the evoked set, as opposed to which brands within the evoked set are chosen, is further strengthened by the findings of Clement, Kristensen and Gronhaug (2013). These authors find that physical design features such as shape and contrast dominate the initial phase of searching. Placement in the evoked set is highly valuable, as it is generally agreed to be a prerequisite for purchase.

Consequently, the topics discussed in the following sections are argued to be processed on a peripheral level, and to affect sales mainly through the likelihood of placement in the evoked set.

2.1 The effect of brand name on sales

Brand names are heavily tied in with the brand itself and are subsequently a very important brand component (Keller 2013). A central point is to have a brand name that creates a wide range of positive associations related to the product (Keller 2013).

Theories within linguistics have long dealt with connections between words and the objects they describe. Reputable work by De Saussure states that all word sounds are arbitrary (Bouissac 2010), i.e. they never themselves signal what object the word refers to. However, theories of sound symbolism, which is the idea of a relationship between sound and object (Hinton, Nicholas and Ohala 1994), have objected to this notion. Sound symbolism has been used heavily in marketing research related to brand names, showing consistencies in how specific sounds give consumers an idea of what to expect from a product (e.g. Klink 2001; Shrum et al. 2012; Yorkston and Menon 2004; Lowrey and Shrum 2007).

Central to this thesis is the distinction between the "back-vowels" and "front-vowels". The former is most often connected with things that are large, while the latter with things that are small. Although most articles exploring the topic of sound symbolism use "o" and "u" as examples of back vowels, "a" has also been used in this context (e.g. Sapir 1929). Front vowels are i, y and e (as in the first e in "procedure"). E (as in "tell") has not commonly been used as either front- or back vowel. The connection between vowels and size was first demonstrated by Sapir (1929). Subjects were shown two words, e.g. Mal (back-vowel) and Mil (front vowel), and asked to identify which name was a better fit for a large- and a small table. 80% of subjects agreed Mal would be large and Mil would be small. Multiple studies (e.g. Lowrey and Shrum 2007; Klink 2001) have since replicated these results in the marketing context, strengthening the concept's theoretical support. To our knowledge, this thesis is the first study of sound symbolism using product names that contain meaningful words, as opposed to made-up words. The question is whether association of size matters to the success of experience goods. For many digital experience brands, it is logical that being perceived as "large" is positive. For instance, "large" movies may bring associations to big budgets, high sales numbers, big stars, etc. However, being perceived as small is likely to be

positive for other product categories, for instance when firms wish that their product be associated with “compact” or “time saving”.

It is worth noting that the brand name research places emphasis on much more than just front- and back vowels. Firstly, researchers such as Robertson (1989) developed criteria for brand name (e.g. distinctive, meaningful, sound related to product class). Secondly, work by Klink (2001) points to the possibility of using existing words as a method of gaining positive associations. Furthermore, even within sound symbolism, research has also looked at the role of consonants (Klink 2003; Argo, Popa and Smith 2010). In other words, many factors besides front- and back vowels are central to the effectiveness of a brand name.

As the effect of sound symbolism is strongly supported, we believe it may have an effect on the success of a digital experience brand. However, the digital experience brand category includes products with a wide variety of functions and purposes. Thus, while there are likely to be consistencies within product categories, there should not be an overall direction generalizable to all digital experience brands. With this in mind, we propose the following hypothesis:

H_1: Using the type of vowel that gives an appropriate association for the category (front vowels for association of “small”, back vowel for association of “large”) leads to enhanced sales for digital experience brands.

If neither “large” nor “small” associations are relevant to the category, this variable should not explain any variation with regards to the sales of a digital experience brand. It should be noted that because the analysis employs sales as its dependent variable (which is affected by an almost unlimited amount of variables), back- and front vowels are not likely to be a major contributor.

2.2 The effect of country of origin on sales

Country of origin has been subject to much research, and its effects are well documented (Peterson and Jolibert 1995). As including COO labels on the package or in the product description is normally a legal necessity, they can act as

highly accessible cues for consumers. Furthermore, empirical research has shown that these cues are important in product evaluations (Kotler 2002), and thus have the potential to affect decisions right at the point of purchase in almost any product category (Keller 2013). This makes it an interesting brand component to study in the current context.

In addition to its direct influence on product evaluations, COO may stimulate consumers to think more extensively about other product attribute information (Hong and Wyer 1989). The "halo effect" is one of the most common explanations for interpreting consumers reactions to COO. According to this theory, COO serves as a cognitive cue for consumers to infer their beliefs regarding other attributes of the product (Chu et al. 2010). Furthermore, it has been shown that coherence between the image of the country and the product being sold leads to a more positive evaluation, while the opposite can be said when there is a mismatch (Roth and Romeo 1992). Effects of ethnocentrism may also be present, meaning consumers prefer products that have been developed in their home country (Balabanis and Diamantopoulos 2004). However, these effects have been shown to not be equally strong across cultures (Gürhan-Canli and Maheswaran 2000), meaning the level of effect may differ across countries.

Bringing previous work into the context of experience goods, the effects of COO are found to be stronger with experience products such as food, software and perfume (Kotler and Gertner 2002). This is likely due to experience products having less relevant pre-trial information or extrinsic cues than search products (Chu et al. 2010; Han and Terpstra 1988). Based on this, we would assume the image of COO to play a significant role in consumer evaluations of digital experience brands. However, as the context (i.e. both the market the product is sold in and the COO of the brand) dictates what direction the effect should have, different countries of origin should have opposing effects depending on both presence of ethnocentrism and country image. In other words, a brand may gain either an advantage or a disadvantage depending on its COO. We further believe the effect will still be strong even when combined with other attributes, as shown in a study by Verlegh, Steenkamp and Meulenberg (2005).

Defining "viewed as favorable" as a preference (conscious or subconscious) resulting from the firm's originating country, based on e.g. country image or ethnocentrism, we hypothesize the following.

H_2: The product originating from a country viewed as favorable has a positive effect on the sales of digital experience brands.

2.3 The effect of package design on sales

As suggested by previous literature, package design plays a vital role in creating and communicating brand image, and is seen as one of the core identity elements of a brand (Schmitt and Simonson 1997; Grossman 1994). Package design may be used as an extrinsic cue to infer information about intrinsic product attributes (Underwood and Klein 2002), and has been shown to highly affect in-store decisions (Clement 2007). This is of special importance to experiential goods, as consumers will often evaluate such products based on images, advertising and brand names, rather than objective characteristics (Garvin 1986). Despite its importance as a strategic tool, authors such as Kotler and Rath (1984) claim that package design has to a large degree been neglected by companies.

Elements such as color, form and size are considered the main non-verbal elements of package design (Butkevicience, Stravinskiene and Rutelione 2008). Associations are triggered in memory through a color or a shape's meaning, which should activate related associations (Labrecque and Milne 2012). Aesthetic stimuli connected to package design thus have the potential to stimulate and shape people's perceptions (Zeltner 1975), as they work together to inform a customer about a brand's personality.

In the following subsections, we will focus on logo design independently, its function when combined with the holistic design, as well as the general level of contrast in the packaging.

The logo is a fundamental symbol of a brand and according to Aaker (1991), symbols are a key ingredient to brand development. Symbols can strengthen brands by being part of the overall identity, and by increasing recognition and recall. Building on this, the logo is not necessarily limited to only one product, as

it can represent the brand and connect many products. This way, it can be a central part of reducing felt risk when buying a new experience good (Keller 2013).

