CHAPTER 10: CONCLUSIONS

10.1 Introduction

The FMCG industry has become increasingly competitive, with both private and own label products competing for consumer attention on supermarket shelves. Within this environment, packaging has become increasingly significant: further driven by consumers' need for convenience, rising expectations, and environmental concerns. This has resulted in an increasing emphasis on packaging, particularly with regard to design and marketing communications. It is clear that packaging development and technology provide the opportunity for firms to increase their competitiveness and provide new customer benefits.

This research is understood to be the first empirical study of its kind, investigating firms management of packaging within their NPD activities. The study examined how firms manage packaging within their NPD process, and how the development of new packaging contributes to new product opportunities. In order to build a more comprehensive understanding of the management of packaging development, this study incorporated the significance of suppliers and their technologies, role of design agencies, and significance of both absorptive capacity and the production process. It involved a preliminary research phase, followed by two key data collection phases to address the research questions. The development of a new framework and typology has significantly contributed to the literature and understanding of the issues concerning the research context.

The following sections will evaluate the substantive findings of this research, particularly in relation to prior research, examine the implications of the key findings, and detail the limitations of the study and implications for future research.

10.2 Evaluation of the Substantive Findings and Contributions to the Literature

10.2.1 Development of Typology

The findings of the first phase of data collection resulted in the development of a new typology of ‘packaging penetration’. This typology provides a new perspective on packaging when contrasted with the existing literature (see Section 5.2).
Prior studies of packaging have primarily explored and examined its marketing communications, branding, and distribution roles (see Section 5.2; Simms and Trott, 2010). The typology presented in Chapter 7 provides new insights into the different levels at which packaging development can be viewed. The identification of the three levels of packaging penetration highlights key shortcomings of the existing literature: The majority of prior studies have failed to address packaging development at the level of technological and format change, as Simms and Trott (2010) have suggested.

The typology contributes to two areas of the literature: Firstly, it builds on the prior models of NPD within the FMCG industry (see Sections 3.4.1 and 3.4.2). The typology provides a new perspective on packaging, revealing that the majority of these studies solely provide insight into packaging activities at the level of skin deep or body modification (e.g. Francis et al., 2006; Francis, 2009; MacFie, 1994; Bigliardi et al. 2010). Secondly it contributes the models of packaging design and innovation (see Section 4.2.4). This new perspective reveals that these studies have emphasised packaging at the level of design and label changes (e.g. Vazquez, 2003; Gofman et al., 2010; see Section 4.2.4). Once again, technical development has been overlooked. The typology, alongside the empirical study itself, extends our knowledge beyond the superficial level of prior studies. It acts as an important first step in understanding these different levels of packaging development.

An analysis of packaging development within firms utilising the typology creates new insights, as is evident in the findings of phase two. These reveal that for many firms, packaging development solely occurs at a skin-deep and body modification level, while new packaging formats are overlooked. Hence, the typology helps to explicate the lack of a pipeline of packaging innovations within firms and provide new understanding of the nature of this problem (Ahmed, 2005). The typology provides a new perspective on the management of packaging development development.

10.2.2 Development of the Packaging Management Framework

The framework presented in Chapter 7 (Figure 7.3) represents a key output of the study, and is developed using an interpretive approach: drawing on existing theory and combining this with the primary data. Prior research has highlighted a lack of packaging theory within the marketing literature (Johnsson, 1998; Saghir, 2002;
Rundh, 2005; Simms and Trott, 2010). This study has contributed by providing conceptually developed and evidence based research.

Marketing management literature fails to capture the complexities of new packaging development (see sections 3.4.1; 3.4.2.3; 4.2.4 and 5.2); hence, it offers limited insight into the management of packaging within NPD projects, and the potential contributions of packaging technology and innovation. The framework of packaging management developed in this research provides a unique contribution, utilising three perspectives with which to build new understanding. This framework, combined with the typology, provides insight beyond the superficial level of prior research. It captures the key factors that determine the level of emphasis within a firm’s packaging activities. This new perspective highlights a need for research in marketing to move beyond the existing, limited view.

