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Anthropomorphic Packaging: Is There Life on Mars?

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Abstract

Purpose - Anthropomorphism is the innate human tendency to attribute human or human-like characteristics to non-human entities or objects. Even though it is widely used by marketing practitioners, there is a scarcity of academic research that systematically attempts to capture this phenomenon. The aim of the current study is to investigate anthropomorphism in product packages of the 2010 Nielsen's Top 100 grocery brands in the UK.

Design/methodology/approach - This study employs a mixed method design combining quantitative content analysis and correspondence analysis. The former methodology allowed for documentation of anthropomorphic package elements, whereas the latter facilitated the study of structural relationships between anthropomorphic cues and product-related attributes such as type, category and target market.

Findings - The findings reveal that anthropomorphism is widely used in the packaging of grocery brands in the sample investigated. Moreover, the evidence shows that there appears to be an association between anthropomorphism and product-related attributes.

Implications - The current study contributes to both theory and practice. It illuminates the under-investigated interface of anthropomorphism and marketing by capturing anthropomorphic elements appearing in product packaging. The combination of anthropomorphic package elements and product-related attributes may assist managers in designing their packages in order to provide unique product experiences.

Originality/value - This study serves as a roadmap for both academics and practitioners wishing to engage in a fruitful dialogue on the emerging area of anthropomorphic marketing.

Key Words Anthropomorphism, Packaging, Content Analysis, Correspondence Analysis, Grocery Brands

Paper Type Research Paper

Introduction

Anthropomorphism - i.e. the assignment of human characteristics, motives and behaviours to non-human forms, inanimate objects, natural phenomena and events – describes human thoughts and actions. As noted by Guthrie (1993, p. 62), we see "the world not only as alive but also as humanlike", we see faces in the clouds and anthropomorphise objects of daily life. Despite the fact that anthropomorphism has been around from the early stages of our existence, it has never been adequately explored (Guthrie, 1993).

Anthropomorphism has important implications for marketing theory and practice. Our preoccupation with human form and behaviour has guided marketers to cultivate the tendency in consumers to anthropomorphise. The extant literature has offered limited empirical evidence on the interface of marketing and anthropomorphism (Puzakova et al., 2009). Anthropomorphism can be manifested in various elements of the actual product concept, yet limited research has considered this phenomenon in the core element of product packaging. Packaging constitutes a central marketing communication "tool", which captures the attention of the consumer in various buying settings. Indeed, Underwood (1999) suggests that customers may engage with the product via the packaging alone, without actually buying it, simply by being exposed to the product in a retail environment. Therefore, packaging reinforces product and brand individuality and visibility (Roper and Parker, 2006).

In the light of the aforementioned discussion, the current study examines the use of anthropomorphism in the packaging of grocery products in the UK. Particularly, it seeks to address the following research questions: 1) What is the frequency of appearance of anthropomorphism in packages of grocery brands? 2) Are there any differences in the frequency of appearance of anthropomorphism between packages for different: a) product types (hedonic/utilitarian), b) product categories (e.g. toiletries, liquids etc.), and c) target

groups? 3) What are the linkages, if any, between product categories and anthropomorphic package elements?, and 4) What are the linkages, if any, between target groups and anthropomorphic package elements? We limit our questions to product packaging, as it has been described as an effective tool to humanize a brand (Twedt, 1968). To this end, this study suggests that anthropomorphism has become a feature of the new era of product packaging and illustrates its application across different product categories/types and target groups.

We conducted a quantitative content analysis of 1968 examples of packages of grocery products drawn by Nielsen's database in the UK market. We additionally employed correspondence analysis to investigate the linkages, if any, between anthropomorphic package elements and product-related attributes. Our results demonstrate the existence of multiple relationships between, different product categories/types, target groups and anthropomorphic package elements, which have not been detected and discussed in the relevant literature.

This study contributes both to theory and practice. As far as theory is concerned, it sheds light into the interface of anthropomorphism and packaging and provides evidence for a meaningful consideration of this phenomenon, which has been missing from the relevant literature. Drawing on sociology, psychology and marketing literatures, this study concentrates on humanising the product package at the point-of-purchase and paves the way for further investigation in this promising research area.

Concerning its practical contribution, our study reveals a current tendency in the UK grocery market to use anthropomorphic packaging and uncovers different combinations of anthropomorphic package elements and product-related attributes. It facilitates benchmarking of anthropomorphic practices by allowing firms to compare their packaging strategies with those of Nielsen's 100 best-selling brands employing anthropomorphism. By doing so, this study offers a "toolkit" for managers to design their packaging in order to provide unique product experiences. Towards this end, managers may use this guide to identify opportunities

for applying anthropomorphic design in their packages in a distinctive or better way than competitors.

Our paper begins with a literature review on the key notions of this study, namely anthropomorphism and packaging. Following a discussion of the methodology adopted in this study, its findings are presented and discussed. The paper concludes with theoretical and managerial implications as well as directions for further research.

Theoretical Background

What is anthropomorphism and why do we anthropomorphise?

Anthropomorphism is the assignment of human or human-like characteristics to animals (Brown, 2010; Daston and Mitman, 2005; Mitchell et al., 1997) or objects (Kassarjian, 1977), or the act of attributing human characteristics and qualities to "non-human entities" (Kiesler, 2006). Although there is a tendency to consider the act of anthropomorphosis similar to that of animating, these two acts are different and need to be distinguished. Animism refers to the attribution of life to lifeless objects while anthropomorphism entails the attribution of human or human-like characteristics to non-humans (Guthrie, 1993). The act of anthropomorphosis is possible even without the need to enliven, such as when we speak to a living creature. For instance, we animate when we refer to a box that barks like a dog, but we anthropomorphise when we speak to our dog as to another human being. On the other hand, the act of speaking to a box belongs both to the frame of anthropomorphism and animism, because it gives life to a box (animism) and assigns human characteristics (anthropomorphism).