Academic research relating to logo design is in general limited, and to our knowledge, the most comprehensive collection of work within this field is Schmitt and Simonson's (1997) book regarding marketing aesthetics. According to the authors, the different visual elements of a logo can play a major role in determining customers' feelings and responses to the brand, and of crucial importance is keeping in line with the identity of the brand. A more recent study by Lieven et al. (2015) looked at the impact of brand design elements such as logo shape and color on brand masculinity and femininity perceptions, consumer preferences and brand equity. Although support for the effect of logo color was weak, the authors found significant support for the effect of logo shape and type font. Their findings further suggest that high levels of either brand masculinity or brand femininity are associated with more positive consumer responses to the brand. The study also puts forth that masculine logos have sharp edges, while feminine logos have soft edges. Moreover, and in accordance with the findings of Schmitt and Simonson (1997), the results also indicate that congruency between brand and product category masculinity and femininity relates positively to consumer preference. Thus, we hypothesize the following.

H_3: Congruence between brand category and logo gender traits will have a positive effect on digital experience brand sales.

The holistic design (i.e. the entire design of the package) creates and shapes a brand's "look". Together with elements such as name and logo, this forms a more complete picture of brand character (Grossman 1994). In other words, design is an essential component for brands as it is used to both create and sustain a brand image (Madden, Hewett and Roth 2000). According to Madden, Hewett and Roth (2000), colors are important image cues with specific meanings connected to them. Thus, packaging and logo color can be highly important for the associations and desirability of a product. Interestingly, the subjects asked to match colors for a logo chose combinations with either consistency or complementarity in meaning of the chosen colors. This is consistent with previous research stating consistency in design elements to be an important factor when creating a brand identity, as it

can increase both reach and effectiveness in communicating brand identity (Schmitt and Simonson 1997; Grossman 1994).

Further research has touched on how differing holistic design types affect consumer brand impressions. Orth and Malkewitz (2008) researched this effect through evaluating five holistic types (massive, contrasting, natural, delicate, and nondescript), and found that the optimal design is based on the specific responses a company wants to generate. Based on these findings, *exciting and rugged brands* should have contrasting designs, *sophisticated and sincere* brands should have natural designs, and *competent brands* should have delicate designs. Predictions within this area are very specific to individual products or industries. As digital experience products most often seem to be aimed at providing fun and excitement, we assume these goods to fall into the "exciting" brand category.

As the aforementioned studies provide us with alternate ways in determining the optimal color scheme, our study investigates both consistency in meaning and contrasting colors to see which has the strongest evidence. Hence, we propose the following.

H_4: Consistency in the meaning associated with chosen logo and package colors has a positive effect on sales of a digital experience brand.

H_5: Contrasting colors in package design have a positive effect on sales of a digital experience brand.

2.4 Tangible brand components and cultural differences

The term *international branding* was first introduced by Brandwise (1993) in 1993, and has since received growing interest in both the academic and scholarly fields (The Handbook of International Advertising Research 2014). This increased attention may be exemplified by special issues of academic journals in the field (e.g. Journal of International Marketing 2002).

Research has provided evidence for culture's effect on both judgments and perceptions of brands. Firstly, a study by Foscht et al. (2008) shows that a brand can be perceived differently in different cultures, it spite of identical positioning. In addition, Briley and Aaker (2006) find that differences in persuasion due to

culture do appear, though the effect is dependent on the level of deliberation. Differences are found when consumers are in a cursory, spontaneous situation (e.g. when driving by a roadside billboard or making a purchase without much prior research), but diminish as consumers have more time to deliberate (e.g. by reading reviews). Lastly, the level of individualism within a culture affects the importance of where the manufacturer is from, i.e. culture affects the importance of country of origin (Jun and Lee 2007).

As with other brand components, culture has been found to affect design elements such as color. Madden, Hewett and Roth's (2000) study provided evidence of this, as subjects asked to match colors for logos showed cross-cultural patterns in terms of both color meaning associations, and consumer preferences for colors and color combinations. This is important to keep in mind for international brands, as meanings associated with elements used to communicate a brand's image to consumers transfer to the brand itself (Madden, Hewett and Roth 2000).

Further research has looked at culture's effect on additional design elements. A study by Aaker, Benet-Martinex and Garolera (2001) analyzed consumption symbols as carriers of culture, finding that while some brand personality dimensions (such as peacefulness and ruggedness) remained stable across cultures, dimensions such as excitement had idiosyncratic meaning across cultures. Their findings are consistent with the argument by Shweder (1990), stating that constructs may shift meaning when examined in different cultural contexts. It is therefore no surprise that cultural differences have been seen as a primary obstacle when it comes to creating a global brand (Jun and Lee 2007).

Though the topic of international branding lacks research (Handbook of International Advertising and Research 2014), the increasing research and attention of specific implications of culture means that it should be taken into consideration when analyzing global brands.

3. METHODOLOGY

To reiterate, the aim of this study is to find the degree to which video game success is affected by tangible brand components (COO, logo edge sharpness, front-/back vowels and design), in addition to how these components interact with each other. The following section describes the dataset, the scales and measurement of the independent variables, and the chosen design.

3.1. Data

The global video game industry serves as an optimal research context for studying the effect of tangible brand components on sales of digital experience brands. As one has to actually play a video game to be sure of its quality, the product represents a good example of digital brands that fall into the experience goods category. The industry dates back to the 1950's, and has since become one of the most profitable entertainment industries in the world with revenues of $46.5 billion U.S. dollars in 2014. This number is expected to continue to grow globally at 4.9% CAGR, reaching $65.91 billion U.S. dollars by 2018. (Price Waterhouse Cooper 2016). Yet, research within the industry is limited.

We collected the video game sales numbers from publically available online sources showing video games in order of unit sale numbers. The sampling procedure consisted of first collecting the 100 top selling games published in 2007 or later (to assure comparability). The list was cleansed based on multiple criteria, and as games were combined or removed, new ones were added. As the first step in the cleansing procedure, games released for multiple platforms (resulting in multiple entries) were combined into single entries. Secondly, games released for handheld devices (such as PSP and Nintendo DS) were removed as the covers do not display the developer as prominently as covers for games played on monitors. This is problematic, as the study investigates the developer's country of origin. Furthermore, as the shape of the packaging differs between screen and hand-held games, including only one type increases comparability. We also view it as beneficial to use games that are played in a similar manner, thus enforcing the exclusion of hand-held consoles. Thirdly, despite its classification as a home video game console, Wii U has an off-TV mode, and can thus be used as a handheld console. Games created for this console were therefore excluded along

with games for handheld devices. Lastly, games in the "miscellaneous" genre were removed, as the genre in these cases is not properly defined.

We had to limit the number of games to an amount for which we would have the resources to collect the data needed for the independent variables. For this reason, we sampled only enough to ensure the final dataset would include 100 games (once those which did not fit the criteria described above were excluded).

The front/back vowel (name) variable deals with whether the name contains more front- or back vowels. This was coded by ourselves, using specific rules to place each game in one of three categories (back vowels, mixed and front vowels). This procedure is discussed further in 3.2. COO was found through online searches for the base of operation of each game's developer. For the remaining independent variables, four coders were used to specify the values of each of the one hundred included video games. As the categorization of these variables is inherently subjective, this method can strengthen the reliability of the scales. Coders represent both genders, have varying ages, and include both video game players as well as non-users.

