Communicating the Value of Design: Design Considerations to Assist Practitioner Rationale in FMCG Packaging Development

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Product packaging design is often produced through the practical application of tacit knowledge, rule of thumb and professional connoisseurship. Stakeholders are becoming increasingly demanding that design practitioners provide clarity of reasoning and accountability for their design proposals. Therefore, a better framework for the design of fast-moving consumer goods (FMCG) is required. This paper proposes a comprehensive taxonomy of *'design considerations'* to assist the development of low involvement FMCG packaging and aid in rationale communication for design solutions. 302 academic sources were reviewed, inductive content analysis performed to code topics and output validation with academic and industry experts (n=9) through a modified-Delphi card sorting method. The research provides movement towards a comprehensive framework and common dialogue between stakeholders, practitioners and managers to assist in more effectively communicating the value that design can offer to FMCGs. The constructed taxonomy provides a set of 156 *'design considerations'* to support in objective and informed design decision-making.

Keywords: Design Practice Management, Design Value, Packaging Design, FMCG, Taxonomy

Introduction

Within the FMCG industry, packaging design has the potential to influence consumers' perceptions of product and its value. The literature explores the nature of design activity but does not appear to take into consideration the broader contextual influences affecting the design of packaging. Packaging design practitioners have been characterised within the literature for poor rationale application in their decision-making process, potentially leading to the reduced market success of products (Barnes, Childs, Henson, & Lillford, 2008; Ryynänen & Hakatie, 2013). It is suggested that greater discussion between design practitioners and academics may further the understanding of design activity and benefit the design profession (Swann, 2002 p61). This paper aims to provide a more holistic perspective and understanding of the value that design can offer to FMCG products. This could lead to improved objectivity and rationalisation in design decision-making of practitioners and design managers by providing improved dialogue and understanding; In turn, improving the communication of design decisions and design value to stakeholders. Due to an emphasis on consumer-led research, packaging literature fails to fully explore packaging management and packaging designs important role as a core part of FMCG product development (Simms & Trott, 2010). Improved frameworks for the design of FMCGs is needed (Clement, Kristensen, & Grønhaug, 2013). Current frameworks such as Ampuero and Vila (2006); Silayoi and Speece (2007) and Ryynänen and Hakatie (2013) provide some

valuable insight into the consumer manipulation techniques design practitioners can and should apply. However, Clement, Kristensen, & Grønhaug (2013) suggest that research into a better framework for the design of FMCGs is required along with a taxonomy of design features. At current, the area of design management in FMCG packaging development is under researched (Simms & Trott, 2014b).

This paper which forms part of an ongoing PhD research project into UK FMCG packaging design and its design management discusses a more comprehensive description of influences affecting the visual appearance design of FMCG product packaging. The paper provides a preliminary framework, a taxonomy, that may be used in the future to support conceptual packaging design activity, in the generation and selection of concepts and to help emphasise to stakeholders the value of design through informed decision-making. The taxonomy, defined later in this paper, proposes a more complex ecosystem of *'design considerations'* for the development of FMCG packaging design. This study aims to provide a symbiotic interdisciplinary review of *'design considerations'* and presents them in a useable format for design practitioners, marketing and design managers.

The Value of the FMCG Industry in the United Kingdom (UK)

FMCGs can be defined as *"…inexpensive products that people usually buy on a regular basis, such as supermarket foods or toiletries."* (Collins English Dictionary, 2018)*. These types of products are low involvement, carry little emotional value, require low cognitive engagement and are considered low-risk purchases (Clement, Aastrup, & Forsberg, 2015; Holmes & Crocker, 1987). The UK FMCG industry is a significant sector within the UK economy and contributes to approximately £125 billion in consumer spending, around 8% of the country's GDP (Francis, Dorrington, & Hines, 2008). UK retailers alone have product portfolios of approximately 40,000 product lines, producing thousands of New Product Developments (NPD) requiring substantial amounts of design effort (Nancarrow, Wright, & Brace, 1998; Vazquez, Bruce, & Studd, 2003). Thousands of new FMCGs are launched each year, and large quantities of these will almost certainly fail at market (Rudder, Ainsworth, & Holgate, 2001). Consumers will approximately purchase only 0.7% of products available to them yearly (Simmonds & Spence, 2017). This increased competition between products at the point of sale has required companies to devise strategies to compete; hence, the modification of visual appeal and communication of brand intent through packaging design. This is seen as critical for consumer brand preference and essential for sales success (Karjalainen and Honkaniemi, 2009; Wang, 2013). Not only can packaging enhance commercial success for FMCGs; but, the influence packaging has on consumer cognitive processes is of great interest to corporations such as the Food and Drug Administration and public policy establishments (Underwood & Ozanne, 1998). More effective communication of nutritional information and health claims (Bialkova, Grunert, & van Trijp, 2013; Bialkova & van Trijp, 2011); or, highlighting product risks through packaging can potentially influence purchase habits and affect public health (Hammond et al.,2014; McNeill et al., 2017).

The Value of Design to FMCG New Product Development

NPD in the FMCG industry is considered vital. Incorporating the activity of design into packaging development is possibly the most significant factor for success (Wansink & Huffman, 2001). Developing or changing a product can be a risky activity to an organisation (Ryynänen & Hakatie, 2014); and, as a result, design offers opportunities as a valuable success factor for FMCGs in these complex markets (Rundh, 2009). Retailers are extremely competitive, and thus design is exploited as a strategic tool to develop value, differentiate products and increase brand equity (Vazquez et al., 2003). Products purchased in these retail environments are heavily characterised by a variety of different visual stimuli available to the consumer (Clement et al., 2013). Approximately 68% of FMCG retail purchases are unplanned, with 90% of consumers only observing the front of a package before making a choice (Stahlberg & Maila, 2012; Urbany et al., 1996). Furthermore, around 85% of FMCGs are chosen by a consumer while shelf facing (Clement et al., 2015). It has been consistently reported in literature that consumers frequently make purchase decisions influenced by a product's visual appearance (Bloch, 1995; Crilly et al., 2004; Fenko et al., 2010). Thus, the manipulation of the visual appearance attributes of packaging has become an increasingly effective method of creating differentiation amongst competing products; creating opportunities for more effective information communication and marketing strategies (Rettie & Brewer, 2000; Underwood & Klein, 2002; Young, 2004). This is key as consumer decisions are made in quick succession. Approximately less than eight seconds are spent in evaluating, analysing, and determining a purchase (De Chernatony & McDonald, 1992). Hence, why the design of packaging has been found to be one

of the most reliable forms of marketing for influencing consumer choice (Underwood & Klein, 2002). Inferences of product value are made from the first point of interaction between the product display and the consumer (Rundh, 2013). FMCGs, specifically those of low involvement, rely on these symbolic, aesthetic, semantic and visual informational cues to communicate and market product value (Becker et al., 2011; Clement et al., 2015; Creusen & Schoormans, 2005).