The concept of anthropomorphism has been around for over two thousand years and has been discussed in various contexts, including religion, philosophy, science and arts (Guthrie, 1993). Whether manifested by the act of attributing human characteristics to God or turning the painting of "Mona Lisa" into a celebrity, anthropomorphism is multidisciplinary,

diachronic, but rather difficult to frame. Drawing on sources from different disciplines, we discuss the key reasons underlining the innate human tendency to anthropomorphise.

First, anthropomorphic thinking is a natural procedure, deriving from the evolution of the primitive human mind (composed of innate neural structures that have distinct functions) to its modern equivalent (Mithen, 1996a; Boyer, 1996). According to Mithen (1996b), anthropomorphic thinking is the result of the transfer of knowledge between the different domains of the modern human mind, called "cognitive fluidity". Following the development of language, human beings generated new ways of thinking that led to the anthropomorphosis of non-human agents. Extending Mithen's argument about the evolutionary origins of anthropomorphic thinking (1996a), Boyer (1996) points out that the act of anthropomorphosis could also stem from the different intuitive ontology of early and modern humans compared to earlier species in terms of the spontaneous attribution of human characteristics and motivations to non-humans.

Besides the evolutionary theory on anthropomorphic thinking, the act of anthropomorphosis facilitates sense-making as it offers cognitive schemata for understanding the world. People use their knowledge of themselves to explain unfamiliar non-human agents by assigning human-like characteristics to them (Epley et al., 2007; Guthrie, 1993). Children are more prone than adults to anthropomorphise (Epley et al., 2007), as their limited knowledge about their surroundings forces them to apply their knowledge about human beings to unfamiliar agents they deem similar to humans (Inagaki and Hatano, 1987). Viewed in this light, anthropomorphism offers an intellectual framework for understanding complexity.

Another explanation for the apparent existence of anthropomorphism relates to the efforts made by people to understand the motivation of other entities, in order to predict and control their future behaviours or actions (Epley et al., 2007). According to Mithen (1998), hunter-

gatherers anthropomorphised non-human entities as an effective tool to predict the behaviour of animals they hunted. In focusing on predicting the behaviour of non-humans, people also enliven inanimate objects when the latters display a goal-directed movement (Opfer, 2002) or even assign human characteristics to them when their movement is humanlike (Epley et al., 2007). The practice of explaining, predicting and controlling the behaviour of other agents is captured in the mechanism of effectance, which includes effective interaction with non-human agents (Epley et al., 2007). Through effectance, individuals reduce uncertainty and retain control over unpredicted behaviours or situations. Attributing human characteristics and motivations to non-human agents increases familiarity and confidence in predictions of these agents' behaviour in the future.

Finally, the tendency to anthropomorphise is associated with the feeling of loneliness. In the absence of social connections with other humans, people who feel lonely resort to other sources of interaction such as anthropomorphising non-human entities (Epley et al., 2008). By doing so, non-humans are transformed into social entities that interact with humans, filling in the gap created by the experienced loneliness. In other words, anthropomorphism is employed when individuals feel a lack of social connection to other humans.

Anthropomorphic marketing

Anthropomorphism allows marketing managers to attribute human characteristics to the brand (Kwon and Sung, 2011) so as to elicit positive attitudinal responses (Purucker et al., 2012), facilitate the projections of consumers' personality onto their purchases (Dichter, 1960) and connect consumer emotionally to the brand (Hede and Watne, 2013). Fournier (1998) argues that individuals face little difficulty in rendering human characteristics to brands. She suggests that, for a consumer-brand relationship to exist, a brand has to become a living entity, because relationships exist between active and interdependent partners. The

extant literature suggests that anthropomorphised non-human entities can be developed into "social entities" and thereby qualify as legitimate and reciprocal relationship partners (Caporael, 1986, p. 215).

Moreover, individuals who create social connections with non-humans frequently tend to seek more stable relationships (Epley et al., 2007) and are likely to evaluate non-human agents more positively compared to those that do not manifest human-like qualities (Aggarwal and McGill, 2007). Hence, consumers evaluate anthropomorphised products more positively than the non-anthropomorphised ones (Hart et al., 2013).

In this study, we investigate the interface of anthropomorphism and product packaging as the latter is often the visual stimuli that consumers are first exposed to in their search of products in the point-of-purchase. Viewed in this light, managers may use anthropomorphic product packaging to activate the human-schema for increasing product familiarity and cementing relationships with consumers.

Product packaging and anthropomorphism

Product packaging has been described as "all the activities of designing and producing the container for a product" (Kotler and Keller, 2006, p. 393). Given the needs imposed by complex distribution processes, packaging has become an integral part of the product. The role of product packaging is threefold: to protect the product, to enhance functionality in product usage and to communicate brand values and product information. The protection of the product was the primary reason for creating the first containers (for example, meat wrappers), while functional transformations were made to second-generation packaging to facilitate their use by the consumer (Twedt, 1968): for instance, Heinz's ergonomically designed upside-down container. Modern packages serve also as an important communication

vehicle for marketers, conveying product information and brand values at the point-of-purchase (Roper and Parker, 2006).