	Gender	Age	Level of video game experience
Coder 1	Male	22	High
Coder 2	Female	53	Low
Coder 3	Female	57	Low
Coder 4	Female	24	Medium

Table 2 Overview of coders

The coding procedure involved showing pictures of video game covers on a monitor to each coder individually. While looking at a cover, the participants were asked a series of questions on a scale of 1 to 7 (see Appendix 1 for the form given to participants during coding). The procedure was conducted in person in order to answer any additional questions participants may have and in order to record answers. The responses were recorded using Excel spreadsheets by the moderator.

The answers were later tested for internal consistency, and the mean of all coders' answers for each variable was implemented in the dataset.

The variables that were quantified using coders were color contrast, color meaning of logo/packaging and logo edge sharpness. ***Color contrast*** captures whether the cover consists of contrasting colors. Based on the nature of video game's perceived gender (and their purpose as entertainment), they fall into the category of "rugged" and "exciting". In accordance with Orth and Malkewitz (2008), this implies that video games should gain from implementing contrasting designs. As package shape and material are standard for video games, we focus on contrast in color hues. The coders were asked to specify the degree to which they believed each cover as a whole contained contrast. ***Color meaning of logo/packaging*** captures whether the meaning behind the colors of the logo and the rest of the cover correspond (as stated in section 2.3, warm and cold colors carry different meanings). It was explained to the coders that warm colors consist of reds and yellows, while cold colors consist of greens and blues. Lastly, ***logo edge sharpness*** captures whether the logo mainly consists of sharp or soft edges, which informs us of whether the logo is masculine (sharp edges) or feminine (soft edges). The coders were asked to rate the degree to which they believed the edges of the logo typography were sharp or soft.

3.2. Measurement of dependent and independent variables

The dependent variables are the video game unit sales in millions in North America, Europe, Japan and rest of the world, in addition to the combined global sales. While global sales is the main dependent variable used, we also look for differences between different geographical areas. We use the logarithms of the sales to ensure the regression requirement of normal distribution.

COO is coded as a nominal variable. It was found using online searches of the developer's base of operation. ***Back/front vowels***, as already discussed in the name section of the literature review, places a distinction between front- and back vowels.

Back vowels	Front vowels
u, o, a	i, y, e (e.g. procedure)

Table 3 Categorization of front- and back vowels

The procedure for the categorization of the video games in the dataset were as follows:

- When a word has multiple vowels, the vowel that has the main emphasis in the word is used.
- When the brand name consists of multiple words, the treatment depends on whether there are an odd or an even number of words. In cases with an odd number of words, the brand is placed in the category to which most words belong. In cases with an even number of words with an equal number of placements, the brand falls into a "mixed" category. As an example, this is the case with "Assassin's Creed". Prepositions are not considered.

Color meaning of logo/packaging intends to measure differences in the meaning behind the colors of the logo and the rest of the video game cover. Coders were asked for their opinion for logo color and overall cover color as separate questions on scales from 1 to 7 where 1 is "very warm" and 7 is "very cold". To quantify the variable meaning, we subtracted the mean of the coders' answers for warm/cold logo from the warm/cold rest of the packaging, and then removed negative signs. Removing negative signs means that it does not matter *how* the logo and the remaining graphics differ, just the degree to which they do. Thus, the variable is 0 when there is no difference, and 6 when there is maximum difference.

Color contrast is viewed as subjective, and was merely described to coders as "to what degree do you feel the colors used on this cover contrast each other?". They responded on a 7 point Likert scale, where "very weak contrast" is 1 and "very strong contrast" is 7. In further analyses, this was quantified through calculating the mean of all four coders' answers for each game.

Regarding ***sharpness of logo edges***, it was described to coders that they were to look for the sharpness of the *edges* of the letters. For instance, the s should not be deemed soft solely because of the curves in the letter. However, an s can still have

both sharp or soft edges, as exemplified in table 5. The logo variable is also measured on a 7 point likert scale where 1 is “very sharp” and 7 is “very soft”, which was quantified as the average for each game.

Times New Roman (sharp edges)	Comic Sans MS (soft edges)
S	S

Table 4 Example of sharp and soft edges

Name	**Level of measurement**	**Scale**	**Related hypothesis**
COO	Nominal	Categorical	H_2
Front-/back vowels	Ordinal	3 point scale	H_1
Color contrast	Ordinal	1-7 point likert	H_5
Color meaning of logo/packaging	Ordinal	0-6 point scale	H_4
Sharpness of logo edges	Ordinal	1-7 point likert	H_3

Table 5 Overview of all independent variables and related hypotheses

3.3 Analytical approach

The methodology involves linear regressions, varying which of the geographic categories (North American, Europe, Japan, “rest of the world” and global) is used as dependent variable. The regressions also vary in whether COO is included, as to also see the effect of the visual components alone. Thus, ten models are the main basis for our findings. Additional models show interactions among the visual independent variables. This is to create an opportunity to see if any of these may play a major role once combined with each other, despite not being significant on their own. As all the independent variables combine to create the overall impression given by the cover, it is likely that there are effects that may only be seen when variables are allowed to correlate.

4. RESULTS

Overall, our results show that among the included variables, the most significant predictor of video game sales is COO, followed by logo edge sharpness. Additionally, they show that the predictors influence the effects of each other. In this section, we first discuss internal consistency (Cronbach's Alpha tests) of the coded variables. We then present the descriptive results, before finally outlining the results of the multiple regression analyses, in which we also test the hypotheses.

4.1 Tests for internal consistency (Cronbachs Alpha)

As supplemented variables were constructed using coders, we tested the internal consistency of their responses using Cronbach's Alpha tests performed in IBM SPSS Statistics. This was to assure that coders (1) understood the information given, (2) interpreted this information in the same way and (3) that external factors, such as each coder's screen brightness, did not affect their responses.

Variable	Color contrast	Logo edge sharpness	Color meaning logo	Color meaning packaging
Alpha	0.675	0.701	0.791	0.915

Table 6 Results of Chronbach's Alpha tests

Most results are within the ideal range (>0.7) with the exception of color contrast which is still within the acceptable range (>0.5). As a result, we will from this point operate with averages of all these variables. In line with previous discussions, the color meaning variables are combined into the variable "Color meaning logo/packaging" by subtracting the logo color from the packaging color and then removing all negative signs. Thus, it reflects the difference between the meaning of the logo color and the packaging color.

4.2 Descriptive results

The descriptive results give some additional background regarding the dataset and the video game industry from which it stems. They are also used to see connections between the independent variables and the variables that are in the

dataset but have not been used in the models (gaming platform, developer and video game genre).

	N	Min.	Max.	Mean	Std. Deviation
Back-/front vowel	100	1	3	2,59	0,653
Color meaning logo/packaging	100	0	4,75	1,68	1,011
Logo edge sharpness	100	1,75	5	3,09	0,748
Color contrast	100	2,25	5,75	4,16	0,778

Table 7 Overview of descriptive results for independent variables

Regarding ***developer***, the results reflect that the global video game industry is highly fragmented. Among the 100 games (which all are among the top 200 selling games since 2007), there are 47 different developers, 30 of which have only one or two games on the list. Only five developers have four or more games on the list. While we still believe that parent brand has the potential to be a significant explanatory variable in predicting the sales of video games, it seems the used dataset is too small to capture this due to high levels of industry fragmentation. The five ***gaming platforms*** in the final list of games are PS2, PS3, PS4, Xbox 360 and Wii. It is worth noting that now popular consoles such as Xbox One were not excluded, but did not have any entries in the dataset. Most of the games released for multiple platforms were released for both PS3 and Xbox360, while the most common platform as a whole is PS3. The number of consoles reflects that we did not include games made for handheld consoles such as PSP and Nintendo DS in the dataset, as to make the appearance of the game packaging more comparable, and assure comparability in product usage. With the exception of the vague "miscellaneous" category, all ***genres*** of video games in the dataset were included (for a list of included genres, see appendix 2). It is worth noting that all these genres seem to be more male- than female oriented, which could be important in the interpretation of the logo variable. Further, a study by the Entertainment Software Rating Board (2014) showed that the majority of video game users are male. Granted the aforementioned genres, and arguably video games as a whole, are more male- than female-oriented, having sharp edges in the logo should be considered positive, consistent with work by Lieven et al. (2015) and Schmitt and Simonson (1997).