The new packaging management framework contributes to existing models of NPD, and increases our understanding of packaging development. The existing models of NPD in the FMCG industry, and food and drinks sectors, (see Sections 3.4.1 and 3.4.2) incorporate an activity-based perspective (e.g. Francis et al., 2006; Francis, 2009; MacFie, 1994; Bigliardi et al. 2010). For example, Francis et al. (2009) developed a model of NPD within ASDA, the UK grocer, in a study focused on process improvement. This model arguably provides the greatest insight within the existing literature. Yet, it does not examine the nature of packaging activities being undertaken, but merely provides insights into its positioning within the overall process. By contrast, the packaging management framework provides deeper understanding.

The packaging management framework presented in this thesis also contributes to existing models and frameworks of packaging innovation and design (see Section 4.2.4), providing conceptually developed evidence based thinking. The existing conceptual models of packaging innovation fail to provide meaningful insights from evidence-based research within firms. For example, Rundh (2005; 2009) Ahmed (2005) and Cole and Beharrell (1990) all present conceptual work, whilst Vernuccio et al.’s (2010) study fails to undertake primary data collection. With respect to the prior models of packaging design (e.g. Vazquez, 2003; Gofman et al., 2010; Vazquez, 2003; Raper, 2000), the new framework also reveals that these studies
have failed to fully uncover the role of packaging in NPD, or the factors impacting on its role within firms. The unique framework provides new and more detailed insights.

This research reveals that the specific nature of packaging activities undertaken by firms, and how these are integrated into the NPD process, is determined by the packaging absorptive capacity of the firm (see Section 4.4.1). This capacity is also determined by the extent of packaging champions, and level of technical expertise within the firm. This finding supports the research of Teece, et al. (1997), Zander and Kogut (1995) and Zott (2001). Increasing a firm’s packaging absorptive capacity may also help to lower barriers to technological change, which are commonly present in the FMCG industry.

The development of packaging within branded and own brand products has been a previously unexplored area. This thesis, and the packaging management framework presented within it, acts as an important step in advancing theoretical knowledge of the management of packaging development beyond the level of graphic design and marketing communications, providing a different theoretical lens through which the processes within each of these types of firms can be viewed.

The NPD and innovation literature contains relatively few studies on process industries (Simms and Trott, 2011; Lager and Blanco, 2010). The research presented within this thesis adds to the current stock of knowledge. The case study research method has made it possible to gain rich insights into a number of challenges to technological packaging change within the industry (captured within the framework). A key contribution is the development of seven propositions, also represented within the framework. These propositions form the basis of an agenda for future research.

10.2.3 The Management of Packaging within the New Product Development Process

Prior studies on NPD within the industry have primarily provided detail on the development of the core product (see Sections 3.4.1 and 3.4.2), and failed to provide insight into the management of packaging. Importantly, the packaging management framework presented in this study has extended current understanding of the management of packaging within NPD (e.g. Francis et al., 2006; Francis, 2009; MacFie, 1994).
Simms and Trott (2010) and Ahmed et al. (2005) have suggested a need to consider the product and packaging holistically within development. This research reveals that this is frequently not the case, as NPD activities of firms are commonly centred around the development of the core product. As the stages identified in Francis et al. (2006)’s model suggest, packaging development receives little attention; and the emphasis is on aesthetic design and label changes. The results of this research provide new understanding, revealing that this emphasis results in the opportunities presented by new packaging technologies and formats largely being overlooked. Yet the findings also provide support for the benefits of a holistic approach; the only NPD project involving format change was also the only project providing evidence of this approach. The framework and propositions capture a number of factors that influence the emphasis within firms, although further research would be of benefit in analysing this to a greater extent.