Its significant role in brand communication places packaging at the core of marketing strategies aiming at providing information about the brand (Underwood and Klein, 2002) and product attributes to consumers. Using specific package elements, marketing managers may also assign human characteristics to product packages, forming their distinctive personality (Twedt, 1968). To illustrate, the extant literature puts forward a plethora of different package elements - a total of 62, according to Orth and Malkewitz (2008) - that provide verbal or visual information to consumers. Visual information is extracted from non-verbal or pictorial stimuli, while verbal information is manifested in text-related cues (Rettie and Brewer, 2000; Schmitt, 1993). Following this categorisation, the visual dimension of packaging could also be divided into two sub-categories: the graphic and the structural elements (Underwood, 2003). The former includes images, logos and colour, while the latter pertains to the size and form of a package, among others. Kotler (2003) suggests for example that a package has six major elements: form, size, colour, material, text and brand. The relevant literature also highlights the importance of package cues, such as brand logos and slogans (Rettie and Brewer, 2000) as well as typography (Underwood, 2003).

In the light of the aforementioned discussion, the current study considers the package elements of brand name, brand slogan, brand logo, image and form[1], as these are frequently encountered in the relevant literature, are susceptible to anthropomorphosis and can have important implications for the success of marketing strategies. The presence of anthropomorphism in these elements is expected to highlight their role in marketing strategies

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[1] We have excluded package size from our analysis as we have not encountered anthropomorphic similarities in terms of size in grocery brands.

and give further significance to their appearance in product packaging. The following section describes the methodology used to answer the research questions of the study.

Methodology

In order to address the research questions, we conducted a quantitative content analysis that facilitated "identifying, coding and categorising the primary patterns of data" (Patton, 1990, p. 381) encountered in product packages. Content analysis methodology is useful when the scope of a study is to analyse systematically communication data and categorise items after observation, revealing their frequency of appearance in a given dataset (Sayre, 1992). For example, this methodology has been used as a means for analysing communication cues embodied in visual and verbal aspects of packaging (e.g. Bone and France, 2009; Davis and Kravets, 2005).

Our content analysis was exploratory in that it wove together concepts (i.e. anthropomorphism and product packaging) not previously investigated in conjunction with one another (Stebbins, 2001). It proceeded in two phases, in which two native-English speakers served as coders. Both coders had a common educational background in business administration and were trained to use the content analysis instrument. Their independent work was supervised by the authors who also intervened to resolve differences between coders.

In the first phase of the content analysis, using the 2010 ranking of Nielsen's Top 100 grocery brands in UK, we initially content-analysed 1968 packages featuring on the official UK websites of their brands. In this phase, the coders assessed the appearance of anthropomorphism in packaging by analysing the pictures of them presented on the official websites of each brand. Each package with at least one anthropomorphic element was included in the category of anthropomorphic packaging. For example, the plastic bottle of

Coca-Cola was characterised as anthropomorphic due to its form, which resembles the female human body shape. The coders also documented the product categories, types (hedonic/utilitarian) and target audience (women, men, both genders, children) associated with each package. Product categories were aligned to Nielsen's segmentation of the grocery market, which also formed the basis for the development of the Top 100 grocery brands list. Hedonic products were related mainly to sensory attributes, whereas utilitarian products were linked primarily to functional characteristics experienced by individuals in the consumption process (Batra and Ahtola, 1991; Crowley et al., 1992).

The first phase of the content analysis provided a sample of n=686 examples of anthropomorphic packaging representing 34.9% of the initial sample. Inter-coder reliability following Perreault and Leigh's (1989) index reached 96% for the categories of decisions of product category and type, 95% for target market and 98% for the existence of anthropomorphism. The operational range of values for this index is between 0.0 (no reliability) and 1.0 (perfectly reliable). These figures show that the reliability of the coding process is high.

In the second phase of the content analysis, the coders categorised the sample of n=686 examples of packaging in terms of the anthropomorphic package elements. The inter-coder agreement in the categorisation of the sample reached 91% for all decisions. Table 2 provides examples, derived from the content analysis, that show the use of anthropomorphic elements in product packaging.

Table 2. Anthropomorphic Packaging by Element

Anthopomorphic Package Element	Anthopomorphic Packages	
Brand Name	Feel me	Happy Cherries
Brand Slogan	I'm new	Take me home!
Brand Logo	Baker's	Pringles
Image(s)	Mars & Friends	
Form	Coca-Cola	evian

Descriptive statistics were estimated following data coding, providing valuable insights into the occurrence of anthropomorphism in the packaging of grocery brands. Additionally, chi-square tests and correspondence analyses were performed in order to examine the existence of linkages between product-related attributes and anthropomorphic package elements.

Correspondence analysis was used in the current study to uncover structural relationships between variables that could not be detected via chi-square tests (cf. Elevli et al., 2008). The exploratory potential of correspondence analysis is well-documented in the relevant methodological literature (Hair et al., 2006) as this method enhances data understanding and

analysis by means of graphical displays of column and row points (Elevli et al., 2008). The analysis rests on the calculation of the statistical distance between any two points to reveal the existence of association and allows for comparisons between sets of variables to indicate the strength of the association (Hoffman and Franke, 1986). The association between any two items of a set of variables is projected onto a joint space map (graphical display) showing the proximity of these two points. The points of items with similar distributions are close to each other, while the points of items with dissimilar distribution are distant in space (Elevli et al., 2008). In essence, correspondence analysis was employed in the current study as it uncovered associations providing easy-to-interpret information about the structural relationships of the investigated variables.

