

The Value of Design in UK FMCG Packaging Development: An Industry Case Study Exploring Practitioner Design Practice Rationale & Decision-Making

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Recognising the value design offers has been of great importance for the effective development and launch of Fast-Moving Consumer Goods (FMCG). Packaging design is acknowledged as a significant success factor in New Product Development (NPD) for the FMCG industry to help provide clear product differentiation and competitive advantage in saturated and complex markets. The search for approaches to maintain or improve market share has driven the field of consumer research over the last few decades. The potential to influence consumer perception of a product through visual design is well documented in the literature. Packaging design relies on effective management of symbolic, semantic, aesthetic and visual information elements. Stakeholders have been increasingly demanding that design practitioners provide a clear rationale and accountability for their design proposals in this risk-averse industry. However, limited research has been produced to address how packaging design and development is managed; and, how design practitioners rationalise and validate their design decision-making. The authors' look to address this through the study of design practitioners in 'real-world' FMCG design practice. A case study is presented with a UK company involved in the design and manufacture of food and beverage packaging for suppliers, retailers and brands in the UK FMCG market. The research aims to identify preliminary insights and a narrative into the factors affecting practitioner rationale, decision-making and explore future research. The study triangulates evidence from interviews, participant observation, direct observation and document analysis to identify influences through a convergence of findings. Nine preliminary influences are recognised that appear to affect practitioner rationale and decision-making.

Keywords: *FMCG; New Product Development; Design Management; Packaging; Design Decision-Making*

1 Introduction

Design is often viewed from a business perspective as “*nice to have*” but non-essential for business performance (Bruce & Daly, 2007). More specifically, packaging design development is considered a risky and ad-hoc activity and concerns over brand damage or falling sales often lead to minor, superficial packaging changes. Design firms have been said to push adoption of new packaging innovations as suppliers, retailers and brands have been criticised for having a short-sighted view of packaging and its design, thus not exploiting its full potential in the new product development (NPD) process (Simms & Trott, 2014a, 2014b). Retailers and brands are increasingly expecting design practitioners to provide clear accountability and understanding of design impact (Young, 2002). However, from a management perspective the current activities of packaging development within the UK has been labelled as “*dysfunctional*” in its nature (Simms & Trott, 2014b). Suggestions have been made that packaging design practitioners rely greatly on their rule of thumb, professional connoisseurship and tacit knowledge in design decision-making (Johnson, Torrens, & Storer, 2019). This suggests that a degree of guesswork is utilised in packaging design concept development (Barnes et al., 2008; Rynnänen & Hakatie, 2013). To understand, reinforce and exploit the value packaging design can offer the FMCG industry, and more specifically that to new product development, practitioners need to be able to confidently and coherently express their rationale to stakeholders (McNiff & Whitehead, 2011). This paper explores the current state of design practitioner rationale and decision-making within the context of concept generation and selection for FMCG packaging. Focus is paid to the development of robust methods to investigate ‘real-world’ research of FMCG design practitioners to understand concept rationale and decision-making.

2 Literature Review

2.1 The Value of Design in FMCG New Product Development

Design is considered to be a substantial success factor in NPD within the FMCG industry (Wansink & Huffman, 2001). NPD is considered a risky activity (Rynnänen & Hakatie, 2014); companies can become reluctant to invest in design resources and can become a marginalised activity (Bruce & Daly, 2007 p.931). Implemented correctly, design can act as a strategic tool to add value to provide competitive advantage and aiding distinction in saturated markets (Rundh, 2009; Vazquez et al., 2003). Approximately 85% of FMCGs are selected at the point of purchase (Clement et al., 2015; Urbany et al., 1996; Stahlberg and Maila, 2012). The impact product appearance has on consumer decision making is clear (Bloch, 1995; Crilly et al., 2004). Exploiting visual packaging attributes to improve differentiation, communication and remains a useful marketing strategy (Rettie & Brewer, 2000; Underwood & Klein, 2002; Young, 2004). However, the value of design in FMCG is often neglected, and sometimes left until the later stages of NPD (Francis et al., 2008). In the distribution of an organisation’s resources, packaging is often considered an unnecessary cost (Bruce & Daly, 2007; Chan, Chan, & Choy, 2006; Rynnänen & Hakatie, 2013; Simms & Trott, 2010). It is estimated that 70% to 95% of product launches fail at market each year (Spence, 2016); thus, visual design attributes can be considered one of the most crucial factors contributing to the success rate with many FMCG failures being accredited to poor package decision-making (Rudder et al., 2001; Spence, 2016).

2.2 Understanding the Creative Design Process

There is an assortment of models that help describe the design process, aiming to assist in the optimum application of design at various stages of NPD. Process models are an essential part of design methodologies. Being able to understand the processes that lead to successful designs is of great interest to commercial organisations (Gericke & Blessing, 2011). Many attempts to “*formalise and describe*” the design process have been made by constructing these models (Howard et al., 2008). Process models are particularly useful in aiding non-experts, novices, semi-experts and managers understand the design process (Bobbe, Krzywinski, & Woelfel, 2016). Within a UK context, BS7000-1 provides a generic staged gateway guide to design innovation and monitor of work via formal reviews (British Standards Institution, 2008). Gericke & Blessing (2011; 2012) present an analysis of design process models across disciplines to provide a holistic interpretation. The consensus gained was that design process models across multiple design disciplines contain general core stages in a “*stepwise, iterative process*”. Clarkson and Eckert (2005) suggest that “*all design processes are different*”, but the processes across different design disciplines contains some similarities. The authors share similar beliefs of a more “*procedural approach*” which, in theory, can be suitable for designers across disciplines to be used as support (Gericke & Blessing, 2011). Gericke and Blessing (2012) provide an eight-stage generic design process which has been adopted for the purpose of this study (Figure 1), expanding on the work of Howard et al. (2008 p.163).



Figure 1. Adopted Generic Staged Design Process Model from Gericke & Blessing (2012)

2.3 Concept Development & Selection

A ‘*concept*’ can be defined as “*a general idea or notion that corresponds to some class of entities and that consists of the characteristic or essential features of the class*” (Collins English Dictionary, 2018). A ‘*product concept*’ in this context is a “*description of the form, function and features of a product*”; and, the concept development stage is where the target market is identified, product concepts are created and then evaluated. A single product concept is then selected for further development. (Ulrich and Eppinger, 2008 p.16). Identified as a conventional phase, ‘*concept development*’ is a front-end activity consisting of a variety of activities acknowledged in the adopted model in Figure 2 by Ulrich and Eppinger (2008) with the area of research interest highlighted. For this study, specific attention has been paid to the area of ‘*concept development*’ and ‘*concept selection*’.