The descriptive results of ***COO*** find that most video games in the dataset are developed in the US, followed by Japan, Canada and the UK. Four games were developed in France, though these are made by the same developer (Ubisoft) and the same series of games (Assassin's Creed). Finally, a total of six games were produced in Sweden, Australia and the Netherlands combined. The mean of ***logo edge sharpness*** is 3.09 among the video games represented in the data. As 4 represents the middle of the scale (1 to 7), this shows that more games have sharp than soft edges. The range from 1.75 to 5 shows that almost all varieties are represented. 2.5 stands out as the far most frequent score, with 24 entries. Regarding ***color meaning of logo/packaging***, the average score of 1.68 (on a scale from 0 to 6) shows that the majority of video games have a relatively subtle difference between the meaning of the colors in the logo and those in the rest of the game. However, the entire scale is represented in the data. With a mean of 4.2 (on a scale from 1 to 7), ***color contrast*** is fairly well distributed on both sides of the scale. Most of the games surround the middle of the scale, meaning their contrast is not very strong in any direction. Concerning ***front-/back vowels***, the average of 2.6 (on a scale from 1 to 3) shows that video games with back vowels are highly overrepresented. This is consistent with beliefs that as video games have an image that is more masculine than feminine.

4.3 Results of regression analyses

A total of 16 models are presented, all differing in terms of what independent variable is used (geographic area), whether COO is included and whether interactions are included.

Dependent variable	Global		US		Japan		Europe		Rest of world	
	Without COO	With COO	Without COO	With COO	Without COO	With COO	Without COO	With COO	Without COO	With COO
Front-/back vowels	0,0548	-0,0367	0,1629	0,1000	0,0408	0,0265	-0,0437	-0,1065	-0,0531	-0,1552
p	0,6181	0,7596	0,2258	0,4988	0,4801	0,5515	0,6568	0,3332	0,6522	0,2303
Sharpness of logo edges	-0,2401	-0,2136	-0,3202	-0,3639	-0,1458	-0,0722	-0,1601	-0,1392	-0,2495	-0,2104
p	0,0109*	0,0407*	0,0055**	0,0050**	0,0034**	0,0615.	0,0558.	0,1427	0,0135*	0,0601.
Color meaning logo/packaging	-0,0003	0,0489	-0,0220	-0,0017	-0,0643	-0,0485	0,0072	0,0442	0,0353	0,0965
p	0,9971	0,5020	0,7943	0,9850	0,0786.	0,0748.	0,9074	0,5073	0,6337	0,2192
Color contrast	-0,1005	-0,0638	-0,1099	-0,0796	0,0128	0,0310	-0,0649	-0,0431	-0,1498	-0,1163
p	0,2546	0,4996	0,3067	0,4934	0,7810	0,3766	0,4100	0,6177	0,1144	0,2530
COO: USA		3,9085		2,4798		0,2547		2,0058		1,2370
p		< 4.06e-07**		0,001**		0,2491		0,0004**		0,0549.
COO: Japan		2,9440		2,1271		0,8737		2,0317		1,2610
p		< 1.97e-06**		0,0036**		0,0001**		0,0002**		0,0453*
COO: France		2,4967		2,0317		0,2452		1,7360		0,8844
p		0,0002**		0,0115*		0,3043		0,0039**		0,2015
COO: Canada		2,6402		2,1402		0,2368		1,8832		1,0666
p		6.74e-05**		0,0071**		0,3144		0,001576**		0,1192
COO: UK		2,5488		2,4024		0,2436		1,6998		0,6760
p		0,0001**		0,0028**		0,3033		0,0043**		0,3239
COO: Sweden		2,8187		2,3875		0,1927		1,9584		1,1566
p		0,0002**		0,009**		0,4726		0,0038**		0,1386
COO: Australia		1,9512		1,4569		0,1649		1,4731		0,3078
p		0,0115*		0,1207		0,5579		0,0359*		0,7054
COO: Netherlands		1,8275		1,2992		0,1192		1,3406		0,3746
p		0,0507.		0,2555		0,7285		0,1158		0,7064
R2	0,0800	0,8966	0,0986	0,6834	0,1181	0,7443	0,0482	0,7914	0,0928	0,2575
Adj R2	0,0413	0,8826	0,0607	0,6403	0,0810	0,7094	0,0082	0,7630	0,0546	0,1562
Model sig	0,0913.	< 2.2e-16**	0,041*	< 2.2e-16**	0,0169*	< 2.2e-16**	0,3145	< 2.2e-16**	0,053.	0,0063**

Table 8 Results of regression analyses (main models)

. = Significant at the .1 level
* = Significant at the .05 level
** = Significant at the .01 level

Dependent variable	Global		Japan		Europe		"Rest of the world"			
Variables interacting	Logo x Name	Logo x Name (inc COO)	Meaning x Contrast	Meaning x Contrast (inc COO)	Logo x Name	Logo x Name (inc COO)	Meaning x Logo	Meaning x Logo (inc COO)	Logo x Name	Logo x Name (inc COO)
Interaction	-0,269811	-0,30554	-0,09643	-0,05474	-0,3061495	-0,3656	0,24374	0,2479	-0,43743	-0,53967
p	0,0643.	0,0476*	0,02626*	0,1001	0,0182*	0,00899**	0,05043.	0,05582.	0,00462**	0,000888**
Front-/back vowels	0,822761	0,83347	0,04234	0,02733	0,8277526	0,93473	-0,04586	-0,1383	1,19197	1,38174
p	0,0554.	0,0666	0,45387	0,5355	0,0297*	0,02295*	0,69276	0,2785	0,008544**	0,003661**
Logo edge sharpness	0,444231	0,58785	-0,13175	-0,0686	0,6163879	0,8198	-0,61224	-0,5843	0,85999	1,20507
p	0,2413	0,1566	0,00719**	0,0732.	0,0673.	0,02939*	0,0044**	0,00986**	0,03158*	0,005599**
Color meaning logo/packaging	-0,007346	0,05133	0,33949	0,17612	-0,0008674	0,0471	-0,657	-0,6098	0,02381	0,10076
p	0,9143	0,4737	0,0657.	0,2045	0,9885	0,46501	0,06875.	0,1051	0,73899	0,174247
Color contrast	-0,115593	-0,0972	0,17079	0,12287	-0,0819741	-0,08313	-0,17367	-0,1466	-0,17423	-0,17535
p	0,1869	0,3037	0,04293*	0,0628.	0,2888	0,32813	0,06605.	0,14911	0,05842.	0,073706.
COO: USA		0,75821		-0,13605		-0,56715		2,3657		-2,56097
p		0,5352		0,6719		0,60608		0,00691**		0,044434*
COO: Japan		0,8412		0,46463		-0,4845		2,3776		-2,45315
p		0,4817		0,1564		0,65222		0,00577**		0,048805*
COO: France		0,36188		-0,14726		-0,81843		2,0494		-2,88615
p		0,7701		0,6595		0,46321		0,02604*		0,025833*
COO: Canada		0,50508		-0,16679		-0,6717		2,2947		-2,70466
p		0,6824		0,6206		0,54557		0,01453*		0,035808*
COO: UK		0,30194		-0,12284		-0,9887		1,784		-3,29242
p		0,8141		0,7027		0,39305		0,04604*		0,014504*
COO: Sweden		0,86994		-0,26892		-0,37344		2,2882		-2,28551
p		0,4707		0,4851		0,73043		0,01931*		0,068268.
COO: Australia		-0,10522		-0,1994		-0,98752		1,4296		-3,32424
p		0,9339		0,5743		0,3878		0,15103		0,012537*
COO: Netherlands		-0,11561		-0,20396		-0,98447		1,7814		-3,05743
p		0,9307		0,6029		0,41146		0,14662		0,027856*
R2	0,1131	0,9012	0,1635	0,7521	0,1033	0,8073	0,1292	0,2882	0,1674	0,3465
Adj R2	0,06593	0,8865	0,119	0,7151	0,05565	0,7785	0,08285	0,1819	0,1231	0,2489
Model sig.	0,04299*	< 2.2e-16**	0,004426**	< 2.2e-16**	0,0643.	< 2.2e-16**	0,02153*	0,002973**	0,003663**	0,0001831**