Findings

Presentation

Research Question 1: What is the frequency of appearance of anthropomorphism in packages of grocery brands?

The content analysis process showed that the majority of the brands (54%) had at least one example of anthropomorphic packaging, and 34.9% of the packages displayed in the official websites of the Nielsen's Top 100 grocery brands manifested at least one anthropomorphic element (Table 4). This finding may be explained in light of the discussion provided by Tarkiainen and Sundqvist (2009), who suggest that grocery products are highly commoditised and low-involvement, and their market success lies in brand differentiation. Viewed in this light, anthropomorphic packaging in the current sample could contribute to brand salience by attributing unique human characteristics to grocery brands. Such an effort may also transform brands to social entities and encourage consumers who seek interaction to initiate a relationship with them (see Kwon and Sung, 2011).

Table 4. Appearance of Anthropomorphism in Packaging by Product and Target Group Category

Type of Good	Frequency of Anthropomophic Appearance Count (%)			Product Category	Frequency of Anthropomophic Appearance Count (%)		
	Anthropomorphic	Non-Anthr/phic	**Total**		Anthropomorphic	Non-Anthr/phic	**Total**
Hedonic	248 (50.4%)	244 (49.6%)	492 (100.0%)	Dry Grocery	155 (22.4%)	537 (77.6%)	692 (100.0%)
Utilitarian	438 (29.7%)	1038 (70.3%)	1476 (100.0%)	Dairy	52 (37.1%)	88 (62.9%)	140 (100.0%)
Total	**686 (34.9%)**	**1282 (65.1%)**	**1968 (100.0%)**	Frozen	24 (12.8%)	163 (87.2%)	187 (100.0%)
				Bakery	34 (35.4%)	62 (64.6%)	96 (100.0%)
Target Group	Anthropomorphic	Non-Anthr/phic	**Total**	Confectionery	88 (47.6%)	97 (52.4%)	185 (100.0%)
Women	36 (72.0%)	14 (28.0%)	50 (100.0%)	Liquids	166 (64.1%)	93 (35.9%)	259 (100.0%)
Men	0 (0.0%)	2 (100.0%)	2 (100.0%)	Pet Food and Care	15 (24.2%)	47 (75.8%)	62 (100.0%)
Men and Women	544 (30.4%)	1248 (69.6%)	1792 (100.0%)	Household	142 (46.6%)	163 (53.4%)	305 (100.0%)
Children	106 (85.5%)	18 (14.5%)	124 (100.0%)	Toiletries	10 (23.8%)	32 (76.2%)	42 (100.0%)
Total	**686 (34.9%)**	**1282 (65.1%)**	**1968 (100.0%)**	**Total**	**686 (34.9%)**	**1282 (65.1%)**	**1968 (100.0%)**

Research Question 2: Are there any differences in the frequency of appearance of anthropomorphism between packages for different: a) product types (hedonic/utilitarian), b) product categories (e.g. toiletries, liquids etc.), and c) target groups?

As far as product type is concerned, anthropomorphic packaging was primarily related to hedonic goods (Table 4) that provide pleasure and evoke positive feelings to consumers (Plakoyiannaki and Zotos, 2008). In contrast with utilitarian goods, anthropomorphism is employed in packaging of hedonic goods as a cue to arouse positive feelings (see Landwehr et al., 2011). Furthermore, our evidence showed differences in the frequency of appearance of anthropomorphism across product categories (Table 4). Anthropomorphism was mainly used in packages containing liquids, confectionery and household items. The frequency of appearance exceeded 45% in these product categories, while it was unusual to encounter anthropomorphic cues in frozen product packaging, where their frequency was below 13%.

Another interesting finding was that 85.5% of products intended for children displayed anthropomorphism in their packaging (Table 4) – this is likely to be due to the readiness with which children attribute human characteristics to non-humans (Epley et al., 2007) in order to understand and communicate with the external environment. It may be inferred from the above that anthropomorphism may render a product package more appealing and accessible to

children consumers as they often use such cognitive schemata to make better sense of what surrounds them.

Research Question 3: What are the linkages, if any, between product categories and anthropomorphic package elements?

Chi-square analysis showed the existence of a set of statistically significant relationships between anthropomorphism and product-related attributes (sig. < 0.01) (Table 5-column 1). Given the significant relationship between anthropomorphism and product category, a possible relationship between the latter variable and specific anthropomorphic package elements became an increasingly interesting field for exploration.

To this end, we examined the relationships, if any, between product categories and anthropomorphic package elements (such as brand name). The chi-square test showed that there is a significant relationship between product categories and the categories of anthropomorphic package elements (visual/verbal), as well as individual visual or verbal anthropomorphic package elements (i.e. association between product category and brand logo) (Table 5-columns 2 and 3). The aforementioned statistically significant relationships indicate that the anthropomorphosis of package elements is directly related to product categories.

**Table 5.** Chi-square independence tests between row and column variables

	Anthr/phism	Anthr/phic Package Element Category (Visual/Verbal)	Anthr/phic Package Element
Product Category	258.57***	269.92***	809.42***
Type of Good	88.2***	18.41***	86.04***
Target Group	272.5***	36.35***	214.26***

*: sig. < 0.1, **: sig. < 0.05, ***: sig. < 0.01

Furthermore, we applied correspondence analysis to match product categories with each package element. The correspondence analysis bi-plot demonstrated a distinct relationship between specific package elements and product categories (Figure 1 -left bi-plot).