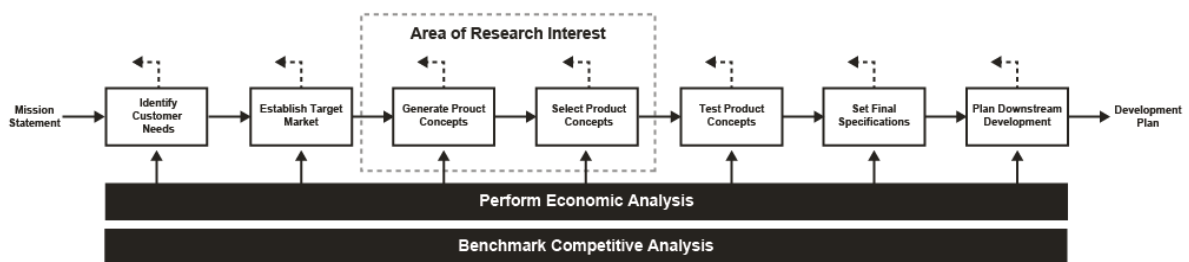


Figure 2. Adopted Concept Development Process Model (Ulrich and Eppinger, 2008)

'Concepts' should be established to assess physical principles that affect their performance and anticipated function, with the assistance of additional rationale development (Ullman, 2010; Ulrich & Eppinger, 2008). These front-end activities generation involve the synthesis and determination of possible solutions which are subsequently narrowed down, concepts eliminated and the identification of the preferred and most appropriate concept(s) to move forward (Ulrich & Eppinger, 2008). The phases appear to offer the opportunity for a large proportion of the initial key design decision-making by practitioners to be made when exploring the space for product concepts, in this case FMCG packaging. Nevertheless, the use of design process models is that they are not accurate representations and are too general to apply to the problems in 'real-life' design situations but can offer guidance during product development (Eckert & Stacey, 2010; Wynn & Clarkson, 2005).

2.4 Design Management in FMCG Packaging Development

Packaging research has received extensive attention in both theory and practice (Azzi et al., 2012). Various models attempt to visually display and help understand the functions packaging serves. At its most basic level of understanding, packaging is a logistical and marketing tool. Packaging should protect and preserve product through the supply chain and promote the product to the end consumer (Prendergast & Pitt, 1996). Models (like design process models) have been formed to help understand the principles applicable to packaging design practice. Research identifies several elements that affect the consumers decision-making process including visual elements, structural design and informational cues (Ampuero & Vila, 2006; Ryyänen & Hakatie, 2013; Silayoi & Speece, 2007). However, these models do not appear to take into consideration broader contextual influences.

Research by Azzi et al. (2012), Mumani & Stone (2018) and Johnson et al. (2019) provide insight into much more rigorous and holistic in-depth understandings of the factors affecting packaging design. Effort has also been made on understanding and developing more industry specific models to help recognise product development and design management for FMCG product(s) and associated packaging (Bruce & Daly, 2007; Simms & Trott, 2010, 2014a; Vazquez et al., 2003). Simms and Trott (2014) provide a '*grounded framework for packaging management*' in NPD providing insight into three distinct levels of packaging development: skin deep, body modification and format change. The emphasis within many firms is primarily on changes to '*skin deep*' or '*body modification*', while technological and format changes are overlooked. This is due to the "*risk-averse and ad-hoc*" attitudes associated with packaging development and decision-making being addressed by non-packaging specialists (Simms & Trott, 2014 p.2020). Although briefly addressed, less consideration has been paid into the role packaging organisations and their design practitioner or design teams remaining relatively unexplored although these are the professionals involved of "*defining directions*" in the packaging industry" as research has been orientated towards theory and artefact driven (Ryyänen & Rusko, 2015).

For the purpose of this research, focus is orientated to the '*concept generation*' and '*concept selection*' from a design practitioners perspective. Analysis will be presented on the influences and factors that subsequently affect packaging concept rationale and decision-making by these practitioners in the synthesis and determination of concepts to meet client needs. Furthermore, analysis of how these concepts are subsequently narrowed down and eliminated will also be investigated. These phases outline the opportunities for practitioners' to explore the brief; and, how design concept options evolve towards a final concept

selection. To date, little attention appears to have been paid from a practitioner perspective on these design activities; and, how the process of design within FMCG is managed (Ryynänen & Rusko, 2015; Vazquez et al., 2003). This paper looks to initially explore some of the matters not yet addressed.

3 Method

This study aims to document and explore the design practitioner within the context of concept development process in FMCG packaging design. The study was constructed within the procedures of Loughborough University Ethics Committee following its data protection guidelines and approval process (Loughborough University, 2018). From a review of available literature, there appears to be a scarcity of studies available that describe methods for observing practitioner design practice in a ‘real-world’ situation; or, provide combined task and information capture techniques. The method described here was adapted from the approaches used by Cash, Hicks, & Culley (2013) and Cross & Clayburn Cross (1995) who have presented some research techniques on practitioner design practice analysis and design team observations.

Case method was selected to understand an in-depth analysis of an event (in this instance concept generation and selection) utilising multiple evidence perspectives (Martin & Hanington, 2012; Simons, 2009; Yin, 2009). The research was conducted within a large packaging manufacturer based in the UK. The company specialises in FMCG food and beverage packaging providing design-led packaging solutions for the UK and European markets. Access was given to three teams at three UK sites, including their design studio facilities, over three months. The study triangulated results from four phases of data collection: 1) unobtrusive direct observation, 2) archival document analysis, 3) individual participant observation and; 4) semi-structured interviews.

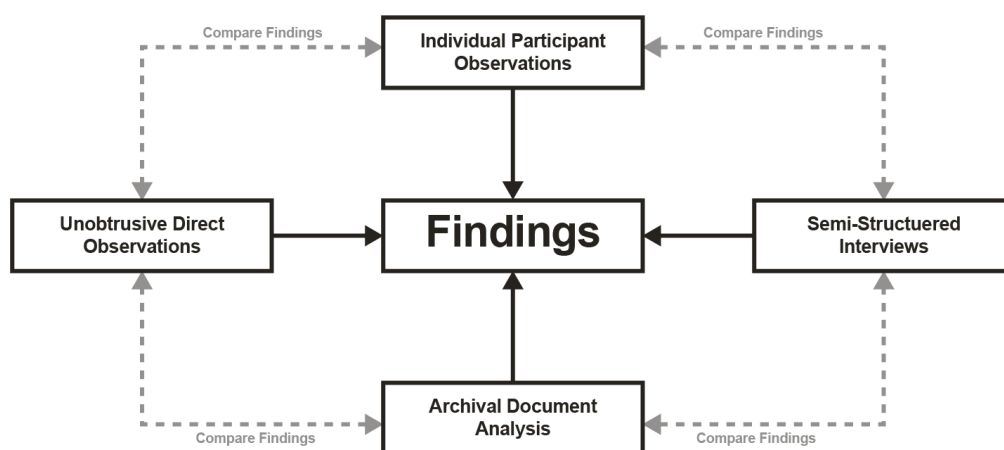


Figure 3. Proposed Convergence Style Method for Case Studies Analysing FMCG practitioner Design Practice

These methods were selected due to the inherent complexity of the design process and the pace of the industry (Vazquez et al., 2003). Various sources were collected at different points dependant on the availability of practitioners. These elicitation methods were utilised in a convergence style offering multiple source-evidence comparisons as depicted in Figure 3 (Yin, 2009). The intentions were to analyse the design practice activities of the FMCG practitioners in their 'real-world' environment.