Table 9 Results of regression analyses (interaction models with significant interactions)

. = Significant at the .1 level
* = Significant at the .05 level
** = Significant at the .01 level

Logo = Logo edge sharpness
Name = Front-/back vowels
Meaning = Color meaning logo/packaging
Contrast = Color Contrast

Regarding ***model fit and explanatory capacity***, the explanatory power differs quite extensively depending on the market for which sales are predicted in the models including COO. The models with the strongest R^2 use global (adjusted R^2=0,88), Japan (adjusted R^2=0,71), Europe (adjusted R^2=0,76) and North America (adjusted R^2=0,64) as dependent variables. For the remainder of the world however, the adjusted R^2 is only 0.16. Regarding model fit, the F-test of model significance shows that all models including COO are significant at the 0.01 level, indicating supreme model fit.

There are also extensive variations among the models that do not include COO. Perhaps most noteworthy is the explanatory power of the model using European sales as dependent variable, which is particularly low, with an adjusted R^2 of only 0.008. This model is also an exception, as all others are significant at the 0.1, 0.05 or 0.01 level.

Logo edge sharpness has a consistent negative effect on sales of video games, meaning sharp edges are associated with higher sales. While the effect is significant ($p < 0.1$) in almost all cases (lending support to H_3), the effect is stronger in some models than others. The level of effect depends on whether or not COO is included, and what geographic area is the dependent variable. North America stands out as an area in which the effect is particularly strong, and the effect holds very stable when COO is included in the model, indicating low levels of multicollinearity among these variables. The only area in which the effect is insignificant is in Europe with COO included, indicating a slightly lower effect of logo in this area.

The effect of ***front-/back vowel*** is inconsistent, which could be due to differences in pronunciation of vowels in different countries. The effect is positive in Japan and North America (indicating that back vowels are associated with higher sales), while it is negative in Europe and "the rest of the world", indicating that front vowels are associated with larger sales in these markets. The results are insignificant in all markets, and can thus not lend support to H_1. Front-/back vowel does however have very interesting interaction effects with logo globally, in Europe and in "rest of the world". As such, this is the most geographically widespread interaction in the study, and insinuates that though the effect of front-

/back vowel is fairly weak in and of its own, it can have an increased effect when combined with specific levels of logo edge sharpness.

The main effects of ***color meaning of logo/packaging*** are inconsistent in their direction. It has a negative effect in North America and Japan, indicating that having *the same meaning* in the colors used in the logo and the rest of the cover is associated with higher sales. On the other hand, its positive effect in Europe and "the rest of the world" indicates that *difference in meaning* is associated with higher sales in these markets. Globally, color meaning of logo/package has a weak positive effect. This effect is significant in Japan ($p < 0.1$), offering partial support to H_4. Meaning also has a significant interaction effect ($p < 0.1$) with logo in "the rest of the world", indicating that color meaning of logo/package's effect is significant when combined with certain logo types in these markets.

Color contrast has a negative effect in most markets, meaning a weak contrast is associated with higher sales. The exception is Japan, where contrasting colors are associated with higher sales. However, all results are insignificant, meaning they cannot lend support to H_5. It is interesting that contrast and meaning have a significant ($p < 0.05$) interaction in Japan. While this does not mean that H_5 can be fully supported, it insinuates that contrast is significant at certain levels of meaning in Japan. This effect is however only significant when COO is not included in the model.

COO has a significant effect in all markets, and as already discussed, drastically increases the models' explanatory power. There is clear evidence of ethnocentricity present in Japan; only the Japanese developed games are both significant at the 0.01 level, and strongly positive. North America has somewhat similar results, as developers from both Canada and U.S., have significant (at the 0.01 level) positive results. This effect is strongest in the U.S. Thus, the results lend support to H_2.

Overall, it seems that ***cultural differences*** lead to some cancelling out of effects on the global level. For instance, the effects of meaning and name are very weak despite both having stronger effects on more specific geographical levels. It seems that the COO with the strongest effect is USA, though that of Japan is also high.

Logo edge sharpness and color contrast are the only visual brand components to have a consistent direction in its effects in models with and without COO.

5. DISCUSSION

As the results showed, ***logo edge sharpness*** is found to have the largest impact of all design-related brand components, lending support to H_3. This strong effect of logo edge sharpness contributes to research showing logo to be a brand component that in large part contributes to brand awareness and recognition. In the case of video games, logo edge sharpness' effect is negative, meaning sharper edges are associated with higher brand sales. In a category that is arguably more male- than female-oriented, this makes sense and is in accordance with the discussion about logo in the theoretical background (2.1).

The strong effect of the logo edge sharpness is interesting considering it is the only design-related brand component that tends to be equal in both all editions of a video game and related products. In other words, the logo is used on merchandise, video game sequels and special editions, in marketing campaigns, for movies based on the video game and any other related products. If a central goal when releasing a video game is to build a franchise, the logo can function as a "bridge" between the different brand extensions in the product line, thus building on already existing customer awareness and perceptions. Making changes to the logo that qualify as more than incremental throughout might require rebranding tactics, which are both expensive and time consuming. For this reason alone, it makes sense that publishers spend extensive resources on developing and testing the logo. It is very possible that this has enhanced the awareness of what does and does not work in the industry regarding logo design. This is also insinuated by the fact that the majority of games have some degree of sharp edges in their logos.

The results are not just applicable in the video game industry. Although the gender associated with a product varies between product categories, this study has shown that logo edge sharpness has strong potential to influence sales. Using well known and liked brands to launch extensions is common in many, if not most consumer industries, and the logo can as discussed be a strong contributor in this setting. It would make even more sense in the experience product categories as the buyers' felt risk is higher, and this can be relieved through buying products with a familiar brand attached. Hence, knowing what gender a product orients toward,

and using this as part of the evaluation when developing the logo, can have positive effects on sales both the current product and extensions to come.

The results also show that logo edge sharpness is the only design-related component to have main effects in the same direction across all geographic areas included in the study. In other words, while most design characteristics are likely to have a stronger positive effect when adapted for local markets, the distinction between sharp and soft edges in logos transcends cultural differences. Considering that the logo is also the bridge between different products in a video game franchise, the ability to use it on a global scale simplifies and may also strengthen the effect of international marketing tactics and launches.