Figure 1. Correspondence analysis maps of product-related attributes and anthropomorphic package elements
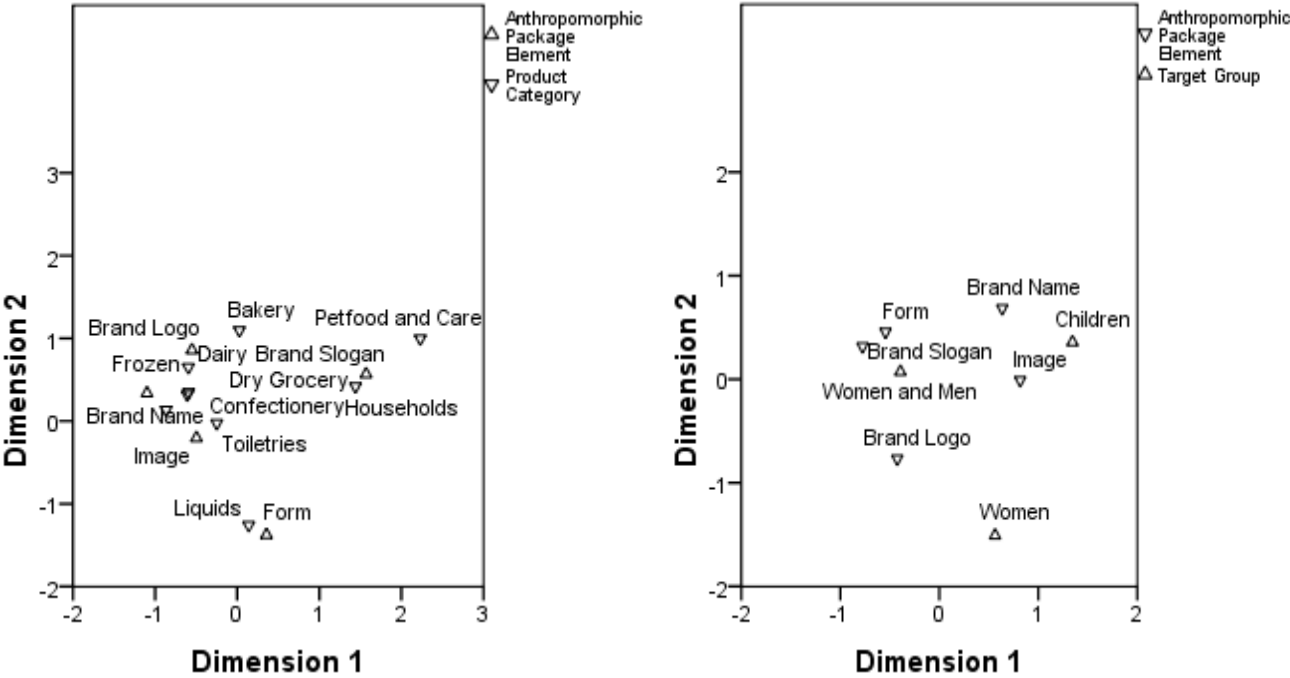
For instance, anthropomorphic brand slogan was associated with household products, perhaps due to the fact that such verbal cues offered information regarding the content, utility and value of the product. Kleenex tissues' anthropomorphic slogan reads "I'm gorgeous", strengthening the brand by attributing human capabilities to it. Table 6 summarises the correspondence analyses applied to the sample of n=686 grocery brands.

Table 6. Summary of correspondence analysis results

Product Category	Anthropomorphic Package Element
Dry Grocery	Brand Logo / Image
Dairy	Brand Logo / Image
Frozen	Brand Logo
Bakery	Brand Logo
Confectionery	Brand Name / Image
Liquids	Form
Pet Food and Care	Brand Slogan
Household	Brand Slogan
Toiletries	Image
Target Group	**Anthropomorphic Package Element**
Men	-
Women	Brand Logo
Men and Women	Brand Slogan / Form
Children	Image

Our evidence suggests that the majority of product categories display visual anthropomorphism through their "graphic" package elements. According to the literature, individuals identify human attributes more readily in non-humans (e.g. product packaging) when they have morphological similarities with the self or other humans (Epley et al., 2007). Based on the above, "graphic" package elements, which pictorially present a bodily appearance, may facilitate the assignment of human-like features to non-humans.

Non-visual anthropomorphism dominated the categories of household items and pet food and care products. It was often expressed in the brand slogan of the products, highlighting their value and utility (e.g. "loves cleaning"). It may be inferred from the above that the anthropomorphosis of verbal package elements can provide information that supports product usage and enhances product familiarity.

Research Question 4: What are the linkages, if any, between target groups and anthropomorphic package elements?

Chi-square showed the existence of statistical significant relationships between target groups and anthropomorphism, as well as anthropomorphic package elements (Table 5 - columns 1-3).

To uncover the associations between target groups and different anthropomorphic package elements, we applied correspondence analysis across this set of variables. As illustrated in the right bi-plot of Figure 1, anthropomorphic images were encountered in products addressed to children. According to Underwood (2003), structural and graphic package elements, including images, provide visual information to consumers. Children can easily project themselves onto unfamiliar non-human entities (e.g. toys) when they identify morphological similarities with them (Epley et al., 2007). Based on the above, a package image, such as a cartoon, is an important visual cue that attracts children's attention and facilitates understanding of the product using representations of the self or other humans. This observation justifies the frequent use of anthropomorphism in children's product packaging.