3.1 Phase 1: Unobtrusive Direct Observation

Direct observations may take a variety of forms, ranging from casual observation through to more systematic observations utilising worksheets, checklists and other forms of codifying behaviours (Robson, 2002; Yin, 2009). To provide a more holistic inquiry of packaging design practice, a research operator observed the day-to-day running and interactions of a design studio to obtain a naturalistic perspective of the studio's workings of the main design team with the most substantial amount and diverse range of designers in the organisation. A closed setting with an overt, unobtrusive role for the observer was chosen (Robson, 2002; Bryman, 2012). Due to limited access to the organisation, a micro-ethnographic technique was applied to the observation of the design practitioners within the organisation (Bryman, 2012). Seven complete working days were observed. These included: project work observations, employee-to-employee studio interactions; client meetings; and, client calls. All of which were agreed in advance with senior management. An observational protocol was created before the study that included a nine-point descriptive observation criteria, as developed by Robson (2002). Six additional aspects for design team observations were taken into consideration from research by Cross and Clayburn Cross (1995) when conducting the direct observations.

3.2 Phase 2: Archival Document Analysis

The researchers were provided with previous conceptual design work projects (n=18) from the organisation's archive (Yin, 2009). The examples involved work from both conceptual and structural designers. Eighteen projects produced by the participating designers were selected and distributed into three categories by design outcome: best (n=6), average (n=6) and poor (n=6) design outcomes. Analysis was undertaken on the design outcome and the associated design briefs with each project. These were used to provide insights into the work-as-done activities of the designers and application of design process. Some projects were later discussed in interviews (phase 4) with the design practitioners.

3.3 Phase 3: Individual Participant Observation

Individual participant observation, adapted from Dorst and Cross (2001), was utilised to assess individual practitioner activity across sites (n=6). The principle researcher worked alongside a product developer to establish a 'real-life' brief for a new product development in an FMCG food category. Information gathered from British Standards BS7000 series and relevant literature assisted in brief formulation (British Standards Institution, 2015 p.38-39). The brief included an outline of the product values, design task and brand language requirements (Figure 4). To ensure high-quality design outcome, a pilot study with one participant designer (PD001) was used as a baseline for the refinement of the main study's protocol.

The Brief.

Problem:

The market is saturated with 'healthy' protein products mimicking dessert treats that do not look or taste anything like the real thing. This product needs to stand out in this category as a real brownie that if low calorie, low sugar and high in protein.

Background:

This product is a new protein brownie with emphasis authentic on authentic taste. The product looks to break the mold in the industry, making an effort to establish a marketing strategy of positivity in food. The feeling of guilt should be avoided and not a compromise from what consumers really want.

Product Aims & Objectives:

To create a new branded product of a filling, delicious baked treat that is beneficial for active people as well as those trying to make healthy choices. The product is a 200 Kcal, high protein (11.9g) and allergen friendly (nut and gluten free and soy free) product. The product needs to be environmentally aware & sold at a fair in price. The product is suitable for students, families and those trying to make a sustainable lifestyle change. The product wants to recognise that there's a lot of pressure upon women and men to change their bodies. This product looks to help people be more confident in what they eat without using guilt.

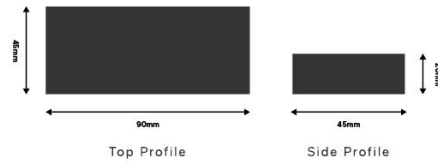
Packaging Needs:

- Contain 6 individual brownies.
- Food safe packaging.
- All components must be recyclable.
- Product will be sold in the chilled section of a retail store.
- Consider both primary and secondary packaging components.
- Consider future product range extension.
- Consider detailing and embellishment to help brand stand out.

Brief Deliverables:

- Basic Brand & Graphics Design
- Ideas & Design Development
- Final Design Concepts
- Product Details (e.g Materials, Construction, Finishes etc.)

Product Details:



Product Photos:



Figure 4. Extract from Participant Observation Design Brief

Activity packs given to the designers included a design brief, design diary (for notes and sketching), category competitor products, product ingredients, nutritional information, physical product samples and ethics documents which were all prepared in advance to the days of observations. The principle researcher's role was a 'Non-Participating Observer with Interactions' assuming the 'client' role acting as the point of contact to answer queries. Participants would be working at their day-to-day design environments to simulate a 'real world' design activity over three hours using equipment and environments they were familiar with to produce an accurate representation of their normal design practice activities.



Figure 5. Example Direct Observation & Participant Observation Capture Techniques (PD001)

Observational protocol was adapted from Creswell (2014 p.171) and Zeisel (2006). This provided dimensions for the descriptive observation with: reference codes, site sketches. Information about desk setup, camera location, audio recording devices, and locations of the participants being observed was adapted from Cash et al. (2013) (Figure 5).

3.4 Phase 4: Semi-Structured Interviews

Semi-structured interviews were conducted with sample of design practitioners (n=11). Interviews allow for the collection of personal accounts of each designer's experience, opinions, attitudes and perceptions (Martin & Hanington, 2012 p.102). Data collected included descriptions about designers from different disciplines within the company including structural, conceptual and graphic design using a purposive sampling criterion. The researcher considered the context of each interview, as the accounts given to the researcher may be adversely influenced by the fidelity with which designers may recall previous events; and, may attempt to post rationalise the event to render themselves more intelligible (Crilly et al., 2009). A frame of questions was produced containing five categories to provide interview intent (Table 1). Prompts were also produced to facilitate the interviews as well as physical packaging elicitation material provided to each designer to help as reference points when describing the events within their design process (Creswell, 2014; Robson, 2002).

Table 1 Interview Question Categories & Purpose

Stage	Question Category	Question Category Purpose
Stage 1:	General Participant Information	<i>Identify relevant background information about the participant including gender, age, design education, job role, previous experience, specialisms and design tools used.</i>
Stage 2:	Aspects of design practitioners think are important	<i>Understand what 'good' design' is to the practitioners. This will include discussion on the role packaging has from their perspective and what factors they think directly affect the consumer.</i>
Stage 3:	Limitations to the Practitioners Design Process	<i>Understand what limits practitioners from a personal and organisational/industry perspective including storytelling opportunities to provide context to situations described.</i>
Stage 4:	Hypothetical Design Process Walkthrough	<i>Expand beyond the use of just purely verbal report. Participants are provided with sheets to sketch, write and elaborate on concepts discussed and add a practical element to the study. This will also be used as a break to separate purely verbal reports with the participant.</i>
Stage 5:	Practitioner Research, rationale & Validation of Design Decision-Making	<i>Understand the ways practitioners research, validate and rationalise their designs concepts to themselves and to clients. Understand their awareness of methods of validation and communication to clients.</i>
Stage 6:	Design Tool & Resources Inquiry	<i>Understand what tools and resource practitioners currently have and use. To understand what their ideal arsenal might be to complete design work effectively.</i>
Stage 7:	Elaboration & Other Comments	<i>An opportunity to elaborate on any of the previous questions and for practitioners to ask questions or inquire about any of the concepts discussed.</i>

4 Case Study Analysis and Preliminary Findings

Data Analysis employed an inductive “ground up” strategy where key concepts emerge from closely investigating the data collected. Explanation building, and logic modelling were used as analytical techniques to build an explanation of phenomena. This enabled the researchers to understand the tasks taking place, document links and events in chronological order and identify areas to improve organisation performance and make recommendations for future actions (Yin, 2009 p.147-159). This was used in understanding the design process and influences that affected the various stages. Qualitative content and thematic analysis were employed on the convergence of evidence. An analysis model was also adapted (Figure 6) to code and analyse the data (Atkinson, 2002).