Understanding the importance and value design offers to exploit this marketing medium is crucial; but, in some incidents, companies do not consider the design or innovation of packaging until the later stages of NPD due to its low regard within the product development process (Francis et al., 2008; Simms & Trott, 2014b). Limited research and development budgets and cost savings are normally the focus of dialogue during the consideration of product packaging (Ryynänen & Hakatie, 2014). However, the expense of launching a new product that is ultimately unsuccessful will undoubtedly incur high costs for the company involved (Rudder et al., 2001). Only a small amount of FMCG launches will succeed (Rudolph, 1995). It is estimated that 70% to 95% of products are failing yearly across a range of consumer markets (Spence, 2016; Wells et al., 2007). Spence (2016b) proposes that the large proportion of failures could be due to current methods of consumer research and product validation working ineffectively. Reduced success at market has also been accredited to poor packaging design decision-making (Rudder et al., 2001). Spence (2016a) suggests visual attributes of the packaging can conceivably be the most critical cue affecting the success or failure of FMCGs. Even minor features of product packaging have been shown to have a substantial impact on consumer behaviour (Parise & Spence, 2012). Thus, basic design choices influence the consumer's first impression, often before physical interaction with the product (Noble & Kumar, 2010).

Stakeholders (for example brand, category and marketing managers) are increasingly demanding that designers gain more explicit understanding of the impact of design on consumer decision-making (Young, 2002). Practitioners can be referred to as *"gatekeepers"* who can change their industry (Ryynänen & Rusko, 2015); Yet, packaging solutions developed by professional designers may often be based on tacit knowledge; rule of thumb; and, professional connoisseurship rather than knowledge provided by research (Barnes et al., 2008; Ryynänen & Hakatie, 2013). Despite this, it still seems that the practice of design continues to rely on a designer's intuition, guesswork and self-expression (Swann, 2002; Taura & Nagai, 2017). A designer being able to explain their practice coherently and the rationale for decisions may bring greater credibility to their design outcomes (McNiff & Whitehead, 2011).

A significant body of consumer research exists to help inform designers, and many phenomena and principles that can be found in the literature could be utilised for product packaging design, however, much of the current knowledge on packaging has been described as *"…theoretical and remote"* from a design practice perspective (Ryynänen & Hakatie, 2013). Potentially a better understanding of consumer-design interactions could lead to greater use of design as a strategic marketing tool (Ryynänen & Rusko, 2015); and, in turn, bring greater respect and appreciation to design as a discipline (Veryzer, 2000). Clement et al. (2013) suggest there is a need for further research towards a better framework for designing FMCGs. The following study describes the development of a taxonomy of *'design considerations'* that progresses towards an informed design process and common dialogue to assist in FMCG packaging development.

Methodology

Research aims to identify a comprehensive set of *'design considerations'* for low involvement FMCG packaging design. The intentions will be to begin the process of making existing research knowledge in this area more accessible and useful to packaging designers and managers. Additional content was gathered to expand the finding from the literature via an expert consensus seeking technique.

The following study was designed within the Loughborough University Ethics policy, following the data protection guidelines and authorised through an ethical approval process (Loughborough University, 2018). This study was designed to understand the key criteria and considerations for developing, evaluating and communicating the value of design in FMCG packaging. The research procedure was divided into four key phases to identify, define and validate a classification for the categories and topics extracted from literature. Inductive content analysis was applied to extract the key themes. The research design began with a structured literature review of packaging design and related disciplines. An expert panel of reviewers and a modified-Delphi card sorting study aimed to validate the terms gathered; and, provide a consensus of expert opinion and validation to cross compare academic research with expert insight. The additional content was added by experts to expand on the current knowledge discovered in literature. For the purpose of this study, modified-

Delphi Card sorting was selected over other qualitative, more traditional techniques to exploit the strengths of expert group decision-making. This was opposed to gathering accounts using methods such as interview to reduce bias where individual practitioners may try to render themselves more intelligible in their recall of accounts (Crilly, Moultrie, & Clarkson, 2009).