Discussion

This paper explores the interface of anthropomorphism and product packaging. While anthropomorphism has penetrated business practice (Kiesler, 2006, p. 149), there is a paucity of studies focusing on this phenomenon (Hart et al., 2013). Our evidence provides insights into the phenomenon of anthropomorphic product packaging and identifies theoretical and practical implications as well as opportunities for further research.

First, our study reveals the extensive use of anthropomorphism in the packaging of grocery brands. The inevitable tendency of modern humans to anthropomorphise as an

evolutionary outcome and the use of anthropomorphism as a tool to interpret the world may explain the reasons of this prevailing strategy of marketing managers to imbue human characteristics to packaging in order to increase familiarity with the brands. Managers may also capitalise on the innate need of humans to create social connections with other humans instead of being lonely (see Epley et al., 2007).

Second, our evidence shows that the packaging of utilitarian products displayed anthropomorphism to a lesser extent compared to those of hedonic products. Hedonic products generate pleasure and familiarity, whereas utilitarian products are linked primarily to functional characteristics experienced by individuals in the consumption process (Batra and Ahtola, 1991). Based on the above, the association between anthropomorphic packaging and hedonic product types can be a useful tool for management to imbue product packaging with emotional content.

Third, our evidence indicates differences in the frequency of anthropomorphic occurrence across different product categories. Specifically, anthropomorphic elements appeared more frequently in grocery products categorised as liquids. This result was further clarified with correspondence analysis, which showed a relationship between liquids and package form. The frequent use of plastic bottles that are susceptible to anthropomorphosis explains the occurrence of numerous humanised packages of liquids in the marketplace, in contrast with other product categories, such as frozen food, where their use or packaging is difficult or even impractical.

Additionally, correspondence analysis uncovered structural relationships between product categories and anthropomorphic package elements. This investigation of associations revealed examples of anthropomorphosis of visual package elements in the majority of product categories.

The morphological proximity between non-humans and humans increases the likelihood of the former to be anthropomorphised (Epley et al., 2007). Visual anthropomorphism encompasses human-like physical characteristics and so approaches closely the human essence. Therefore, the visual representation of non-human entities that have morphological similarities with humans on packaging may facilitate their anthropomorphisation (e.g. a smiling cow featuring on package).

Exceptions to the rule were the product categories of household items, and pet food and care products, which displayed mostly anthropomorphic verbal package elements. In these cases, verbal anthropomorphism served mainly as a means to communicate product values and enhance product learning.

The current study also investigated the frequency of anthropomorphic appearance in the packaging of products intended for different target groups and the existence of structural relationships between target groups and anthropomorphic package elements. Our evidence suggests that the vast majority of the packages intended for children include anthropomorphic elements. Indeed, children anthropomorphise more frequently and readily than adults in order to acquire knowledge about non-human entities (Epley et al., 2007). Their insatiable desire to explain unknown phenomena or stimuli forces children to assign human qualities to non-humans in order to reduce uncertainty and increase familiarity and learning (Inagaki and Hatano, 1987). Marketers may consider targeting children with anthropomorphic packaging in order to train them as consumers and engage them in relationships with the product brand.

Furthermore, products intended for children mainly use visual anthropomorphism in their packaging. Verbal anthropomorphic package elements, such as brand slogan, are rarely seen on the packaging of children's products. In an effort to attract children's attention, managers relied on the use of visual anthropomorphism accompanied by cues that stimulate children's interest, like animals. Children create social connections with humanised objects in order to

increase familiarity with them. However, children anthropomorphise more easily non-human entities, based on their resemblance with human form (Epley et al., 2008). For example, a lifeless object (e.g. smiling box) might be more difficult for a young consumer to anthropomorphise and therefore initiate a relationship with than a living entity (happy monkey), which more resembles human beings. This should be a point of consideration for managers when designing anthropomorphic features for packaging on products intended for children.

Theoretical and practical implications

As far as theory is concerned, our research initiates a conversation on anthropomorphism, providing relevant definitions and unfolding the key reasons behind the human tendency to anthropomorphise. Moreover, the current study sheds light on the notion of anthropomorphic packaging, offering insights to those interested in pursuing research on this topic. It investigates the associations between anthropomorphic package elements and product-related attributes (product type, category and target market), providing an understanding of this little-researched interface. Drawing mainly on sociology, psychology and marketing literatures, this study highlights the existence of anthropomorphism in packaging of grocery brands and paves the way for further investigation in this promising research area.

Our study has also practical implications as regards the use of anthropomorphism in product packaging. Particularly, the findings of the content analysis revealed that the majority of grocery brands in the UK market display anthropomorphism in their packaging. This study provides knowledge to practitioners about market practices and allows them to differentiate their highly commoditised products from competing ones, achieving brand salience in the retail environment. Furthermore, considering the need for social connection (Epley et al., 2007), marketing managers can strategically transform products into active agents in

consumer-brand relationships through anthropomorphic practices. Anthropomorphism can access consumers' "inner worlds" (Hsieh and Costa, 2001, p. 198) and contribute to the achievement of long-term relationships (Kwon and Sung, 2011). Viewed in this light, packaging could be a powerful medium to assign anthropomorphic characteristics to products or brands.

The current study facilitates benchmarking of anthropomorphic practices by allowing firms to compare their packaging strategies with those of Nielsen's 100 best-selling brands employing anthropomorphism. By providing associations of anthropomorphic package elements with product-related attributes, our research offers a "tool-kit" for managers to design their packaging in the market.