The packaging management framework provides new insights into the role of packaging suppliers. Suppliers have been found to play an increasingly important role in NPD and innovation (see Section 4.4). Moreover, research (Hollingsworth, 1995; Galazzi and Venturi, 1996) has suggested that packaging suppliers are becoming increasingly significant to NPD in the industry. Yet this thesis uncovers a number of critical factors that result in firms frequently failing to capture the potential opportunities presented by technological developments within packaging suppliers. Lack of absorptive capacity was found to be particularly critical in firms’ failure to capture this potential. In particular, product focused projects revealed that whilst packaging capability may reside within the firm, it is not always captured within the process. Frequently, decisions made by NPD teams and project managers were taken without the involvement of internal staff with packaging capabilities.

The new packaging management framework generated from this study succeeds in integrating the characteristics of this process industry, the role of retailers and consumers, as well as that of suppliers and the packaging absorptive capacity of the firm. When examining the management of packaging within NPD, a more complete understanding can thereby be obtained, when contrasted to the majority of prior research in this field.
10.2.4 The Role of Packaging in the Development of New Product Opportunities

The packaging management framework presented in this research provides a new perspective on the management of packaging development. In the process, it also contributes to understanding and explaining the problem of a lack of a pipeline of new packaging innovations, highlighted by Ahmed et al. (2005).

Ahmed et al. (2005) suggested that many firms lack a pipeline of new packaging innovations; while Lockamy (1995) revealed that firms do not value the potential contributions of packaging. This study explicates the factors contributing to this problem. The key factors influencing the role packaging plays in the development of new product opportunities are captured within the seven core elements of the framework, reflected in the seven propositions. It reveals that firms' view of packaging as a source of new opportunities is influenced by their packaging capability, decision-makers' view of the production process, the role of buyers, and retailers. Analysing the results within each firm (in phase two) by utilising the framework revealed that these factors frequently contributed to an environment whereby technological changes were either overlooked or considered on only few occasions.

Prior work has identified the potential implications of an emphasis on consumer research, which can create an environment in which more significant innovations are overlooked (e.g. Christensen, 1997; Trott, 2001). This study reveals this to be a pertinent factor in the development of packaging, with the orientation towards incremental changes being further promoted by the emphasis on consumer research. Moreover, it was revealed that decision-makers were concerned by the risk to consumer perceptions which might result from the adoption of new technologies in the case of both new and existing products. The power and role of retailers (see Section 2.2.3) was found to further contribute to the emphasis on incremental change. Novel insights have been provided into the perceived risks of change on the products retailing, and how they further contributed to an environment in which packaging was not viewed as having a key role in the creation of new product opportunities.

Consistent with the literature on process industries and innovation (see Section 4.3.1), the costs of change are a significant factor in firms emphasis on smaller,
incremental modifications to the existing format. However, this research revealed that an analysis of these potential costs was frequently absent. Perceptions of this process constrained potential for change. This further compounded the lack of meaningful collaboration with suppliers. Whilst the existing literature reveals the significant role of these costs in innovation (e.g. Utterback and Abernathy, 1975; Traill and Meulenburg, 2002; Gehlhar et al., 2009; Fransoo and Rutten, 1994; Wallace, 1984), it does not fully account for the significance of such perceptions, which can result in a failure to undertake activities that may allow the firm to capture new opportunities.

These results suggest that decisions were driven by it being simpler, cheaper, and less risky to redevelop existing packaging (at body modification or, even more, skin deep level) than would is case for format changes. For firms, the uncovering of these factors constraining change provides them with new insights, revealing new potential to create product opportunities. This may require an assessment of all their activities surrounding packaging development: including absorptive capacity and the presence of packing champions (Figure 9.1).

Finally, the conceptual framework captured in Chapter four, the ‘five faces of packaging’, further contributes to the existing literature, providing a new tool with which to uncover opportunities. Existing research has revealed that packaging plays a key role in product success, particularly in the FMCG industry (Wansink and Huffman, 2001), and can affect consumers’ purchasing decisions at point of sale (Sara, 1990). The ‘five faces’ of packaging provides a new framework with which to examine how it contributes to marketing in general, and NPD in particular. This framework can be used to evaluate more fully the needs of all parties relevant to packaging’s development. It aims to provide new insight into the creation of new product opportunities through packaging development in a more systematic way than has been evidenced in the past.