Phase 1: Structured Literature Review

The formal review aimed to extract possible topics of discussion including design elements, principles, interventions and considerations from a wide range of associated topic literature that would be useful to recognise and apply to the design process of low involvement FMCG packaging. The review process identified sources including journal articles, book chapters, PhD theses and other additional online sources deemed appropriate. Searching for these resources was bound using the variations on the key specific terms and phrases as well as wider search terms: '*visual appearance design', 'product packaging', 'packaging design', 'FMCG', 'low involvement', 'visual perception', 'visual attention', 'consumer response', 'consumer behaviour' and 'decision making'.* A bounding period ran from one of the first, notable consumer research study on consumer choice and visual attention to low involvement FMCG products by Russo and Leclerc (1994) to recent papers published in 2018. Figure 1 outlines the research strategy for the collection of data. This followed a structure adapted from Torrens (2017).
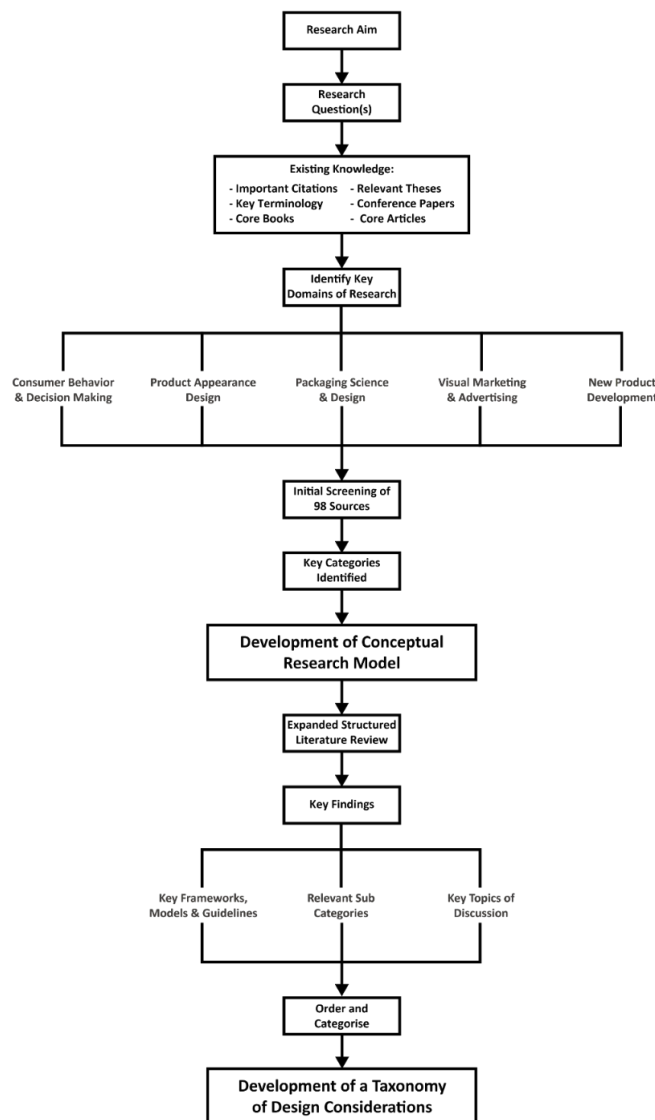

Figure 1: Adapted Research Strategy Model

A preliminary screening of resources was conducted before selection to identify topic categories. This was undertaken in advance to aid in the construction of a conceptual research model to identify key topic and content categories. Similar models can be identified in papers conducting summaries of research over an allocated period (see Luchs & Swan (2011)). This conceptual research model (Figure 2) was developed from frameworks, models and guidelines that utilised visual perception and information processing theories gathered from the review process (Bialkova & van Trijp, 2010; Clement, 2007; Husić-Mehmedović, Omeragić, Batagelj, & Kolar, 2017; Wedel & Pieters, 2008) and placed into an adapted cognitive-based consumer decision-making model by Schiffman, Kanuk, & Wisenblit (2010).
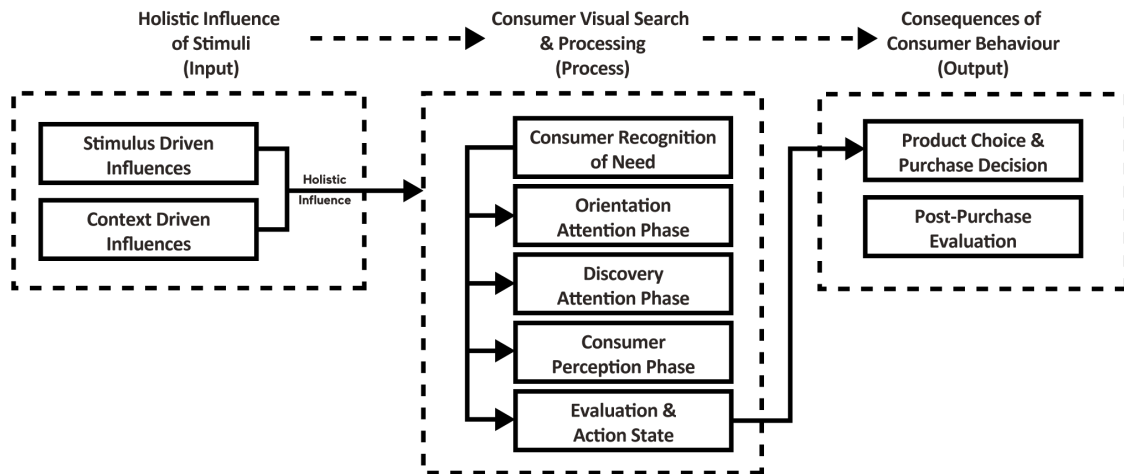

Figure 2: Conceptual Model of Research & Classification for Low Involvement FMCG Packaging Design Considerations

This model aided the appropriate topic clustering and organisation amongst categories identified. The consideration set for source selection for the expanded structured literature review included: date of publishing, journal type, research aim, relevant keywords/topics of discussion, research methods used, relevant findings and proposition of topic relevant frameworks. An inclusion and exclusion criteria were established to assist selection. All sources had to be in English and relating to the topics of product appearance design, new product development, consumer decision-making, visual marketing, fast-moving consumer goods or packaging design. Additionally, the number of citations and the perceived reputation of the author of the source was also considered. Priority was given to articles from high-quality journals that were open to a range of interdisciplinary topic fields and double-blind peer-reviewed. All papers titles, keywords and abstracts were reviewed before the resource was considered. However, if a paper provided valuable insights in addition to this criterion, these were included subject to critical analysis by the informed researcher.
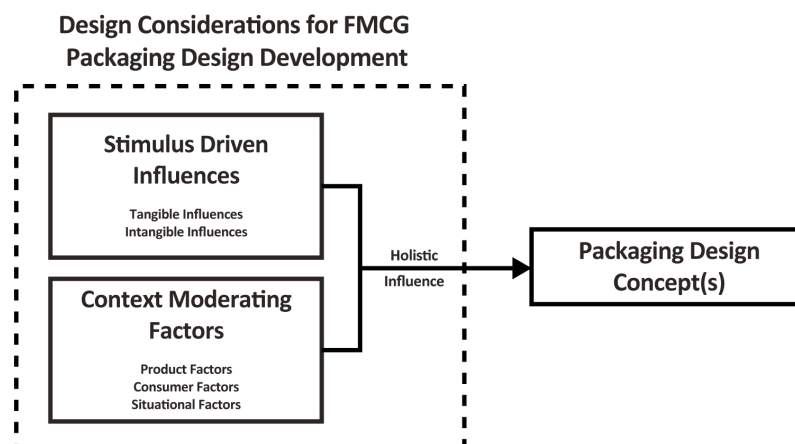

Figure 3: Conceptual Framework of Design Considerations for FMCG Packaging

Throughout the process, the researcher continued to reflect on the material being reviewed as new sources were discovered. The reference lists of the journal articles were also examined to identify any new sources that may be of interest that may not have been identified in the meta-search. For this study, precedence was given to the *'input'* section of the conceptual research model (Figure 2), and the development of a *'Conceptual Framework of Design Considerations for FMCG Packaging'* (Figure 3) resulted from the meta-search. The review process was concluded once a point had been reached where the articles selected from review represented a consensus of the body of research, reflecting the topics of discussion within literature and no new topics were being discovered.