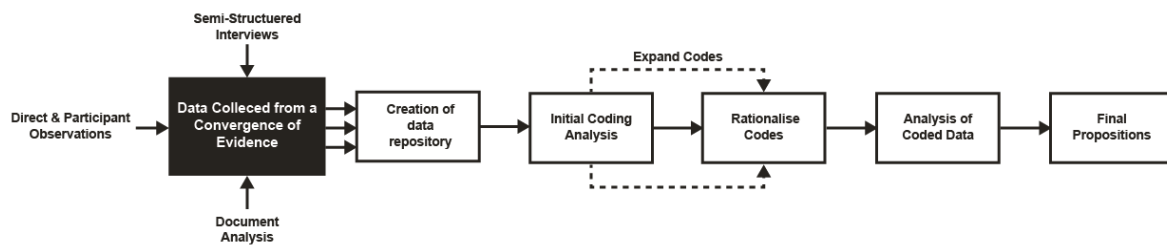


Figure 6. Adapted Model for Case Study Data Analysis

Excel meta-matrixes and Nvivo 11 were used to help manage data, identify themes and code data. Existing qualitative case studies in the area of product design and FMCG packaging were also utilised to aid in a presentation of a narrative description of findings (Crilly et al., 2009; Rynänen & Hakatie, 2013, 2014; Vazquez et al., 2003).

4.1 Preliminary Data Analysis

To interpret the data collected, a detailed review of field notes, interview transcripts and project documents was undertaken. These contributed to a greater understanding of practitioner rationalisation and decision-making in concept generation and selection. Reoccurring themes and critical insights were highlighted for further analysis. Interesting areas of discovery were also highlighted for possible further investigation post-analysis. This study is part of an ongoing PhD research programme and the data presented here contains initial conclusions from the analysis from one industry case. It is evident that some distinct themes have emerged. However, additional data should now be collected from other UK based packaging designers and FMCG companies to help validate and generalise some of the preliminary findings in this study. Based on the data collected, preliminary conclusions drawn are outlined in Figure 7.

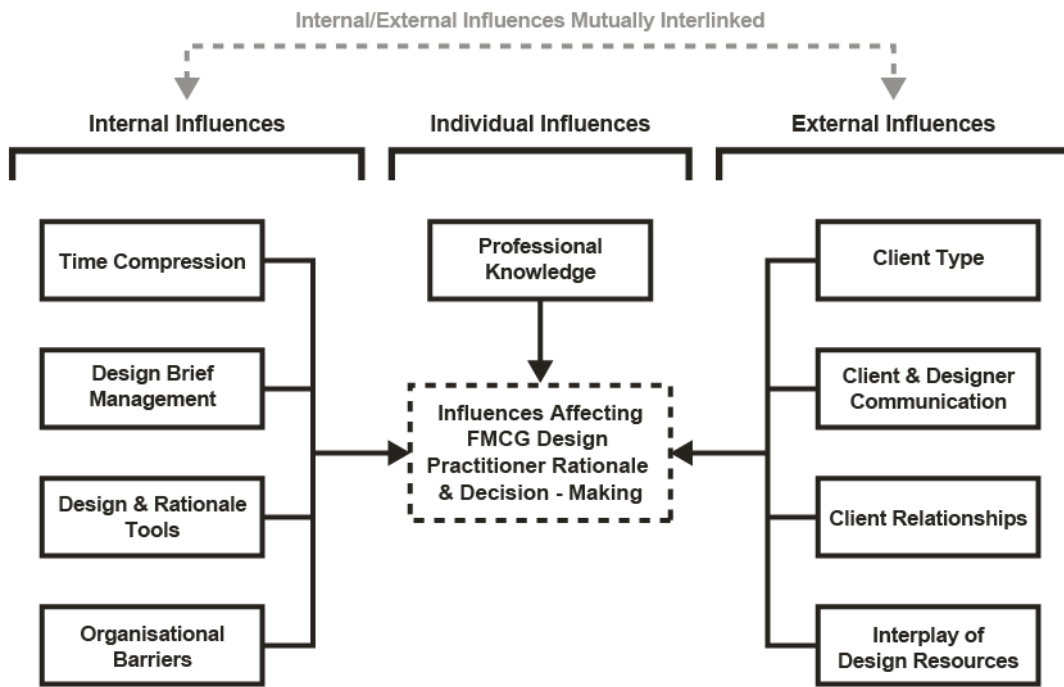


Figure 7. Preliminary Model of Influences affecting Practitioner Rationale and Decision-Making in FMCG Packaging Development

4.2 Preliminary Case Findings

A short narrative of each theme is presented of each of the findings from the evidence collected from across the research methods used for data collection. Specific example quotes from the semi-structured interviews (phase 4) are presented and used to support and provide context to the themes described.

4.2.1 Time Compression

The primary influence affecting practitioner rationale and decision-making was the recurring and increasing burden of *'time compression'*. Time frame and the associated expectations of design briefs appeared to affect design outcome significantly; and, the ability for practitioners to effectively rationalise concepts.

"...back in the day two weeks, now two to three days....it's the supermarkets that drive it and put pressure on the companies...it's hard to say to them, do you want something really good or something mediocre..."

(PD008, Structural Designer)

Short deadlines for design activities seem to be particularly prevalent in the FMCG industry. Driven by industry culture, increasing pressure from UK retailers on their suppliers causes a reduction in time allocated to packaging concept development. Practitioners repeatedly expressed frustration over the time provided to complete briefs for the expected level of design outcomes by clients.

“Time is clearly driven by the culture [FMCG Industry]...the retailers drive the perceived need to have everything yesterday... we are often some of the last people in the chain...there hasn't been any time allocated for any sort of feedback loops or any problems that we may encounter...”

(PD007, Design Manager)

The client-driven service attitude of the FMCG industry means expected turnaround for design projects is short. The need for a greater understanding of realistic expected outcomes and timeframes is evident. However, the competitive nature between design services could imply that firms will accommodate these time compressed deadlines to secure design work.

4.2.2 Design Brief Management

Management and quality of design briefs appeared to impact practitioner decision-making. A high-quality brief was said to include sufficient information of the intended product contents and its dimensions, design direction, product positioning and filling/production requirements. This would allow for the generation of appropriate design concepts within the timescale given. Often, very little information was provided on design briefs or sometimes it was missing altogether. Design instructions within the briefs observed included common, vague directions such as *'blue-sky thinking'*, *'eye-catching'* or *'innovative ideas'*. Whilst this could be seen as providing creative freedom in concept generation for designers; in turn, this could be seen as potentially restrictive due to the lack of more specific direction. This could potentially lead to increased brief misinterpretation, as in some cases observed. Ill defined or missing information from briefs sometimes led to designers spending valuable additional time searching for or requesting this information. This could limit the designers ability to produce well-rationalised design concepts due to uncertainty in their propositions.