10.2.5 Packaging Absorptive Capacity

The findings of this research contribute to the existing literature on absorptive capacity (Cohen and Levinthal, 1990; Brennan and Turnbull, 1999; Ford and McDowell, 1999; Ritter, 1999), by providing new understanding in the case of the FMCG industry.
The cases revealed three capability issues which impact on packaging absorptive capacity. The first is the incorporation of internal packaging ‘champions’, which impacts on the pursuit of new technological opportunities. The second is the level of technical capability and absorptive capacity, which impacts on both the level of emphasis on technology and format change, and collaboration with external suppliers. The final factor was the degree of industrial design capability, which resulted in technical changes being almost completely overlooked within firms. This was also found to impact on the meaning of development, which was viewed superficially within some firms, and taken to involve labelling or aesthetic design changes. This was particularly the case within NPD teams (Section 9.3). The result is that the potential for technological change and more fundamental packaging changes is overlooked.

Finally, absorptive capacity was influenced by the role of buyers. The outsourcing of packaging has led to the emergence of powerful buyers. Their emphasis on cost reductions has been found to constrain the pursuit of new innovations. The unintended consequence of this is a reduction in absorptive capacity among FMCG firms (Cohen and Levinthal, 1990; Brennan and Turnbull, 1999; Ford and McDowell, 1999; Ritter, 1999).

10.3 Implications of Findings

10.3.1 Implications of Findings for the FMCG Industry

The findings of the first phase of this research revealed that the development of new packaging technology is overlooked within many FMCG firms, and that it received limited attention within the development process. This finding led into the development of the framework and typology. The packaging management framework provides firms with a new lens, through which they can understand their management of packaging. This will assist them with developing strategies to fully capture the opportunities presented by packaging. The utilisation of this framework will provide new, in-depth insights into the issues: impacting on their ability to exploit the opportunities offered by format changes.

The implication of this research is that firms need to re-examine their packaging development activities, to ensure they address all three levels; not mere ‘skin-deep’ packaging. Marketing Managers within FMCG firms will benefit from the insights
created through this research. It provides them with a better understanding of how they can exploit potential NPD opportunities presented by technological packaging changes. This may require an assessment of all their activities surrounding packaging development, including the influence of buyers and process changes in decision making; absorptive capacity and the presence of packing champions; and the subsequent impact of these factors on the role of suppliers and design consultancy firms.

The results have uncovered the significant role of buyers, and the production line, in decision-making. Both constrained the pursuit of new opportunities, as a result of concerns about the cost associated with change. The case studies revealed that an over-emphasis on these costs can result in potentially viable opportunities being overlooked. This highlights a need to re-examine decision-making. Firms need to ensure, prior to new innovations and formats being ruled out on a cost basis, that a full assessment is undertaken within projects.

This seems to be of particular concern with respect to the production process. Decisions were made not as a result of the actual costs involved, but due to perceptions of decision-makers relating to likely cost implications; and in some cases, without any assessment or consultation with specialists. Furthermore, as prior research has identified that the costs of adopting new technology can be lowered by a greater level of knowledge within the firm (Teece, et al., 1997; Zander & Kogut, 1995; Zott, 2001), this lack of meaningful discussions with specialists or suppliers is also a pertinent issue to be addressed.