Phase 2: Defining and Categorising Topics

Qualitative inductive content analysis was undertaken as a method to evaluate the resources, adapted from the method described by Elo & Kyngäs (2008). Content analysis can be defined as the systematic description of written, spoken or visual material to express themes, patterns; and occurrence of words, phrases, images or concepts. This allowed for the identification of common themes or patterns that emerge from data and indicate an order of priority. Units of terms could also the be clustered and reordered into a themed category (Hsieh & Shannon, 2005; Martin & Hanington, 2012). Investigation of the articles in this manner provides a systematic and objective method of analysis (Krippendorff, 2004). The process allows the researcher to distil words or phrases into fewer content-related categories when they share the same meaning (Cavanagh, 1997). The process identified duplicates or similar terms and phrases that could be categorised together under one term. Qualitative data was extracted in the form of words, phrases and quotes which were then recorded and referenced. These were then coded and clustered into themes to create more manageable topics. The process of coding and clustering is a conventional method for analysing qualitative data enabling researchers to collate meaning from a data set to develop theory (Robson, 2002). Through this process, greater validity may be given to any inferences made from the data (Krippendorff, 2004). Content analysis is a means to deliver concepts or categories to build up a model or conceptual map (Elo & Kyngäs, 2008). The data collected from this study was organised, categorised and recorded into a spreadsheet. The data provided justifications for each topic as well as an assigned description, examples of contextual quotes from literature and citations to link to relevant research papers. An initial taxonomy and nomenclature was produced by the researchers based on the outcomes of this structured review to be later compared, critiqued and developed against the outcome of the modified-Delphi Card Sorting exercise.

Phase 3: Expert Participant Panel Selection

A panel of expert participants was selected to review and validate the topics and content categories extracted from literature through modified-Delphi card sorting. The resulting outcome provided information structures based on the participants' collective interpretation of the identified topics and categories. Acknowledged by Paul (2008a p8) there is no strict consensus of participant numbers. Suggestions range from six to over thirty participants to gain a meaningful consensus. Soranzo and Cooksey (2015) suggested 8 to 10 participants are needed to gain a meaningful information architecture for modified-Delphi card sorting studies. Experts were chosen from fields where they have *"…a personal stake in the resulted knowledge [sic]"* (Paul, 2008a p10)*.* For this study, an eight-expert participant panel was formed. Participants ranged in professional disciplines but all with relevant experience and significant knowledge of the FMCG industry. These included academics, packaging development specialists, product design consultancy practitioners, POS designers, packaging designers and FMCG marketing specialists. The participants all had experience of the design of physical artefacts as this is the current focus of the research. These experts were asked to evaluate the set of topic cards and categories extracted as well as to provide professional insight. Before the card sorting exercise, participants were asked to complete a short questionnaire. This included taking details on their gender, age, positions held, previous experience, specialisms and education. The information gathered aided the interpretation of their commentaries and to qualify their responses against their professional backgrounds (Soranzo & Cooksey, 2015).

Phase 4: Modified-Delphi Card Sorting

Card sorting was selected as a method as it can be used when comprehension and meaningful categorisation is critical. As a participatory design technique, card sorting explores how concepts or topics are categorised. The method was used as a technique to draw out mental models about a set of information and aid in the design or validation of information architectures (Paul, 2008a p8). Cards were printed with a topic or category on

them, which participants were asked to sort. This aspect of card sorting can be used to highlight terminology that can easily be misunderstood or has multiple meanings associated with it. It can be used to create structures for information such as taxonomies (Martin & Hanington, 2012 p26). Participants organise the cards into groups that may be compared against a given predicted model produced by the researcher (Paul, 2008 p8).

Two approaches are usually taken; an open or closed card sort, as described by Spencer and Garrett (2009). Open card sorts are used in the pre-design stages of information structure development. This allows the participants to produce their own categories and identify where categories are not fully defined. The method can be used to *"…add new content to an existing information architecture or to test an information architecture by scoring participant results with the existing structure. [sic]"* (Paul, 2008a p8). In contrast, a closed card sort can be used to place cards into pre-existing categories that have been set by the researcher, which is a post-design method to validate or amend an information architecture (Spencer & Garrett, 2009). For this study, a modified-Delphi card sorting method was adopted from Paul (2008a p12-14), which utilises the principles and strengths of expert group decision-making from the Delphi method (see Okoli & Pawlowski (2004) for an explanation and key features of the research method) combined with conventional card sorting. These additional features of the Delphi method enable communication within a group while reducing the adverse effects of group work interactions (Geist, 2010).

Modified-Delphi card sorting may be compared to that of open card sorting as it provides the freedom for participants to modify, add or remove categories that fit their own interpretation of the model. This modified method allows participants to build upon each other's structures, giving a holistic result from all participants work combined. This is particularly useful when, as in this study, data sets are complex and more extensive; and, where there are high cognitive costs to the participants when undertaking the study (Paul, 2008b p12). There are four steps taken during the card sorting exercise (Figure 4). This method aims to improve the quality of results from each participant, reducing the time to conduct the study and analyse the results. The modified-Delphi method is ideal for measuring how people interact with the *"articulation of a taxonomy"* (Soranzo & Cooksey, 2015).