“They were pretty vague in what they wanted...we had to research what products they produced...we just threw everything at them...and hope some of it hits the mark...”

(PD010, Conceptual Designer)

Parameters were evident in the formal briefing process used by the company, employing specific software and protocols. However, information was still often absent or incorrect. Comments in briefs indicated designers to discuss the project with other staff members for extended details based on phone calls or emails often substituting the formal briefing process. When possible, especially with more complex and demanding briefs, designers would insist on inclusion in the client facing briefing to try to actively try and eliminate some of these inefficiencies. However, this was not always possible.

“...to get the best designs is to get a good brief and ask the right questions as well...a long-term brief that may take a couple of months or 2 or 3 weeks Those are the major ones; and, the ones where I almost insist on being there.”

(PD009, Design Manager)

Multiple individuals were involved in acquiring, documenting and delivering brief information to the design teams. Briefs were often taken by key account managers or other internal/external sales representatives who were not fluent in design or departmental

terminologies. Essential information could be misconstrued or improperly documented altogether resulting in designers misinterpreting the brief. This was reported to be a barrier to effective design decision-making and impacting concept design outcome. Designers would have to find additional information, either through repeated contact with account managers or by contacting clients directly. In one particular direct observation, a designer was actively criticized by a client for their design output due to misinterpretation and brief communication failures causing confusion and frustration to the designer and design team.

“...it's down to the mindset of our customers and staff. Do they know what a designer needs to know, probably not...at the end of the day they don't have technical backgrounds, they don't have design backgrounds...”

(PD004, Design Manager)

In some cases observed, the briefs would be altered (for example, intended product contents or design outcome delivery date) without informing design practitioners. In other cases, changes made in client-facing meetings were not always formally documented. This resulted in miss-match of expectation potentially causing errors in concepts produced. This, in turn, generated frustration, wasted time and communication breakdown during the concept design process.

4.2.3 Client-Designer Communication

Continuing from the theme above & highly linked, communication streams between designers and clients impaired decision-making. Although design briefs were provided for task clarification, many of these briefs were initially interpreted by non-experts, key account managers. This linear method of information management and inefficient translation meant details were often missed that may be useful to the designer fully understanding the intended design outcome. The lack of information can have a profound effect on the interpretation of briefs.

“...account managers take briefs...they won't necessarily ask the right questions...if I'm not present or another designer is not present, the likelihood of us hitting the brief is less...”

(PD009, Design Manager)

The use of these multi-layer communication channels between client and designer meant essential information was sometimes lost, as well as the opportunity to gain practical and timely feedback from clients. This often meant that designers would not know if clients were satisfied with their design rationale and associated outcomes.

“...I send off all my work [to the account manager]...there is no talking to the client...getting feedback on work and how we can improve that in the future.”

(PD010, Conceptual Designer)

4.2.4 Client Type

Two roles are prominent in the delivery of design briefs; marketing and technical perspectives. Each held different priorities when it came to 'good' design outcome and expected decision-making from practitioners. Marketing perspectives focused on visual design elements and shelf presence. Packaging technologists and procurement/packaging buyers prioritised supply chain feasibility, cost and production constraints tending to be

adverse to the adoption of new packaging concepts and moving away from more generic 'off the shelf' and well-established formats.

"...it is important to know the audience before if you are presenting...you need to design something that will appeal to all parties if you can..."

(PD009, Design Manager)

Designers sometimes dealt with retailers directly. This often produced a more proactive design approach. This potentially increased practitioners' ability to validate and rationalise design concepts as time pressures could be relieved. There was greater opportunity for feedback and design iteration.

"...we then had some customer feedback. We did some insights, some more ideas, a consumer panel to validate it...because that was direct with Retailer X they saw the value and importance..."

(PD004, Design Manager)

Although the suppliers of the retailers would tend to have more control over packaging format choice used in a concept or final product. Design activities directly with retailers appeared to provide a greater opportunity to provide more considered design solutions without the additional influence of product suppliers.

4.2.5 Design and Rationale Tools

Tools varied greatly depending on the time and resources allocated to design briefs. The use and reliance on tools also varied between practitioners. However, it was apparent that there were some common themes which they shared. One of these was the use of acronyms to provide a set of general principles for the designers to follow and execute design activity learnt in either in design school education or on specialist courses.

Designers would also keep themselves informed through generic day-to-day desk based research of news articles and industry specific forum sites on industry trends, areas of debate (such as the single-use plastics debate) and generic design research into new product/packaging developments. This would be included in many office based conversations and included in their outside of studio work activities as well. In time compressed situations, research was often limited to desk-based research activities using online resources such as 'Mintel', 'The Dieline' 'Instagram' and 'Pinterest' to inspire ideas and concept generation. This was also used as sources to support design concept rationale. Competition analysis was often conducted before starting any concept development. Some practitioners expressed they designed in isolation initially as not to be biased by preliminary exposure to potentially 'restrictive inspiration'. In many cases where time compression was reduced, research activities included gathering marketing insights and in-store visits. Observing consumer behaviour and packaging interactions allowed practitioners insight into consumer product engagement; and, for whom they are designing for.

"...they [marketing] are generally observing consumer behaviour, people attitude, which demographics are walking in the store.... I am observing how they are using the packs..."

(P004, Design Manager)

Social media was a key tool utilised by practitioners with recurring use of *'Instagram'*. This site can easily be used to navigate food and design trends through the search of hashtags and influencer blogs. This was specifically used in ideation support and mood board development. *'Trend boards'* produced internally was often utilised. Developed through primary and secondary research into the global fashion trends, these help support design decision-making. These contain colour palette swatches, contextual imagery and packaging print finish applications to support design decisions in client presentations.

"...if we are proposing new graphic ideas or print finishes; it is useful to have the trends to show what we have done..."

(PD003, Conceptual Designer)

FMCG NPD exhibitions were visited to gain insights into product categories practitioners design for. This allows for improved alignment of the designs they produce; and, further, inform practitioners within their area of design expertise. New products require new packaging solutions. When FMCG designers do not have time to do research they can utilise this experiential knowledge.

The use of paid stock imagery and vector sites were also used regularly in the design practice of practitioners to complete artworking tasks. This appeared to help save time in design practice activities whilst still producing high quality artworks. This also allowed those with less experience in vector artwork creation to manipulate existing vector designs. The use of high quality stock photos also meant realistic packaging artworks could be produced without the need for product photography to be produced and, help save design activity time.

4.2.6 Use and Reliance of Professional Knowledge

Designers often draw from previous experiences and their own knowledge during concept development and selection. Although design and rationale tools were available, in many cases practitioners often relied heavily on their professional connoisseurship. From decision-making witnessed, especially when time compressed, designers drew from this. More experienced practitioners relied more on this knowledge-base.