This research has uncovered the significance of the level of packaging capability within the firm, in terms of industrial design capability, the incorporation of packaging champions, and level of absorptive capacity. The combination of these factors is critical to enabling the opportunities presented by new packaging technologies to be captured. FMCG firms need to assess their current internal packaging capabilities, and identify the degree to which technical capability is present. A packaging team primarily consisting of staff with an emphasis on purchasing, the production line, or design activities, may constrain change; whilst lack of staff with technical capability carries with it the risk that opportunities will be overlooked.
Firms also need to examine these capabilities at project level. The results of both phases have revealed that whilst capabilities may reside within the firm, it is also important that they are incorporated into NPD projects: thereby ensuring more informed decision-making. Decisions made by non-specialists, without the consultation of those with packaging expertise, were frequently found to result in conservative decision-making and incremental change. There is a need to put strategies into place to ensure that individuals are present and able to act as champions for technological and format change. This role may well be performed by the same technical staff, who must therefore be incorporated into decision-making.

Finally, the results of this research have identified the varied role of design firms and packaging suppliers. In order to fully capture the opportunities presented by packaging, there is a need to ensure that FMCG firms work collaboratively with their suppliers. This will enable them to capture the potential for new opportunities, presented by the technological developments residing within these firms.

The factors discussed within this Section clearly impact on their ability to capture this potential. Firms may benefit from working with specialist design and marketing consultancy firms, but this should not occur at the expense of technological potential. Hence, when working with design firms, it is necessary to ensure that discussions are also undertaken with suppliers; and preferably, that the firm chosen has technological capabilities. Finally, strategies should be put into place to ensure that collaboration and networking is not just undertaken with existing suppliers, as this is likely to result in opportunities for format change being overlooked.

10.3.2 Implications for Packaging Suppliers and Design Firms

The findings relating to the packaging supplier side of this research revealed that these suppliers frequently had a limited role in the NPD activities of FMCG firms. This was also found to harm their ability to undertake R&D (Simms and Trott, 2011, Appendix 5.1), hindering their capacity to effectively target investments. This lack of collaboration is significant for FMCG firms, as it limits packaging suppliers' potential contribution to NPD. This restricts their ability to undertake R&D as informed by the future needs of their customers: FMCG firms.
The findings of phase one and two uncover a number of factors leading to FMCG firms overlooking the potential for technological and format changes (Figure 10.1). These factors hinder the adoption of new technologies: in particular, the costs of change, power of buyers, insufficient packaging champions, and the myopic view of packaging held by many decision-makers. Packaging firms can do little to overcome many of these issues. However, their identification provides suppliers with new understanding. They should attempt to identify firms which are more orientated towards format change, based on the factors identified in the framework. Moreover, reducing the costs associated with format changes may help facilitate the adoption of new technologies.

Design firms were found to play a significant role in development. The findings revealed that the emphasis of many agencies is at skin deep or body modification change level. As a result, these firms may be failing to uncover opportunities for technical change. Hence, FMCG firms need to assess their practices. Design firms may also benefit from implementing aspects of this framework: for example, ensuring they have packaging technologists and champions for technological change. The results also suggest that they may benefit from working closely with packaging suppliers, with the potential to improve their ability to uncover technological opportunities.

10.4 Limitations of the Research

The findings of case studies, of course, have limitations in terms of generalisation, and further research is required in order to test these propositions more widely within the food and drinks sectors. Clearly, quantitative research would have a potential benefit in this respect (Section 10.5). Moreover, future research needs to validate the findings for the rest of the FMCG industry: identifying possible differences between the food, drinks, and household goods sectors.

The involvement of companies in this research project was on the basis of their willingness to participate, and hence reflected their interest in the topic. The voluntary nature of their involvement has implications on the representativeness of the sample. It may be expected that these companies have a greater emphasis on packaging than might be the case for the industry as a whole. Indeed, each company incorporated in phase two had a packaging team, whereas the phase one findings
provided evidence that many organisations lack such teams - impacting on the degree to which the findings can be considered representative.

The case studies themselves were also limited in several respects. First, access to individuals for data collection was restricted, based on their willingness to be involved, and their availability. Not all key decision-makers involved in each project could be recruited. The interview method is also limited, as some differences are likely to be evident between reality and the descriptions of events and views expressed by managers; although the inclusion of different interviewees, and multiple sources, overcomes this to an extent.

Despite these limitations, the work represents a significant advance in current knowledge and understanding of packaging development.