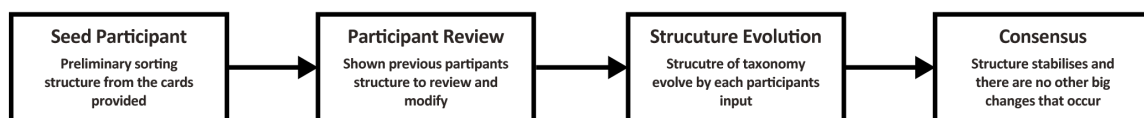| Seed Participant	Participant Review	Structure Evolution	Consensus
Preliminary sorting structure from the cards provided	Shown previous partipants structure to review and modify	Strucutre of taxonomy evolve by each participants input	Structure stabilises and there are no other big changes that occur

Figure 4: Steps for Conducting Modified-Delphi Card Sorting

For the seeding of the deck Paul (2008b) suggests multiple methods of opening the card sorting study. A single participant working alone; or, the pairing of participants for the initial categorisation. Alternatively, the assistance of an initial structure can be used where the information is new to the participants, and there may be some difficulty producing an initial structure. Because some predefined categories had already been extracted by the researcher and the nature of the card sorting topics was relatively complex, category titles were provided to the seed participant. However, each participant was encouraged to evaluate the categories and add, remove or modify them. Participants were asked to distribute the topic cards amongst categories. Each card contained a topic name, associated terms and an assigned description gained from the initial phases of research (Figure 5).

Card sorting also enables the physical use of cards or a digital based card sorting option. For this study, physical cards were used as the range of topics were large, and a screen could limit the amount of information available. This allowed participants to physically interact and organise the cards and make notes. Participants were provided with an introductory script adapted from Paul (2008b p4). They were asked to add, remove or amend topics or categories using the blank index cards on previous participants structures. Participants were also allowed to distribute the cards into multiple categories by adding an index card to an alternative category. After each card sorting exercise, experts were asked to reflect on and refine their final structure. Towards the end of the card sorting study, fewer changes should be made; and, participants would only need to reflect on higher-level issues. Throughout both sections of the card sorting exercise, participants were encouraged to verbalise the decision-making process.
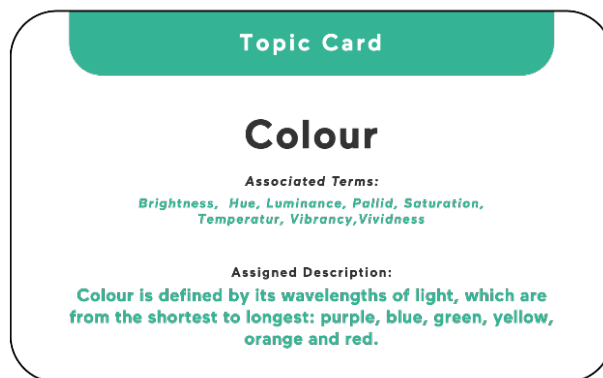
Figure 5: Exemplar Topic Card Design

Results

Except for the seed participant, no other participants knew the order in which they contributed or other *'experts'* who undertook the study. After each participant, structure data was recorded via photographs and transferred into a spreadsheet for analysis. Spreadsheets contained the topic categories with cards organised and distributed in each. If a new topic or category was added the text was recorded and highlighted to determine modifications (Paul, 2008b p4-5). Digital representations of each structure were produced to help further interpret data and compare the relationships between the topics and categories. Detailed analysis is only required if it is necessary to help in the description of mental models and evaluate the optimum term as the cards themselves provide enough data for information architecture construction (Soranzo & Cooksey, 2015). The first participant seeded the deck, and two new categories were proposed. Some category names and topic structures were challenged by participants 2 and 4, but a consensus was achieved by participant 5, with categories remaining agreed between participants 5 to 9. Throughout categorisation, the removal of only one original category occurred. Topics from this category were distributed into other categories. Overall, 9 categories were established in the final taxonomy. Participants 1 through to 3 focused primarily on the category design with minimal contribution to the contents of the topic deck. Greater changes occurred once the categories settled with the most additional topics introduced between participants 4 and 5. Participants 4 to 9 focused primarily on topic organisation as considerable changes were made at this point. Results suggest that significant changes were seen during participants 5 through to 7. However, changes were predominantly of topics derived from other topic cards. These participants produced cards to extend existing topics and add to additional categories. An example of this can be seen by specific variations of the term *"Technologies"* which was introduced as part of the original topic set. This was split into more specific topics associated such as *"Accessibility to Technology"* and *"Use of Technology"*. Some new topics were introduced that were not discovered during initial content analysis such as *"Zeitgeist"*, *"Giftability"* or "*Influence from NPOs*" introduced throughout the expert review. During the review of participants 5 and 7, this was where most of the changes were made. It seemed that participant 8 accepted most of these changes as almost none were made at this stage. To conclude, participant 9 made smaller refinements to the final taxonomy.

Agreement Weighting Analysis

This method, as recommended by Paul (2008b), is a way of understanding card importance and relationships agreed between participants. Data collected was distributed into a topic-by-participant category matrix to calculate agreement weighting. Percentages determined were then distributed into a topic-by- category matrix. Because participants could create their own category titles and add, remove or change topics with no restrictions, exact agreements across all participants can be minimal. Categories were then further grouped based on the criterium specified by Righi et al. (2013). Category titles were amended and final titles allocated. A second topic-by-category matrix was then produced with agreement weighting percentages recalculated. However, not all participants contributed to the agreement weighting of 32 topics. Additional analysis would be required to confirm these results and their validity. From the original 119 initial topics extracted from the

302 sources studied and reviewed by experts (n=9), an additional 34 (+21.5%) new, variations or repeated topics were added to the taxonomy. This brought the total topic count to 156 *'design considerations.'* An agreement consensus was determined if the topics received >50% in a category from all participants. If the topics gain a higher agreement percentage, the stronger the determination for the categorisation of that topic within the information structure (Paul, 2008a). If topic cards received ≤50%, these were arranged based on their highest agreement. If there were <50% or stalemates occurred, categories were then determined from analysis of the participant commentaries. From the original 119 topics, a consensus was not reached on 9.8% of topics. 32 topics (20.9%) did not gain a consensus from all participant due to these topics being added during the study. These would require additional evolution analysis. Although the nature of the modified-Delphi card sorting study allows for iterative development of the taxonomy, additional evolution analysis will be conducted to help understand why they were added and their relevance to the taxonomy based on comments noted during the study and reflection period post sort. Overall, based on the results of the final participant, the taxonomy saw an agreement of 86.27%, 10.12% disagreement with 3.27% of the cards being removed or combined with other topics. Further evolution analysis was conducted to understand participant decisions in greater detail.