Interactions involving logo edge sharpness also showed that it can have an enhanced effect when combined with specific levels of other visual brand aspects, especially name. This demonstrates that logo is not only important in and of itself, but also in combinations with other components of the brand.

As shown in the results, including ***COO*** in the model led to tremendous model fit and the study offered support to H_2. In addition, we could clearly see that different countries were preferred in different geographic areas. As discussed in the theoretical background (section 2.2), COO has previously been found to have a greater effect for experience goods than for search goods, and our study thus offers additional support to existing theory. Traces of ethnocentrism were also found in the study, namely in Japan. The fact that Japan was the only country to be included as a dependent variable (as reviewed in section 3, all others were combinations) means that the study cannot exclude the possibility that other countries are more partial to ethnocentrism than Japan. This result does however show that ethnocentrism has the potential to affect sales in the video game industry, and this potential should be exploited whenever possible.

Color meaning of logo/packaging is only significant in Japan, thus offering the clearest evidence of cultural differences in the study. This significance also gives partial support to H_4. However, this contradicts the results of Madden, Hewett and Roth (2000) to some degree, as the relationship between complementary colors and sales - at least in the digital experience goods industry - seems to be culture

specific. As the results are insignificant elsewhere, it seems that using colors with consistent meaning would be beneficial; it influences sales positively in Japan, while not having a negative effect in other geographic locations.

Color contrast is not significant in any geographical area, and can thus not lend support to H_5. It has a negative effect in most markets, meaning a weak contrast is associated with higher sales. The exception is Japan, where contrasting colors are associated with higher sales. Building on the results found by Orth and Malkewitz (2008), there are two ways to interpret this. Firstly, it could mean that the recommendations for the different types of brands (exciting and rugged brands should have contrasting designs, sophisticated and sincere brands should have natural designs, and competent brands should have delicate designs) do not necessarily hold true for different geographic areas. Alternatively, a brand image could be placed in different categories in different countries, for instance if video games were seen as rugged in the U.S. and sophisticated in Japan. However, as the results are not significant, we would need to include more video games in the data to generalize these results. As for why these results are insignificant, section 2.4 outlined that this hypothesis is somewhat contradictory to H_4, which the results supported to a larger degree. In other words, within the digital experience brand setting, using consistent meaning seems more important than using contrasts.

Front-/back vowels is also insignificant in all geographical areas, and can therefore not lend support to H_1. This was to a large degree expected, as video games almost exclusively use real words (as opposed to fake words such as “Mal” and “Mil”), and thus create associations outside of phonetic sounds. There are many potential reasons why name was not significant. Firstly, the study had a global approach, and the letters are likely to be pronounced differently depending on what language is commonly used. Secondly, most video games use already existing words in the names, thus creating associations that are likely to be stronger than those created by the vowels. Thirdly, it is possible that front-/back vowels could have had a stronger effect in an isolated experiment, as opposed to a study using sales numbers. To elaborate, too many factors affect sales numbers for front-/back vowels to have a visible effect. Though front-/back vowels were insignificant independently, the interaction it shares with logo is interesting, as it

shows that the effect of name can be increased under the right circumstances. This connection was also the interaction with the largest geographic reach.

As discussed in the conceptual background, ***culture*** has been found to affect elements such as color preference and associations to colors (Madden, Hewett and Roth 2000). Evidence regarding cultural differences was found throughout our study, most notably with regards to meaning and contrast. Findings show that while meaning has a negative effect in Japan and North America (suggesting that these areas prefer consistency in meaning behind colors chosen for logo and remaining package design), the opposite was found for Europe and "rest of the world". Noteworthy is that these results could be due to that constructs tend to shift meaning when examined in different cultural contexts. If this is the case, the difference may be due to variations in associations to the logo and package colors, i.e. meaning behind logo and rest of color may be consistent in one geographic region, yet differ in another. Lastly, we find contrast to be positive only in Japan. As the effect is negative in all other markets, this may insinuate cultural differences in preferences. However, the results are insignificant, and can therefore not be generalized. Overall, these results show that there are cultural variations in the preferences of video game cover designs, leading to differences in effects cancelling each other out on the global level. These could affect the degree to which building a consistent global brand image is a viable strategy, as the results indicate that allowing for local modifications may lead to better results.

6. IMPLICATIONS, LIMITATIONS AND DIRECTIONS OF FURTHER RESEARCH

6.1 Implications

As reviewed in the introduction, experience goods stand out from search goods due to the difficulty of assessing the former's quality ahead of purchase. This thesis has shown how buyers of experience products, due to this lack of relevant information pre purchase, use factors that are not necessarily relevant to make decisions about whether or not to purchase a product. These results, along with the hypothesis related results, have multiple implications for managers of experience brands.

The fact that non relevant aspects are used is interesting for any manager of experience brands, as it emphasizes the need to spend time perfecting these prior to product launches. This need is likely to be less critical in settings where the product's quality can be assessed more easily prior to purchase. Additionally, brand components need to be evaluated holistically to gain the full image of how well each component is working.

The effects of separate brand components have been well documented in previous literature, though the current thesis has made contributions by combining them. This has allowed us to examine the effects of brand components not only separately, but how they affect each other in the context of brand sales. As it was found that these frequently have stronger effects when combined, this emphasized the importance of building a holistic brand image that includes consistent use of brand components.

Within the context of the video game industry, casual buyers (in this setting seen as buyers who do not research video games extensively ahead of purchase) are most likely to be affected by the brand components described in this thesis. Thus, the results are of special interest to video game developers hoping to capture the more casual users, in addition to the more dedicated gamers. Firstly, the study offers guidelines for the development of the visual cover. It also shows the ways in which the tangible brand components are connected, and that finding the right combinations can have a larger impact on sales. This point is very topical, as the

creation of video game covers has become more formulaic over time (Plunkett 2010). Knowing how important the different elements are, and how they fit together can potentially aid in resource allocation. Finally, video game publishers should be especially aware that time spent perfecting the logo is likely to be time well spent.

In terms of cultural differences, the fact that most brand components differ in their preferred levels across geographical areas insinuates that managers should always consider adapting the visual aspects of the packaging when launching a product in a new market.

This thesis is mainly aimed at providing practical implications for managers of digital experience brands, and thus has limited implications for theory. It has however shown the practicality of combining brand attitudes when studying them. This gave a richer image of not only each component's individual effect, but also their collective effects and multicollinearity. It has also contributed to theories concerning irrational consumer choices, emphasizing how factors within a brand manager's control can capitalize on this kind of behavior.

6.2 Limitations and directions of further research

In this section, we present the limitations of the current study. This also includes a presentation of potential areas of future research, as many topics within these two areas overlap.

Firstly, the study could have enhanced its generalizability and likelihood of significant results had it included more video games. While one hundred games is enough to qualify as generalizable, including more could have allowed us to study games with a wider range in sales numbers (e.g. including more unsuccessful games), in addition to studying parent brand as part of the regressions.

Secondly, despite the many positive consequences of using sales numbers as dependent variables, the clarity and accuracy of the model is lessened as sales numbers are influenced by several other factors. Further research may want to include i.e. marketing budget so as to increase the explanatory power of the model, and to detect potential multicollinearity with the included independent

variables. Additional considerations which may affect sales results are the number of devices games are available for, if the game is included as part of a package deal with the device, and the possible spillover effects of games with the same brand (i.e. Assassin's Creed and Assassin's Creed II).

Additionally, as our study is limited to one industry, future research may wish to validate the applicability of these findings to other products and industries. As an example, it may be interesting to explore the brand component effects on experience products that are either feminine (e.g. make-up) or more gender neutral (e.g. wine).