"... I don't really go on marketing, I kind of just go for it [sic]"

(PD009, Structural Designer)

Junior practitioners would seek validation of concepts through the affirmation of senior designers to make sure the concepts were feasible and appropriate. This was not mutually exclusive to just juniors. Participants expressed knowledge sharing and opinion consensus was a key method for validating and rationalising concepts.

"...people within that team go 'that looks awesome', 'what's your thought on that'; or, even someone in a different section of the business walking past going 'what's that for'...the feedback and reinforcement is really helpful. [sic]"

(PD010, Conceptual Designer)

Although the use of additional validation methods (marketing insights and design research methods), practitioners on a day-to-day basis relied heavily on idea recycling and their expertise. This was particularly prevalent in situations with time and resource limitations.

“...originality [is lost]...if we are struggling for time we might reuse some things that we know that work.”

(PD003, Conceptual Designer)

4.2.7 Client Relationships

Recurring design work often means a professional relationship forms between designer and client. In some incidents, this meant information would be attained easier; or, practitioners better understand production capabilities of the clients packing lines within their supply chain. This in cases discussed and observed meant designers were able to quickly justify their decision-making because of this previously attained knowledge from that relationship. However, designers would become accustomed to client requirements and limit conceptual design decision-making.

“...they are not going to go for it because they are all about cost effective... we know them over the years, they never change.”

(PD008, Structural Designer)

Although potentially limiting, this can increase clients trust in practitioners for delivering feasible, timely concepts leading to design outcome adoption. Opposing this, this could also drive unrealistic expectations of the designers and increased expectations on the design output time-scale, designs work from these clients would often be expected as a priority and produced rapidly.

4.2.8 Interplay of Multiple Design Resources

The role of the ‘packaging designer’ is often described within literature as a holistic, multi-disciplinary role appearing to encompass both structural and graphic design knowledge. However, in reality the role of the packaging designer requires specialist technical knowledge. Multiple roles are assigned to facilitate the industrial design process, such as graphic, conceptual, structural and technical/production designers all contributing to the final designed artefact. However, in this case, majority of these roles appear to sit within the Original Equipment Manufacturers (OEMs), such as packaging converters or manufacturers. This could affect the other external designer's decision-making and rationalisation techniques due to a potential lack of knowledge or expertise. For example, designers within independent design agencies relying heavily on OEMs for concept feasibility in later stages of concept development or in-house design resources sitting within suppliers of retailers contributing to the design process.

“...customers have spent tens of thousands with design agencies...they would even come up with some flat blank proposals. You would look at it and go, that's never going to work in a million years...”

(PD007, Design Manager)

It is evident that graphics and structural design should be considered in synergy, yet this seems to not be the case in industrial practice. Linear approaches were undertaken where the structure would be predetermined and graphics applied to structures built first or ‘off the shelf’ formats selected with accommodating graphics. Design agencies were criticised for impractical structural designs in concept development, such as improper consideration of

colour and print finish for pre-press and overall structural feasibility, causing frustration to OEM based design practitioners when being handed initial concepts to develop further.

Decision-making appears to be hindered by a lack of communication and willingness to collaborate between these parties in accounts discussed. The linear, and sometimes isolated, design process between design resources could restrict efficient decision-making due to this lack of parallel and collaborative working activities.

"...if you cut them out we have all the expertise here...they look all shiny in their London office...however, there is no basis in packaging... even if there was more of a dialogue between those three people [agency, OEM and brand]..."

(PD003, Conceptual Designer)

OEMs attempt to help realise initial concepts to make them commercially viable. However, this disconnect shows clear knowledge gaps in concept development of certain design resources affecting rationale and decision-making of the practitioners involved. Even with criticism toward design agencies from an OEM practitioner perspective, an element of necessity and respect towards agencies was also documented through marketing/category managers observed from client facing meetings.

"...marketers will go to an independent design agency because they are not going to be force fed a product [packaging concept], they want to have something that is the best solution for them..."

(PD007, Design Manager)

4.2.9 Organisational Barriers

Although designers would produce more complex designs requested by clients, pressures from "shop floor" to produce more economical designs to meet key performance indicators (KPIs) was a barrier against decision-making. Designs that were less complex to make could be produced and assembled quicker and more efficiently.

"...we were told not to go down the complicated route and keep things straight forward... their volumes are going to be smaller, and they are measured on their KPIs based on volume not based on profit..."

(PD006, Structural Designer)

FMCGs in their nature are production orientated. It appeared that from the perspective of those not involved in the design process, such as production managers, would not see the value of more complex or time demanding concepts. These designs would maybe have more significant downstream economic benefits, for example, gaining the trust and repeated design work of a new client. Even though the design practitioners' proposals maybe feasible, the unwillingness to accommodate the design by production was evident.

"...it's a bit of a pain, but we can do it. Our competitors can do it, but they [production] refuse to do it here because it slows down production..."

(PD008, Structural Designer)

Although design practitioners would want to push complexity to accommodate the requests and needs of clients preferred design concepts, manufacturing and technical restrictions of the firm would be a key restriction in decision-making. Some concepts were just not feasible or too costly to produce in either a specific material or on the machinery used within the packaging converter.

5 Discussion and Future Work

FMCG packaging is a commercially and production directed form of design practice. Great care must be taken by design practitioners when delivering feasible, cost-effective; yet, highly aesthetic and desirable design concepts. A robust and comprehensive method of observing FMCG design practitioners in a 'real world' environment has now been established. This research has identified nine preliminary categories influencing practitioner rationale and decision-making (Figure 7). Marketers, brand and category managers in NPD appear to lack technical packaging design knowledge relying heavily on decision-making and rationale of these designers. Many influences appear to affect the decision-making capabilities of FMCG designers as discussed; yet, the industry culture hinders their activities. It is apparent that potentially reducing the '*time compression*' on practitioners would allow for iterations of concepts; and, in some cases for ideas to be tested at this early stage . However, this would need retailers/brands to be convinced to invest that additional time. In shorter design projects, this would not be feasible.

In the case presented, practitioners are adapting to these increasing time pressures by producing tools to aid in concept rationalisation. However, there is still a heavy reliance on a practitioners' professional knowledge. Non-experts and design practitioners should also look to develop a more common language to more effectively understand what needs to be documented to efficiently specify design work to practitioners; and, not further restrict short timeframes for design work. Lack of communication and knowledge transfer between critical parties has led to many situations where feasibility is not addressed early enough. Concepts produced outside of OEMs means additional time to redevelop concepts for commercial viability, in some cases drastically changing design outcome. This aligns with findings by Simms & Trott (2014 p.2021) where technical development is "*inadvertently overlooked*" in earlier stages. However, OEMs struggle to establish and maintain long-term relationships from a design perspective (Simms & Trott, 2014 p.2020).

For larger projects involving other design resources (such as design agencies), the research could suggest individuals involved in NPD should look to reduce the level of the isolated, linear communication streams and foster a more parallel design process (Figure 8). These individuals should possibly build more significant relationships with their OEMs to address feasibility from the beginning to ensure effective design decision-making and concept rationale to reduce unforeseen time wastage and cost, highlighting the value of good quality design practice. This research aligns with the findings of Simms & Trott (2014) and confirms that packaging development is being overlooked and needs to be managed and monitored with more care than it currently is.