Evolution Analysis

Areas of discrepancy were recognised throughout initial data analysis. Because of this, a heuristic approach to evolution analysis was employed as a secondary analysis technique. This method utilises data collected during the observations of the card sorting studies in the form of written notes and voice recordings. This identifies disagreements and weak points allowing the researcher to pay more specific consideration when analysing data. This additional strategy prioritises the final participants work relative to that of the previous, supported by any low or stalemated agreement weighting discovered from the previous analysis technique. Prioritising the final participant's design can help us understand why some cards were added, removed or merged throughout the development process of the taxonomy (Paul, 2008b).

In the case of low agreement weightings that did not meet the >50% threshold, for example, *"Consumer Research Involvement",* prioritisation was given to the highest category weighting of agreement from participants. However, in the specific case such as *"Memory"* and *"Memory Association"* prioritisation was given to the location of the final participant. Participants 6 through to 9 had placed these within the *"Consumer Factors"* category. As observed in earlier analysis, greater consideration was given to the location of topics once the category labels had been determined, only then was more focus given to topic location. As these topics remained in the same category from participant 6 to 9, reverting them to the previous category did not seem logical. Although they did not hold the highest weighting agreement, on examination of the taxonomy's development taking into consideration these other factors must be considered to understand why their location had changed. The same rationale was given to the topic *"Product Semantics"*. In cases such as stalemates between agreement weighting results, for example: *"Affordances"*, *"Cognitive Capacity"* and *"Cognitive Bias"*, arrangement in the taxonomy was based to the position given by the final participant. In one circumstance, a card was removed and then reintroduced in a later structure of the deck. *"Coordination"* was removed during the participants 2 to 6; however, participant 7 argued the reintroduction of the topic. Although the topic only received 33% in agreement weighting, the argument exhibited by participant 7 and inclusion by participants 8 and 9 determined that the topic should remain in the deck in the location determined by participants 7 to 9. In certain incidences, topics were introduced by participants and then later merged or combined into other or new topics. *"Brand Ethos"* was introduced by participant 4, then later removed by participant 7 and combined into the topic *"Story"*. On analysis of these topics once more, the topic *"Story"* did contain sub-terms such as *"Brand Story"* which could be deemed similar. For this reason, the decision proposed by participant 7 will remain in the final taxonomy. Introduced by the final participant, *"Shopping Habits"* combined multiple consumer specific topics that had been introduced throughout the study. From the discussion in the reflective section of the study with participant 9, this was introduced as a more generic term to encompass conscious/subconscious habits of consumers and lowers the complexity of the taxonomy. For these reasons the decision made by participant 9 shall remain. At one point *"Marketing Strategy"* was removed and combined with *"Organisational Factors"*. On review of their rational, the evidence collected from the analysis of literature and previous appointments of participants, this decision was omitted. The topic was reintroduced into its previous location allocated.

Overall, the card sorting exercise performed in the structure proposed by Paul (2008b) can be deemed as successful, and the researcher's feel confident with the results. The study aroused healthy debate, conflict and agreement to provide a set of validated considerations for the design and development of low involvement FMCG packaging. A revised conceptual framework can be seen in Figure 6. Although the final participant's taxonomy differed significantly from the researcher's original proposal, the addition of new categories and topics from the development and evolution from 9 participants have provided not only validation for the original deck, but additional knowledge and expertise that could not be gained from the researcher's alone. The final taxonomy is established in Figure 7.
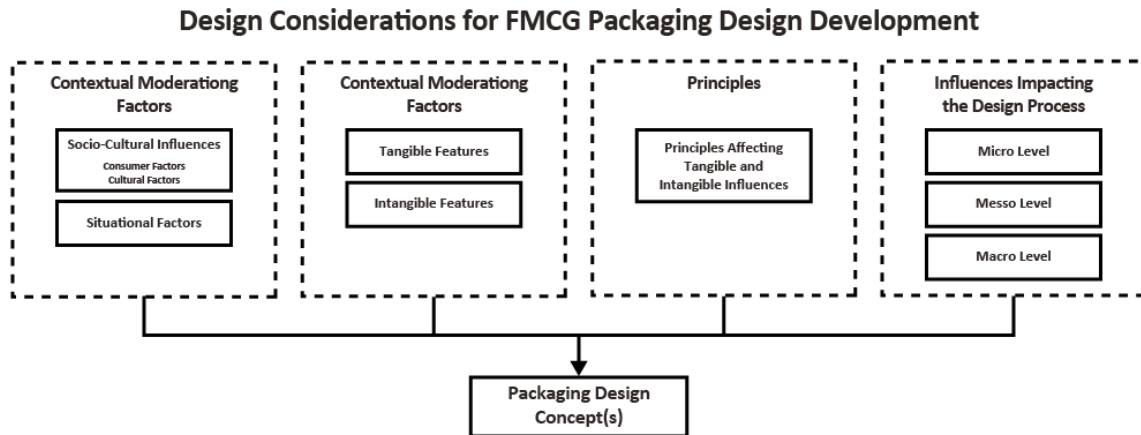