Another interesting area of research concerns studying different measurements of the variables already included. We had to limit the use of the variables, for instance through only examining the vowels of the brand name. As discussed in section 2.1. however, one could also study this in terms of consonants of the name or by the associations given through meaningful words. This is also possible for colors, for instance by making the distinction between dark and bright colors as opposed to warm and cold.

Lastly, although our study found evidence of cultural differences in consumer preference, it was also limited as the sales numbers included very large geographical areas (North America, Europe, etc.), and it did not test for significant differences between countries. Future research should further investigate to what extent cultural differences affect brand components within the context of experience products. This would allow managers to see more specifically both the degree of influence cultural factors have on sales, in addition to which colors and combinations work best in different geographic areas.

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APPENDECES

Appendix 1: Coder questionnaire (translated from Norwegian to English)

Thank you for participating as a coder. We will now show you a series of video game covers, and ask you four questions about each. You can take a long as you wish to respond. There are no wrong answers, as what we look for is your subjective opinion. Please be assured that your answers are confidential, and will only be used for the purpose of our master thesis. Your name will at no point be publicised.

1. To what degree do the colors on this cover contrast to each other?

Very weak contrast — Very strong contrast

1 2 3 4 5 6 7

2. Warm colors are variations of red and yellow, while cold colors are variations of blue and green. To what degree do you believe the colors of THE LOGO are cold and/or warm?

Very cold — Very warm

1 2 3 4 5 6 7

3. Warm colors are variations of red and yellow, while cold colors are variations of blue and green. To what degree do you believe the colors on THE PACKAGING EXCLUDING THE LOGO are cold and/or warm?

Very cold — Very warm

1 2 3 4 5 6 7

4. To what degree do you think the edges of the logo are soft or sharp? In this, we only mean the edges, and not properties of the letters themselves. For instance, the soft turns in an "S" are not applicable, but the end of its lines may be either soft or sharp.

Very sharp edges — Very soft edges

1 2 3 4 5 6 7

Appendix 2: Preliminary Master Thesis

ID number: **0924377**
0909888

BI Norwegian Business School
Preliminary Master Thesis

The Effect of Brand Components on the Success of Digital Experience Brands

Hand-in date:
15.01.2016

Campus:
BI Oslo

Examination code and name:
GRA 19003 Preliminary Master Thesis

Programme:
Master of Science in Strategic Marketing Management

Supervisor:
Alexander Vossen

1. INTRODUCTION

Brands are viewed as one of the most valuable assets a firm has, and are applied in virtually every setting where consumer choice of some kind is involved (Keller 2013, 21). Brands have been found to play a larger role with experience goods than with search goods, as the increased difficulty in evaluating product characteristics in advance creates uncertainty (Keller 2013, 35). In this context, brands reduce felt risk (Keller 2013, 35) and increase the chance of positive evaluation before trial (Srinivasan and Till 2002). To the authors' knowledge, the effects of brand components on experience goods have not been the main focus of any previous work. *The purpose of this study is thus to examine the effects of various brand attributes on experience goods, with data from the video game industry.*

According to the American Marketing Association, brands may be defined as a "*name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers*" (AMA 2015). As this implies, brands consist of many different components, and a review by Chernatony and Riley (1997) shows that these components may be classified as either tangible (visible) or intangible. The former describes components that are easily comprehended (e.g. name, logo and physical design), while the latter describes components that are somewhat obscure and more difficult to observe (identity, corporate brand, symbolic value, etc.). Following this line of logic, these components may be seen as the equivalent of experience attributes of brands. With this in mind, we see it as interesting to study factors that are readily available to consumers.

The variables available within the in-store environment also make sense to study in general. A study by OgilvyAction showed that 28% of shoppers wait to decide which brand to buy until they are in the store. An additional 10% decide to buy a different brand than initially intended, and yet an additional 20% buy from categories they had no intention to buy from (WPP 2015). This means that the information available in-store indeed is likely to affect the success of a product.

The video game industry represents a good example of brands that fall into the experience goods category. In 2013 alone, customer expenditure in the electronic

game industry was 21.53 billion dollars, and the industry as a whole has experienced rapid growth over the last years (Entertainment Software Association 2014, 12-13). The industry has recently moved from operating within only niche segments, to reaching blockbuster segments, likely due to Nintendo Wii opening up the market to new segments through its blue ocean strategy (Hollensen 2013). Despite its rapid growth and popularity, the electronic games industry is an area that has not been deeply researched in comparison to more established entertainment industries (Marchand and Hennig-Thurau 2013, 141).

Consumers value video games as a form of entertainment associated with factors such as with enjoyment, self-concept, self-efficacy and self-congruity (Davis 2012). For products such as this, a majority of characteristics (such as quality, difficulty and entertainment factor) are experience attributes. Drawing on theory from experience brands, some research has suggested that the additional information provided by others users/third-parties could transform experience attributes into search attributes (Ford, Smith and Swasy 1990; Klein 1998), but recent findings indicate otherwise. Weathers et al. (2007) find that information provided by a third-party has no effect on uncertainty, and Yang and Mai (2010) find that online reviews cannot transform experience attributes into search attributes. Thus, brand attributes are still likely to play a larger role for experience brands than search brands, despite technological developments.

In conclusion, our research question is:
To what degree do tangible brand components affect purchase decisions and subsequent sales of digital experience brands?

This thesis will in the following section continue with a review of relevant literature and hypothesis generation. We will then present our empirical methodology and results. Finally, we will discuss the findings and their implications for theory and practice.

2. THEORETICAL BACKGROUND

As highlighted, the focus within brand components in this paper lies on the tangible elements. For those interested in different models of brand components, we refer you to the review by Chernatony and Riley (1997). The brand components most relevant to digital experience brands are presented in table 1.

Component	**Author(s)**
Slogans	Aaker 1992
Name	Bailey & Schechter 1994
Logo	Bailey & Schechter 1994
Graphics and physical design	Grossman 1994
Country of origin	Bilkey & Nes 1982
Parent brand/producer	Dacin & Smith 1994

Table 3: Overview of brand components

Note all of these will not be evaluated in this thesis, which is both due to restrictions regarding resources and a wish to focus on those that have the strongest likelihood to have an effect. In addition, as these will function as independent variables in regression analyses, it has to be possible to quantify or categorize them in a meaningful way. Hence, the components we will delve deeper into in the following literature review are:

- Name
- Country of origin
- Parent brand
- Logo
- Design

2.1 Brand name

Theories within linguistics have long dealt with connections between words and the objects they describe. Theories by De Saussure state that all word sounds are arbitrary (Bouissac 2010, 91), i.e. they never in any way themselves signal what object the word refers to. However, the theory of sound symbolism (also sometimes referred to as phonetic symbolism), which is the idea of a relationship between sound and object (Hinton, Nicholas and Ohala 1996), have objected to this notion. Sound symbolism has been used heavily in marketing research related to brand names, showing consistencies in how specific sounds give consumers an

idea of what to expect from a product (e.g. Klink 2001; Shrum et al. 2012; Yorkston and Menon 2004; Lowrey and Shrum 2007).

Central to the current work is the distinction between the "back-vowels" and "front-vowels". The former is most often connected with things that are large, while the latter with things that are small. This was to the authors' knowledge first demonstrated by Sapir (1929). He showed subjects two words, e.g. Mal (back-vowel) and Mil (front vowel), and asked them which name was best for a small table and which was best for a large table. 80% of subjects agreed that Mal would be large and Mil would be small. Authors such as Lowrey and Shrum (2007) and Klink (2001) have since replicated these results, strengthening the concept's theoretical support.