**10.5 Implications for Future Research**

This thesis has examined the management of packaging development, both with respect to the incorporation of packaging into the NPD process, and the role of packaging in the creation of new product opportunities.

The findings also have implications for the literature: highlighting its current emphasis on skin deep and body modification level issues, whilst technological and format changes have largely been overlooked. Consequently, there is a need for further research at this level, within both marketing management, and specifically, NPD literature, which examines technological packaging development and format change.

A key contribution of this study is the development of seven propositions which form the basis of an agenda for future work. Additional research may also enable the packaging management framework developed in this thesis to be further decomposed and built upon, perhaps identifying additional factors. Similarly, a greater number of levels within the typology may be identified.

The findings of case studies have limitations in terms of generalization (see Section 10.4): further research is required in order to test these propositions more widely within the food and drinks sectors. Research should also examine the wider FMCG industry. Moreover, it would be of benefit to compare these findings to those in other industries where packaging is relevant, such as electronics and pharmaceuticals.
Quantitative survey data would aid in uncovering the breadth of these problems, but methodological issues are likely to have significant influence on the results. Language issues, and misunderstandings of development, are likely to pose a particular challenge to the design of data collection instruments. These reveal key differences in the beliefs of key decision-makers, as opposed to reality. Similarly, it is likely to prove challenging to quantify the degree to which the process acts as a barrier, juxtaposed against the perceptual barriers associated with line changes.

The existing research in the FMCG industry has revealed high levels of product failure (see Sections 3.4, 3.4.1, 3.4.2, 3.4.2.1). Considering the significance of packaging to product success (see Section 4.2.1), exploring potential links between new packaging innovations and product success would provide a valuable avenue for future research. This would benefit our understanding of packaging’s potential role in improving the low success rates in the industry; and may also reveal a need for further research into how companies can capture new opportunities for packaging. The paper presented in appendix 5.1 represents one potential avenue with which to move forward.

The cases presented in Chapter eight examined a number of projects involving format change. Future research, focused solely on format changes, could benefit understanding of how these innovations come about: analysing the factors which promoted such changes, and the characteristics of early adopters of new packaging technologies and formats. The framework presented in this study can be utilised to aid in examining and explaining the behaviours of organisations, and their NPD teams, in this respect.

This research has revealed differences in the management of packaging and product development between own brand and branded firms. Future studies could explore this further. It would be of particular benefit to understand the differences in the significance of the retail display of the product, as this seems to have less influence on the level of development within retailers. It would also be of benefit to examine further the influence of own brand suppliers in hindering technical changes, as a result of their emphasis on cost, and perceptions of the lack of benefit provided by change.

The findings of this research indicate, in relative terms compared with other industries (see Section 4.4), low levels of packaging supplier involvement in
development. Future research would help provide further insights into potential differences in the level of collaboration: examining the impact of this on packaging suppliers, and identifying whether this is representative of an issue in process industries as a whole.

The findings also build on the research of Benner and Tushman (2002), providing new insights into the barriers to innovation within this process industry. In particular, the findings revealed the retailer’s role, and the problems resulting from decision-makers’ perceptions of the production process. These factors are not fully captured within the existing literature.

Finally, the findings have potentially wider implications for literature on absorptive capacity (see Section 4.4.1). Both phases highlighted the important role of packaging ‘champions’. Relating the role of these individuals to the existing literature provides new insights. Linking together previous research on ‘heavyweights’ and ‘champions’ in the NPD team (Section 4.4), and outsourcing and modularization (Section 4.4 and 4.4.1), the findings effectively uncover a need for a champion of the packaging ‘module’ of the product.

The existence of such champions was pivotal to the pursuit of new opportunities, and aided in ensuring that opportunities for innovation were not overlooked. Additional research is required to explore the role of these champions in packaging innovation. Finally, future research would be beneficial in uncovering whether these champions exist within other industries, for various product modules, and their role in innovation and absorptive capacity.