Figure 6: Revised Conceptual Framework of Design Considerations for FMCG Packaging
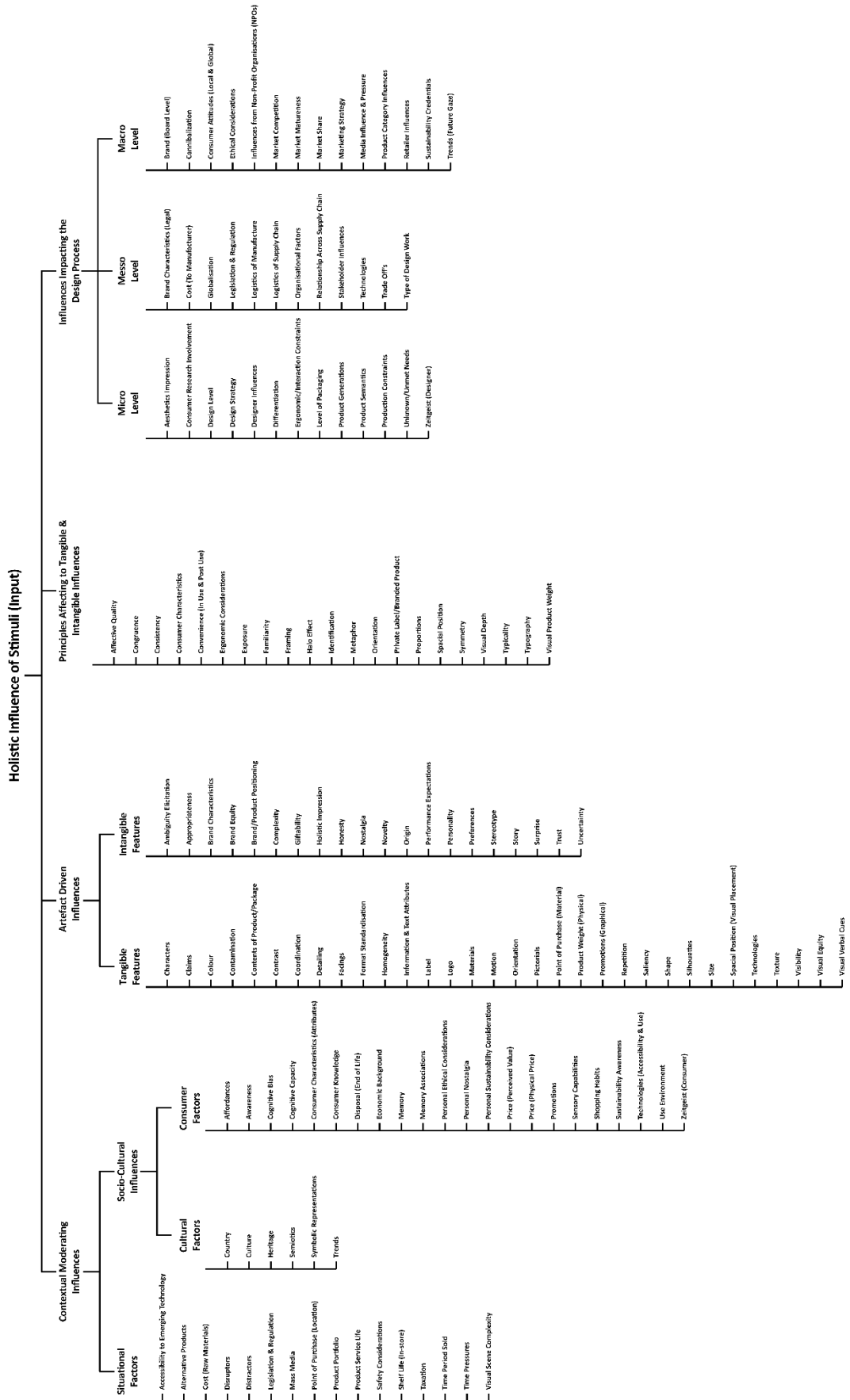
Holistic Influence of Stimuli (Input)

Contextual Moderating Influences

Situational Factors
- Accessibility to Emerging Technology
- Alternative Products
- Cost (Raw Materials)
- Disruptors
- Distractors
- Legislation & Regulation
- Mass Media
- Point of Purchase (Location)
- Product Portfolio
- Product Service Life
- Safety Considerations
- Shelf Life (In-store)
- Taxation
- Time Period Sold
- Time Pressures
- Visual Scene Complexity

Socio-Cultural Influences

Cultural Factors
- Country
- Culture
- Heritage
- Semiotics
- Symbolic Representations
- Trends

Consumer Factors
- Affordances
- Awareness
- Cognitive Bias
- Cognitive Capacity
- Consumer Characteristics (Attributes)
- Consumer Knowledge
- Disposal (End of Life)
- Economic Background
- Memory
- Memory Associations
- Personal Ethical Considerations
- Personal Nostalgia
- Personal Sustainability Considerations
- Price (Perceived Value)
- Price (Physical Price)
- Promotions
- Sensory Capabilities
- Shopping Habits
- Sustainability Awareness
- Technologies (Accessibility & Use)
- Use Environment
- Zeitgeist (Consumer)

Artefact Driven Influences

Tangible Features
- Characters
- Claims
- Colour
- Contamination
- Contents of Product/Package
- Contrast
- Coordination
- Detailing
- Findings
- Format Standardisation
- Homogeneity
- Information & Text Attributes
- Label
- Logo
- Materials
- Motion
- Orientation
- Pictorials
- Point of Purchase (Material)
- Product Weight (Physical)
- Promotions (Graphical)
- Repetition
- Saliency
- Shape
- Silhouettes
- Size
- Spacial Position (Visual Placement)
- Technologies
- Texture
- Visibility
- Visual Equity
- Visual Verbal Cues

Intangible Features
- Ambiguity Elicitation
- Appropriateness
- Brand Characteristics
- Brand Equity
- Brand/Product Positioning
- Complexity
- Giftability
- Holistic Impression
- Honesty
- Nostalgia
- Novelty
- Origin
- Performance Expectations
- Personality
- Preferences
- Stereotype
- Story
- Surprise
- Trust
- Uncertainty

Principles Affecting to Tangible & Intangible Influences
- Affective Quality
- Congruence
- Consistency
- Consumer Characteristics
- Convenience (In Use & Post Use)
- Ergonomic Considerations
- Exposure
- Familiarity
- Framing
- Halo Effect
- Identification
- Metaphor
- Orientation
- Private Label/Branded Product
- Proportions
- Spacial Position
- Symmetry
- Visual Depth
- Typicality
- Typography
- Visual Product Weight

Influences Impacting the Design Process

Micro Level
- Aesthetics Impression
- Consumer Research Involvement
- Design Level
- Design Strategy
- Designer Influences
- Differentiation
- Ergonomic/Interaction Constraints
- Level of Packaging
- Product Generations
- Product Semantics
- Production Constraints
- Unknown/Unmet Needs
- Zeitgeist (Designer)