Limitations and future research

Although this study provides valuable insights to marketing practitioners or scholars concerning the use of anthropomorphism in product packaging, there are also some limitations that may stimulate future research. Given our emphasis on the UK market, the findings of this research can only be transferred with caution to other national or industry contexts. The act of anthropomorphosis is deeply embedded in social and cultural structures (Guthrie, 1993), displaying differences in the dimensions of human responses across nations and cultures (Epley et al, 2007). Therefore, the anthropomorphic package elements encountered in the current study may differ in their frequency of appearance in diverse national contexts. Also, the anthropomorphic brand message should be relevant to the cultural context of each target group in order to be effectively communicated (Aguirre-Rodriguez, 2014).

In addition, given the need for explanatory research into anthropomorphic marketing, it would be interesting to advance and test theoretical hypotheses based on the existing literature

and the insights provided by the current study. Such hypotheses may refer to the antecedents and consequences of anthropomorphism as well as its association with the product or brand effectiveness. Examining consumers' attitudinal responses to anthropomorphic package elements by conducting an experimental study might be a means of extending the stream of research on anthropomorphic packaging in an insightful manner.

Furthermore, despite the extensive use of anthropomorphism in product packaging, it remains unclear whether the strategic decision taken by marketing managers and packaging designers is grounded in their understanding of anthropomorphism and its benefits. A further study might be valuable in bridging this research gap.

Given the extensive use of anthropomorphism in products addressed to children, future research may also investigate the consequences of anthropomorphism on children's consumer behaviour. Anthropomorphic cartoons can influence attitudinal responses when the product is intended for children (see Wells, 1965). Therefore, it would be interesting to investigate children's responses to different anthropomorphic package elements.

To sum up, this study constitutes an early attempt to combine packaging and anthropomorphism, seeking to extend the literature and initiate a dialogue on the challenging and nascent area of anthropomorphic marketing.

References

Aggarwal, P. and McGill, A.L. (2007), "Is that car smiling at me? Schema congruity as a basis for evaluating anthropomorphised products", Journal of Consumer Research, Vol. 34 No. 4, pp. 468-479.

Aguirre-Rodriguez, A. (2014), "Cultural factors that impact brand personification strategy effectiveness", Psychology & Marketing, Vol. 31, No. 1, pp. 70-83.

Batra, R. and Ahtola, O.T. (1991), "Measuring the hedonic and utilitarian sources of consumer attitudes", Marketing Letters, Vol. 2 No. 2, pp. 159-170.

Bone, P.F. and France, K.R. (2009), "Qualified health claims on package labels", Journal of Public Policy & Marketing, Vol. 28 No. 2, pp. 253-258.

Boyer, P. (1996), "Anthropomorphism and the evolution of cognition", The Journal of the Royal Anthropological Institute, Vol. 2 No. 4, pp. 719-721.

Brown, S. (2010), "Where the wild brands are: Some thoughts on anthropomorphic marketing", The Marketing Review, Vol. 10 No. 3, pp. 209-224.

Bruce, M. and Daly, L. (2007), "Design and marketing connections: Creating added value", Journal of Marketing Management, Vol. 23 No. 9/10, pp. 929-953.

Caporael, L.R. (1986), "Anthropomorphism and mechanomorphism: Two faces of the human machine", Computers in Human Behavior, Vol. 2, pp. 215-234.

Crowley, A.E., Spangenberg, E.R. and Hughes, K.R. (1992), "Measuring the hedonic and utilitarian dimensions of attitudes toward product categories", Marketing Letters, Vol. 3 No. 3, pp. 239-249.

Daston, L. and Mitman, G. (2005), Thinking with animals. New perspectives on anthropomorphism, Columbia University Press, New York.

Davis, T. and Kravets, O. (2005), "Bridges to displaced meaning: The reinforcing roles of myth and marketing in Russian vodka labels", Advances in Consumer Research, Vol. 32 No. 1, pp. 480.

Dichter, E. (1960), The strategy of desire, Doubleday, New York.

Elevli, S., Uzgören, N. and Elevli, B. (2008), "Correspondence analysis of repair data: A case study for electric cable shovels", Journal of Applied Statistics, Vol. 35 No. 8, pp. 901-908.

Epley, N., Waytz, A. and Cacioppo, J.T. (2007), "On seeing human: A three-factor theory of anthropomorphism", Psychological Review, Vol. 114 No. 4, pp. 864-886.

Epley, N., Akalis, S., Waytz, A. and Cacioppo, J.T. (2008), "Creating social connection through inferential reproduction. Loneliness and perceived agency in gadgets, gods, and greyhounds", Psychological Science, Vol. 19 No. 2, pp. 114-120.

Fournier, S. (1998), "Consumers and their brands: Developing relationship theory in consumer research", Journal of Consumer Research, Vol. 24 No. 4, pp. 343-373.

Guthrie, S. (1993), Faces in the clouds. A new theory of religion, Oxford University Press, New York.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. and Tatham, R.L. (2006), Multivariate Data Analysis, 6th edition, Prentice Hall, Upper Saddle River.

Hart, P.M., Jones, S.R. and Royne, M.B. (2013), "The human lens: How anthropomorphic reasoning varies by product complexity and enhances personal value", Journal of Marketing Management, Vol. 29 No. 1-2, pp. 105-121.

Hede, A. and Watne, T. (2013), "Leveraging the human side of the brand using a sense of place: Case studies of craft breweries", Journal of Marketing Management, Vol. 29 No. 1/2, pp. 207-224.