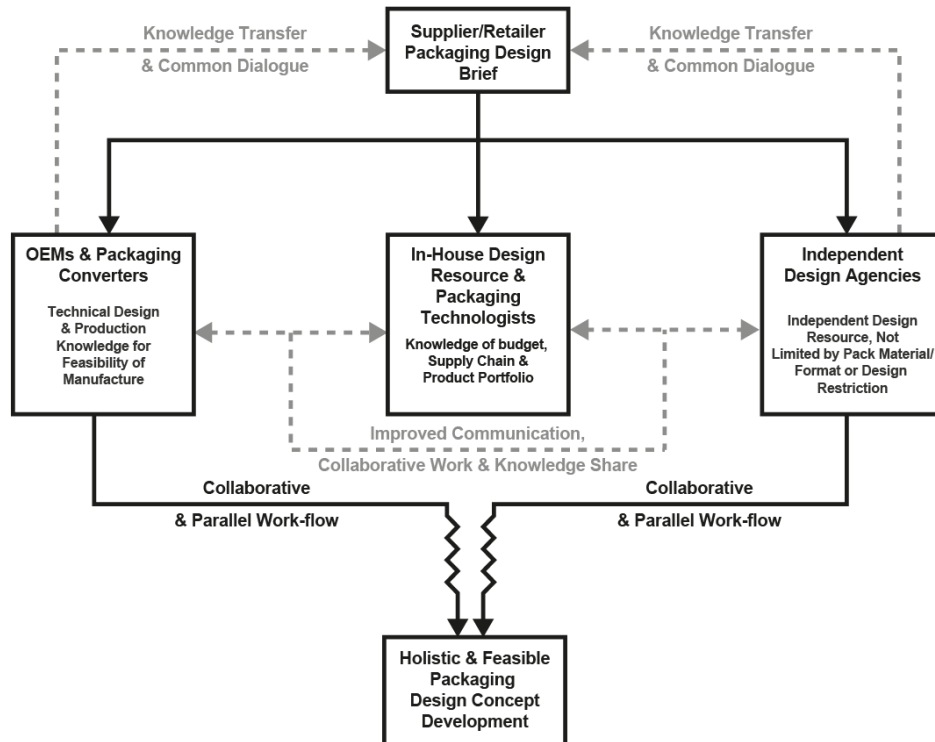


Figure 8. Preliminary Theoretical Parallel Work-flow Model in Conceptual FMCG Packaging Design Development

Now that a robust methodology has been established for the observation of FMCG design practice, future research should look to simulate and employ similar approaches to understand further the factors influencing FMCG practitioner decision-making and rationale. An investigation of a wider UK context would help confirm some of these preliminary findings and see if they are shared in other UK design resources in retailers, food manufacturers, suppliers, OEMs and design agencies. Additional research should also be undertaken into how FMCG packaging design briefs are formulated, how does this impact design work practice and does this impact communication between designer and client in the concept design process? What are the expected outputs from the designers? This could look to help understand expected design outcomes to improve FMCG design process management.

6 Limitations

This research identifies findings based on one case study conducted in the UK. Although some prior research has been conducted, additional research needs to be undertaken around the UK to be able to generalise and confirm these results. This study should be seen as a preliminary attempt to address the factors influencing practitioner decision-making in FMCG packaging development.

Focus on the design practice of FMCG designers in this case was for food and beverage products such as ready meals, packaged meats, cakes, ambient food products and food-to-go. More effort into other areas of FMCG would be needed to help generalise these results as these may not be reflective of product categories that may have longer development phases not observed in this case.

7 References

- Ampuero, O., & Vila, N. (2006). Consumer perceptions of product packaging. *Journal of Consumer Marketing*, 23(2), 100–112. <https://doi.org/10.1108/07363760610655032>
- Atkinson, J. (2002). Four steps to analyse data from a case study method. *ACIS 2002*. Retrieved from <https://aisel.aisnet.org/cgi/viewcontent.cgi?article=1138&context=acis2002>
- Azzi, A., Battini, D., Persona, A., & Sgarbossa, F. (2012). Packaging design: general framework and research agenda. *Packaging Technology and Science*, 25(8), 435–456. <https://doi.org/10.1002/pts.993>
- Barnes, C., Childs, T., Henson, B., & Lillford, S. (2008). Kansei engineering toolkit for the packaging industry. *The TQM Journal*, 20(4), 372–388. <https://doi.org/10.1108/17542730810881357>
- Bloch, P. H. (1995). Seeking the ideal form: product design and consumer response. *Journal of Marketing*, 59(3), 16–29. <https://doi.org/10.2307/1252116>
- Bobbe, T., Krzywinski, J., & Woelfel, C. (2016). A comparison of design process models from academic theory and professional practice. In *14th International Design Conference* (pp. 1205–1214). Retrieved from <https://www.designsociety.org/publication/38931/a+comparison+of+design+process+models+from+academic+theory+and+professional+practice>
- British Standards Institution. (2008). *BS 7000-1: Design management systems. Guide to managing innovation*.
- British Standards Institution. (2015). *BS 7000-2: Design management systems. Guide to managing the design of manufactured products*.
- Bruce, M., & Daly, L. (2007). Design and marketing connections: creating added value. *Journal of Marketing Management*, 23(9–10), 929–953. <https://doi.org/10.1362/026725707X250403>
- Bryman, A. (2012). *Social research methods*. Oxford University Press.
- Cash, P. J., Hicks, B. J., & Culley, S. J. (2013). A comparison of designer activity using core design situations in the laboratory and practice. *Design Studies*, 34(5), 575–611. <https://doi.org/10.1016/J.DESTUD.2013.03.002>
- Chan, F. T. S., Chan, H. K., & Choy, K. L. (2006). A systematic approach to manufacturing packaging logistics. *The International Journal of Advanced Manufacturing Technology*, 29(9–10), 1088–1101. <https://doi.org/10.1007/s00170-005-2609-x>
- Clarkson, J., & Eckert, C. (2005). *Design process improvement : a review of current practice*. Springer.
- Collins English Dictionary. (2018). Concept definition and meaning, Collins English Dictionary.
- Creswell, J. W. (2014). *Research design : qualitative, quantitative, and mixed methods approaches*. SAGE Publications.
- Crilly, N., Moultrie, J., & Clarkson, P. J. (2004). Seeing things: consumer response to the visual domain in product design. *Design Studies*, 25(6), 547–577. <https://doi.org/10.1016/j.destud.2004.03.001>
- Crilly, N., Moultrie, J., & Clarkson, P. J. (2009). Shaping things: intended consumer response and the other determinants of product form. *Design Studies*, 30(3), 224–254. <https://doi.org/10.1016/j.destud.2008.08.001>