Messo Level
- Brand Characteristics (Legal)
- Cost (To Manufacturer)
- Globalisation
- Legislation & Regulation
- Logistics of Manufacture
- Logistics of Supply Chain
- Organisational Factors
- Relationship Across Supply Chain
- Stakeholder Influences
- Technologies
- Trade Off's
- Type of Design Work

Macro Level
- Brand (Board Level)
- Cannibalisation
- Consumer Attitudes (Local & Global)
- Ethical Considerations
- Influences from Non-Profit Organisations (NPOs)
- Market Competition
- Market Matureness
- Market Share
- Marketing Strategy
- Media Influence & Pressure
- Product Category Influences
- Retailer Influences
- Sustainability Credentials
- Trends (Future Gaze)

Figure 7: An Interim Taxonomy of Design Considerations to Support Low Involvement FMCG Packaging Design

11

Discussion

This summarised account is leading towards a resource to provide practitioners, marketing and design managers with a detailed understanding of *'design considerations'* needed to communicate the value of their designs to stakeholders. It aims to provide terminology and understanding to open up dialogue for the rationale behind decision-making. A much more complex ecosystem of variables that effect the design process was discovered compared to what is presently considered. Although consumers can encounter packaged products in isolation, packaging pre-purchase is viewed almost always in the context of other products packages on store shelves in a retail environment (Deng & Kahn, 2009). This study has provided a comprehensive understanding of the holistic influences that can or should be considered in the design of low involvement FMCG packaging. This included a classification of the *"Artefact Driven Influences"* that provide the *"…actionable dimensions, features, and general product attributes a design team can manipulate in creating a product that attempts to meet design goals."* (Noble & Kumar, 2010); and, the *"Contextual Moderating Factors"* that can affect the perception of the artefact and the latter perceptual processing on post-purchase evaluation of a product. Identification of *"Principles Affecting Tangible and Intangible Influences"* and *"Influences Impacting the Design Process"* was also established. Existing frameworks for packaging design, as identified earlier, do not include such a comprehensive list of *'design considerations'*. This taxonomy represents a means towards creating better frameworks for the design of low involvement FMCG packaging.

The taxonomy produced begins to develop a framework aiding design practitioners to begin to understand, evaluate and assess the designs they produce as well as begin to aid in communicating their decision-making by providing the understanding and terminology. The main purpose of this research was to identify a core set of elements and demonstrate their validity through expert review. This paper is a starting point in the conversation to bridge the difficulties between practitioners, researchers, managers and stakeholders through a set of key topics (terminologies) which provide a clear understanding of the considerations needed when executing new design development or redesigns for FMCG product packaging. Furthermore, this taxonomy could be utilised as a tool to be adopted by industry to assist with self-reflection on internal processes; and, communication in the design process to potentially help improve organisational knowledge management and skill auditing. It may also help facilitate communication with stakeholders to understand each other in the design development process by providing a more common dialogue; and, help effectively communicate with design practitioners internally or externally. The interim taxonomy presented is in an incomplete stage and requires improvement but offers an emerging insight into the final structure. Further work should be addressed to validate the 32 additional terms offered by expert insight.

Research Limitations

The dataset grew significantly from the original set provided by the researcher, based on a review of literature. Using more than 100 topic cards increased session times and fatigue of participants. Although more cards may be used if the participants are familiar with the content, large datasets often lead to confusion, tiredness and possible misinterpretation from participants (Paul, 2008a). Additional terms that were given by participants throughout the taxonomy development and validation significantly increase the data set. However, if not enough information had been provided to participants, this would have reduced the opportunity for a well-rounded and rich model. As participants were continuingly improving the taxonomy, lower cognitive costs were incurred; an advantage of the modified-Delphi card sort method. The selection of *'experts'* could be deemed as a factor that may have affected the results of the final taxonomy and terminology produced. Alternatively, more specific groups of 'experts' could potentially deliver a different outcome as these are less generalist to the group used in this study. For example, just marketing, design or academic professionals rather than a representative body from multiple disciplines. How might this affect the terminology categories and additional topics to the taxonomy? However, the researcher attempted to use a range of experts from a variety of relevant backgrounds to provide a more comprehensive and holistic contribution to the taxonomy terminology; and, capture a range of expertise in the field of FMCG design. The use of a multidisciplinary group was aimed to help reduce the bias of any one discipline. The topics introduced by the participants in the later stages of the taxonomy were not validated by all members of the expert panel. Although the nature of the study allowed this to occur, further validation of the completed taxonomy is required. Cultural context must also be addressed as a potential limiting factor. This study represents an insight from a UK perspective. However, this may differ if conducted in other countries where terminology and processes vary. Although bound to a selection of domains of research in the literature section including: packaging design, product

design and marketing/design management; this study may be improved with some more lateral thinking to gain further insight. This could be in areas such as user experience or service design. How might this affect the final outcome of the taxonomy? However, to gain an in-depth and focused investigation; and, due to time restrictions, additional insight gathering was restricted.

Future Research

There have been great efforts made within marketing management and consumer science research to understand the effect packaging elements have on consumer response and product perception in FMCG product categories. A baseline common dialogue, taxonomy and nomenclature, has now been established; and, validated as a set of *'design considerations'* for FMCG design practice. Future research should focus on the validation of the 32 additional topics identified by experts to authenticate their place in the taxonomy through further deductive content analysis of the resources gathered and through additional literature search. Future research should also look to understand how FMCG design practitioners implement, rationalise and validate design decisions in their design practice. Some emerging research has already looked to try to unravel and explore more in-depth FMCG packaging management with industry bodies (Simms & Trott, 2014a, 2014b) and individual FMCG design practitioners (Ryynänen & Rusko, 2015) through qualitative research methods and narrative report. Further investigations through the use of qualitative investigation methods such as case study, practitioner/key informant interviews, observations, document analysis or surveys to explore FMCG packaging design practice and management at a UK level. This could look to help the understanding from a personal account how packaging designers rationalise and validate their decision-making in real-world application; and, understand in more depth design management of FMCG packaging design development through industry-led research. This will contribute to the ongoing development of better frameworks for FMCG designers and support packaging design development.

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