Hoffman, D.L. and Franke, G.R. (1986), "Correspondence analysis: Graphical representation of categorical data in marketing research", Journal of Marketing Research, Vol. 23 No. 3, pp. 213-227.

Hsieh, Y.J. and Costa, J.A. (2001), "Shopping as a jungle trip", Advances in Consumer Research, Vol. 28 No. 1, pp. 198-203.

Inagaki, K. and Hatano, G. (1987), "Young children's spontaneous personification as analogy", Child Development, Vol. 58 No. 4, pp. 1013 – 1020.

Kassarjian, H.B. (1978), "Presidential address, 1977: Anthropomorphism and parsimony", Advances in Consumer Research, Vol. 5 No. 1, pp. 13-14.

Kiesler, T. (2006), "Anthropomorphism and consumer behavior", Advances in Consumer Research, Vol. 33 No. 1, pp. 149.

Kotler, P. (2003), Marketing management, Prentice Hall, Upper Saddle River.

Kotler, P. and Keller, K.L. (2006), Marketing management, Prentice Hall International, New Jersey.

Kwon, E.S. and Sung, Y. (2011), "Follow me! Global marketers' Twitter use", Journal of Interactive Advertising, Vol. 12 No. 1, pp. 4-16.

Landwehr, J.R., McGill, A.L. and Herrmann, A. (2011), "It's got the look: The effect of friendly and aggressive "facial" expressions on product liking and sales", Journal of Marketing, Vol. 75 No. 3, pp. 132-146.

Mitchell, R.W., Thompson, N.S. and Miles, H.L. (1997), Anthropomorphism, anecdotes, and animals, State University of New York Press, New York.

Mithen, S. (1996a), "Anthropomorphism and the evolution of cognition", The Journal of the Royal Anthropological Institute, Vol. 2 No. 4, pp. 717-719.

Mithen, S. (1996b), The prehistory of the mind: The cognitive origins of art, religion, and science, Thames and Hudson, London.

Mithen, S. (1998), "The origins of anthropomorphic thinking", The Journal of the Royal Anthropological Institute, Vol. 4 No. 1, pp. 131-132.

Opfer, J.E. (2002), "Identifying living and sentient kinds from dynamic information: The case of goal-directed versus aimless autonomous movement in conceptual change", Cognition, Vol. 86 No. 2, pp. 97-122.

Orth, U.R. and Malkewitz, K. (2008), "Holistic package design and consumer brand impressions", Journal of Marketing, Vol. 72 No.3, pp. 64-81.

Patton, M.Q. (1990), Qualitative evaluation and research methods (2nd ed.), Sage Publications, Newbury Park, CA.

Perreault, W.D.Jr. and Leigh, L.E. (1989), "Reliability of nominal data based on qualitative judgments", Journal of Marketing Research, Vol. 26 No. 2, pp. 135-148.

Plakoyiannaki, E. and Zotos Y. (2008), "Female role stereotypes in print advertising. Identifying associations with magazine and product categories", European Journal of Marketing, Vol. 43 No. 11/12, pp. 1411-1434.

Puzakova, M., Kwak, H. and Rocereto, J.F. (2009), "Pushing the envelope of brand and personality: Antecedents and moderators of anthropomorphized brands", Advances in Consumer Research, Vol. 36, pp. 413-420.

Purucker, C., Landwehr, J.R, Sprott, D.E., and Herrmann, A. (2012), "Clustered insights: Improving eye tracking data analysis using scan statistics", International Journal of Market Research, Vol. 55, No. 1, pp. 105-130.

Rettie, R. and Brewer, C. (2000), "The verbal and visual components of package design", Journal of Product and Brand Management, Vol. 9 No. 1, pp. 56-70.

Roper, S. and Parker, C. (2006), "How (and where) the mighty have fallen: Branded litter", Journal of Marketing Management, Vol. 22 No. 5, pp. 473-487.

Sayre, S. (1992), "Content analysis as a tool for consumer research", The Journal of Consumer Marketing, Vol. 9 No. 1, pp. 15-25.

Schmitt, B.H., Tavassoli N.T. and Millard R.T. (1993), "Memory for print ads: Understanding relations among brand name, copy, and picture", Journal of Consumer Psychology, Vol. 2 No. 1, pp. 55-81.

Stebbins, R.A. (2001), Exploratory research in social sciences, Sage Publications, California.

Tarkiainen, A. and Sundqvist, S. (2009), "Product involvement in organic food consumption: Does ideology meet practice", Psychology & Marketing, Vol. 26 No. 9, pp. 844-863.

Twedt, D.W. (1968), "How much value can be added through packaging?", Journal of Marketing, Vol. 32 No. 1, pp. 58-61.

Underwood, R.L. (1999), "Construction of brand identity through packaging: A qualitative enquiry", in Menon, A. and Sharma, A. (Eds), American Marketing Association Winter Conference: Marketing Theory and Applications, February, Chicago, pp. 147-148.

Underwood, R.L. (2003), "The communicative power of product packaging: Creating brand identity via lived and mediated experience", Journal of Marketing Theory and Practice, Vol. 11 No. 1, pp. 62-76.

Underwood, R.L. and Klein, N.M. (2002), "Packaging as brand communication: Effects of product pictures on consumers responses to the package and brand", Journal of Marketing Theory and Practice, Vol. 10 No. 4, pp. 58-68.

Wells, W.D. (1965), "Communicating with children", Journal of Advertising Research, Vol. 5 No. 2, pp. 2-14.