The question is whether size matters in this context. For many digital experience brands, it would be logical that being perceived as "big" would be positive. For instance, "big" movies may bring associations to big budgets, high sales numbers, big stars starring, etc. However, being perceived as small may be positive for other product categories, such as when an app is created to save you time (e.g. the bank app Vipps, meant to make transferring small amounts of money simple).

However, the brand name research places emphasis on much more than just front- and back vowels. Researchers such as Robertson (1989) have developed criteria for brand name (e.g. distinctive, meaningful, sound related to product class). Klink (2001) points to the possibility of using existing words as a method of gaining positive associations. Furthermore, even within sound symbolism, research has also looked at the role of consonants (Klink 2003, 145), which due to time limitations has not been included in the current paper.

As the studies behind sound symbolism are strongly supported, we believe they may have an effect on the success of a digital experience brand. However, while there are likely to be consistencies within product categories, digital brands have a wide variety of functions and purposes, thus there should not be an overall direction generalizable to all digital brands. In addition, the effect should be marginal, as so many other factors affect the effectiveness of a name, and as name is only one part of a brand. With this in mind, we propose that either back- or

front vowels are preferred in a product category within digital brands, and explain some variation with regard to a brand's monetary success.

2.2 Country of origin

Country of origin (hereafter referred to as COO) has been subject to much research, and its effects are well documented (Peterson and Jolibert 1995). As including the country on the package or in the information about the product is most often a legal necessity, it has the potential to affect decisions right at the point of purchase (Keller 2013, 266-267). This makes it an interesting brand component to study in the current context.

It is quite likely that consumers have come to expect different qualities from products produced in different countries in the digital experience brand setting. There may also be effects of ethnocentrism present, meaning that consumers prefer products that have been developed in their home country (Balabanis and Diamantopoulos 2004). These have however been shown not to be equally strong across cultures (Gürhan-Canli and Durairaj Maheswaran 2000), meaning the effect may be stronger in one country than in another.

With this in mind, we propose that COO is a significant explanatory variable with regard to the monetary success of a digital brand.

2.3 Parent brand

As reviewed by Keller (2013, 236-240), using a "parent brand" to market new products can facilitate new product acceptance, mainly through reducing perceived risk. While the most easily seen kind of parent brand is one that is included in the title, and that spans a series of products (e.g. Google Search, Google Maps, Google Docs, etc.), this is not the only way to gain benefits from using a parent brand. As reviewed by Aaker and Joachimsthaler (2000), there a multiple ways to compose a brand architecture, all of which can lead to benefits in the form of decreased feeling of risk. This does however assume that the parent brand is visible to the consumer pre-trial.

Additionally, a parent brand can do more than relieve uncertainty. Consumers can in some cases become very engaged, and actively seek products from specific

parent brands because of their experience with its other products. Although not recognized as a digital brand, Apple is still a good example of how a strong brand may create above normal engagement (Milian 2011).

There are also self-enforcing factors at work regarding this topic. Already successful parent brands presumably have a larger recognition and following, have more financial resources, may have built up stronger absorptive capacity and may also attract more expertise than less successful ones. Thus, they are more likely than others to launch well-performing brands.

Based on this, we propose that the monetary success of a digital experience brand will be heavily influenced by its parent brand.

2.4 Logo

According to David Aaker (Aaker 1991), symbols are a key ingredient to brand development. Symbols can strengthen brands by being part of the overall identity, and by increasing recognition and recall. Academic research relating to logo design is in general limited, and to the authors' knowledge, the most comprehensive work within this field to date is Schmitt and Simonson's (1997) book regarding marketing aesthetics. According to the authors, the different visual elements of a logo can play a major role in determining a customer's' feelings and responses to the brand, and of crucial importance is keeping in line with the identity of the brand (Schmitt and Simonson 1997, 119).

A more recent study by Lieven et al. (2015) looked at the impact of brand design elements such as logo shape, type font and color on brand masculinity and femininity perceptions, consumer preferences and brand equity. The authors findings suggest that high levels of either brand masculinity or brand femininity (which depend on elements such as shape and color) are associated with more positive consumer responses to the brand. Moreover, and in accordance with the findings of Schmitt and Simonson (1997), the results also indicate that congruence between brand and product category masculinity and femininity relates positively to consumer preference.

With this in mind, we propose that congruency between brand category and logo traits will have a positive effect on success of brand.

2.5 Design

As suggested by previous literature package design plays a vital role in creating and communicating brand image, and is seen as one of the core identity elements (Schmitt and Simonson 1997; Grossman 1994). Along with name and logo, the entire design of the package creates and shapes a brand's "look", which together with elements such as name and logo form a more complete picture of brand character (Grossman 1994).

In addition to the importance of design, a significant body of research has studied the effects of design on brand associations and responses. As with research concerning logos, color is of special interest in this context, both in terms of the meaning associated with color, as well as the physical appearance.

According to Madden, Hewett and Roth (2000), colors are important image cues with specific meanings connected to them, thus packaging color can be highly important for the associations and desirability of a product. Interestingly, subjects asked to match colors for a logo chose combinations with either consistency or complementarity in meaning of the chosen colors. This is persistent with previous research stating consistency in design elements to be an important factor when creating a brand identity (Schmitt and Simonson 1997; Grossman 1994), as it can increase both reach and effectiveness in communicating brand identity.

Further research has touched on how differing holistic design types affect consumer brand impressions. Orth and Malkewitz (2008) researched this effect through evaluating five holistic types (massive, contrasting, natural, delicate, and nondescript), and found that the optimal design is based on the specific responses a company wants to generate.

As these studies provide us with alternate ways in determining the optimal color scheme, our study will investigate both, and see which has the strongest evidence. Hence, we propose the following:

- Consistency in the meaning associated with chosen logo and package colors has a positive effect on success of a digital experience brand.
- Contrast between logo and package color has a positive effect on success of a digital experience brand.

3. METHODOLOGY

Our main research purpose is to study the effects of above mentioned branding components on video game brands success. The topic will mainly be researched through the use of readily available secondary data sources on video games, which will be supplemented with additional information about the brand components. The data will be analyzed to find common denominators of successful brands of video games as opposed to unsuccessful brands through regression analyses.

3.1 Data

The main data consists of sales numbers from a representative sample of countries, and is based on non-self-report information, or archival data to be more specific. This strengthens the validity of our analyses, as the data is based on facts as opposed to individuals' opinions.

The data will be supplemented with additional information through in-depth interviews. The interviews will be performed on video game users of varying experience and/or creators of indie video games in Norway. Norway is a "neutral site" in our investigation, as it is not included in the data set. Despite this, videogames are distributed across the world, and we believe we can still receive very relevant information from Norwegian subjects.

We are also evaluating whether a small sample answering a conjoint analysis may be suitable. Conjoint should work very well considering that the thesis deals with different attributes, and this analysis would give us more specific information than we could get through using sales numbers in regressions. Showing the packaging cover of non-existing video games would illustrate the attributes. However, we would have to limit the number of variables to a manageable amount so that the survey does not take too much time. The sample would consist of Norwegian video game enthusiasts of varying levels of experience.

3.2 Dependent and independent variables

The independent variables will be based on the brand components chosen for inclusion in the thesis. The level of measurement for the different variables is yet to be determined.

The dependent variable will be sales numbers for video games. As this is a continuous variable, the regressions performed will be standard multiple regressions.

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