- Cross, N., & Clayburn Cross, A. (1995). Observations of teamwork and social processes in design. *Design Studies*, 16(2), 143–170. [https://doi.org/10.1016/0142-694X\(94\)00007-Z](https://doi.org/10.1016/0142-694X(94)00007-Z)
- Dorst, K., & Cross, N. (2001). Creativity in the design process: co-evolution of problem–solution. *Design Studies*, 22(5), 425–437. [https://doi.org/10.1016/S0142-694X\(01\)00009-6](https://doi.org/10.1016/S0142-694X(01)00009-6)
- Eckert, C. M., & Stacey, M. K. (2010). What is a process model? Reflections on the epistemology of design process models. In *Modelling and Management of Engineering Processes* (pp. 3–14). London: Springer London. https://doi.org/10.1007/978-1-84996-199-8_1
- Francis, M., Dorrington, P., & Hines, P. (2008). Supplier led new product development process improvement in the uk fast moving consumer goods industry. *International Journal of Innovation Management*, 12(02), 195–222. <https://doi.org/10.1142/S1363919608001959>
- Gericke, K., & Blessing, L. (2012). An analysis of design process models across disciplines. In *DS 70: Proceedings of DESIGN 2012, the 12th International Design Conference, Dubrovnik, Croatia* (pp. 171–180). Retrieved from <https://www.designsociety.org/publication/31984/an+analysis+of+design+process+models+across+disciplines>
- Gericke, Kilian, & Blessing, L. (2011). Comparisons of design methodologies and process models across domains: a literature review. In *Proceedings of the 18th International Conference on Engineering Design (ICED 11), Impacting Society through Engineering Design, Vol. 1: Design Processes, Lyngby/Copenhagen, Denmark, 15.-19.08.2011* (pp. 393–404). Retrieved from <https://www.designsociety.org/publication/30438/comparisons+of+design+methodologie+s+and+process+models+across+domains%3a+a+literature+review>
- Howard, T. J., Culley, S. J., & Dekoninck, E. (2008). Describing the creative design process by the integration of engineering design and cognitive psychology literature. *Design Studies*, 29(2), 160–180. <https://doi.org/10.1016/J.DESTUD.2008.01.001>
- Johnson, N. S., Torrens, G. E., & Storer, I. (2019). Communicating the value of design: Design considerations to assist practitioner rationale in fmcg packaging development. In *Academy for Design Innovation Management*. London. Retrieved from https://www.researchgate.net/publication/334195074_Communicating_the_Value_of_Design_Design_Considerations_to_Assist_Practitioner_Rationale_in_FMCG_Packaging_Development
- Loughborough University. (2018). Codes of Practice | University Committees | Loughborough University. Retrieved December 27, 2018, from <https://www.lboro.ac.uk/committees/ethics-approvals-human-participants/additionalinformation/codesofpractice/>
- Martin, B., & Hanington, B. M. (2012). *Universal methods of design : 100 ways to research complex problems, develop innovative ideas, and design effective solutions*. Rockport Publishers.
- McNiff, J., & Whitehead, J. (2011). *All you need to know about action research* (2nd ed.). SAGE.
- Mumani, A., & Stone, R. (2018). State of the art of user packaging interaction (UPI). *Packaging Technology and Science*. <https://doi.org/10.1002/pts.2363>
- Prendergast, G., & Pitt, L. (1996). Packaging, marketing, logistics and the environment: are there trade-offs? *International Journal of Physical Distribution & Logistics Management*, 26(6), 60–72. <https://doi.org/10.1108/09600039610125206>

- Robson, C. (2002). *Real world research : a resource for social scientists and practitioner-researchers*. Blackwell Publishers.
- Rudder, A., Ainsworth, P., & Holgate, D. (2001). New food product development: strategies for success? *British Food Journal*, *103*(9), 657–671.
<https://doi.org/10.1108/00070700110407012>
- Rundh, B. (2009). Packaging design: creating competitive advantage with product packaging. *British Food Journal*, *111*(9), 988–1002.
<https://doi.org/10.1108/00070700910992880>
- Ryynänen, T., & Hakatie, A. (2013). Low involvement, low price and low quality image renegotiated – a case study of staple food package design. *The International Review of Retail, Distribution and Consumer Research*, *23*(2), 204–219.
<https://doi.org/10.1080/09593969.2012.759611>
- Ryynänen, T., & Hakatie, A. (2014). “We must have the wrong consumers” – a case study on new food product development failure. *British Food Journal*, *116*(4), 707–722.
<https://doi.org/10.1108/BFJ-08-2012-0215>
- Ryynänen, T., & Rusko, E. (2015). Professionals’ view of consumers’ packaging interactions - a narrative analysis. *Packaging Technology and Science*, *28*(4), 341–355.
<https://doi.org/10.1002/pts.2107>
- Silayoi, P., & Speece, M. (2007). The importance of packaging attributes: a conjoint analysis approach. *European Journal of Marketing*, *41*(11/12), 1495–1517.
<https://doi.org/10.1108/03090560710821279>
- Simms, C., & Trott, P. (2010). Packaging development: A conceptual framework for identifying new product opportunities. *Marketing Theory*, *10*(4), 397–415.
<https://doi.org/10.1177/1470593110382826>
- Simms, C., & Trott, P. (2014a). Conceptualising the management of packaging within new product development : A grounded investigation in the UK fast moving consumer goods industry. *European Journal of Marketing*, *48*(12/2), 2009–2032. Retrieved from
<https://doi.org/10.1108/EJM-12-2012-0733>
- Simms, C., & Trott, P. (2014b). The dysfunctional nature of packaging development: an exploratory study in the uk food industry. In *DRUID Society Conference* (pp. 16–18). Copenhagen, Denmark: Copenhagen Business School. Retrieved from
https://conference.druid.dk/acc_papers/5gjbko1lperoy6kr3yo7soncs5xb.pdf
- Simons, H. (2009). *Case study research in practice*. SAGE.
- Spence, C. (2016). Neuroscience-Inspired Design: From Academic Neuromarketing to Commercially Relevant Research. *Organizational Research Methods*.
<https://doi.org/10.1177/1094428116672003>
- Ullman, D. G. (2010). *The mechanical design process*. McGraw-Hill Higher Education.
- Ulrich, K. T., & Eppinger, S. D. (2008). *Product design and development* (4th ed.). New York, New York, USA: McGraw-Hill.
- Vazquez, D., Bruce, M., & Studd, R. (2003). A case study exploring the packaging design management process within a UK food retailer. *British Food Journal*, *105*(9), 602–617.
<https://doi.org/10.1108/00070700310497345>
- Wansink, B., & Huffman, C. (2001). A framework for revitalizing mature brands. *Journal of Brand and Product Management*, *10*(4), 228–242. Retrieved from
https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2715011
- Wynn, D., & Clarkson, J. (2005). Models of designing. In *Design process improvement* (pp. 34–59). London: Springer London. https://doi.org/10.1007/978-1-84628-061-0_2

- Yin, R. K. (2009). *Case study research : design and methods* (4th ed.). SAGE.
- Young, S. (2002). Packaging design, consumer research, and business strategy: The march toward accountability. *Design Management Journal (Former Series)*, 13(4), 10–14. <https://doi.org/10.1111/j.1948-7169.2002.tb00324.x>
- Zeisel, J. (2006). *Inquiry by design : environment/behavior/neuroscience in architecture, interiors, landscape, and planning*. W.W. Norton & Company.

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